

Peers as Resources for Learning: A Situated Learning Approach to Adapted Physical Activity in Rehabilitation

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The purpose of this study was to investigate the learning that takes place when people with disabilities interact in a rehabilitation context. Data were generated through in-depth interviews and close observations in a 2 ½ week-long rehabilitation program, where the participants learned both wheelchair skills and adapted physical activities. The findings from the qualitative data analysis are discussed in the context of situated learning (Lave & Wenger, 1991; Wenger, 1998). The results indicate that peer learning extends beyond skills and techniques, to include ways for the participants to make sense of their situations as wheelchair users. Also, it was found that the community of practice established between the participants represented a critical corrective to instructions provided by rehabilitation professionals.

Rehabilitation has traditionally been associated with the process of regaining lost functions (Legg, 2003; Normann, Sandvin, & Thommesen, 2004). Thus, rehabilitation has been seen as a task primarily for the medical disciplines and the health care sector (Normann et al., 2004). The scope of rehabilitation is gradually expanding to include participation and activity dimensions, as expressed in the International Classification of Functioning, Disability, and Health (ICF; WHO, 2001). In Norway, rehabilitation is defined as “time-limited, planned processes with well-defined goals and means, in which various actors cooperate to assist users in their own efforts to achieve the greatest possible functioning and coping capacities, independence and participation in society” (Normann et al., 2004, p. 28). Two important points can be highlighted from this definition. First, rehabilitation is done in cooperation between different professional groups and the patient (in the definition referred to as user). Rehabilitation is not only processes involving medical professions, but includes other professional groups as well, e.g., social workers and pedagogues. Secondly, the ultimate goal of rehabilitation is independence and participation in society. Though restoring lost function is important, it is not enough. Rehabilitation professionals must also ensure that patients are enabled to be involved in important life situations (WHO, 2001).

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In a recent definition study of adapted physical activity (APA), Hutzler and Sherrill (2007) used the ICF-domains *body functions*, *body structures*, *activity*, and *participation* to categorize examples of APA practices. In their study, rehabilitation practices were found only in the categories body structure and function, implying that the full potential of APA in a more holistic approach to rehabilitation is not fulfilled. Within APA, there thus seems to be a need to understand more about the place and meaning of adapted physical activities that can help attain the goals within the activity and participation domains of rehabilitation.

As the scope of rehabilitation has expanded, there has been a call for including learning as a means to improve the outcomes of rehabilitation (cf. Fuhrer & Keith, 1998; Mannerkorpi & Gard, 2003; McNevin, Wulf, & Carlson, 2000). There are several reasons for this increased interest in learning, for instance making rehabilitation more cost effective (Fuhrer & Keith, 1998) and helping to enable participation and independence (Normann et al., 2004).

Peer learning is one modality of learning suggested for rehabilitation (Fuhrer & Keith, 1998). In Carpenter's (1994) study of the rehabilitation process following spinal cord injury, she found that newly injured patients emulated and compared themselves to expert peers. The expert peers willingly shared their experiences, but "were rarely in a position to act as expert peer, as there was no purpose . . . for them to return to the rehabilitation setting" (p. 623). In a more recent study, May, Day, and Warren (2006) argue that "peer-helping activities" (p. 1047) may assist the individual to use others' experiences as a resource.

In the APA literature, peers as resources is a topic mostly connected to the school setting through *peer assisted learning* (PAL). PAL has been suggested as a best practice for the inclusion of students with disability in physical education (Block & Oberweiser, 1995). For instance, studies have shown that PAL can increase the activity level of deaf students in inclusive settings (Lieberman, Dunn, van der Mars, & McCubbin, 2000) and improve motor skills for students with developmental disabilities (Houston-Wilson, Dunn, van der Mars, & McCubbin, 1997). In a review of literature on PAL in physical education, Ward and Lee (2005) concluded that "peer tutoring is an effective instructional strategy to help students, with and without disabilities, learn motor skills" (p. 215).

Peer assisted learning is a highly structured, teacher-controlled method. Another way of seeing peers as resources for learning is found in apprenticeship (Nielsen & Kvale, 1997). In apprenticeships, observation and imitation of masters or more skilled peers are emphasized over direct, verbal instructions. One can say that in PAL, peers are resources for teaching, whereas in apprenticeship, peers are seen as resources for learning.

A different approach to the valuable influence of peers in adapted physical activity is described in a study of socialization to wheelchair road racing (Williams & Taylor, 1994). The authors found that peers are the most important agents in "reproduction of the subculture of wheelchair racing" (p. 426). Despite noting that individuals are active in their own socialization, the findings of the study depict the novice wheelchair racers as rather passive in the socialization process.

In adapted physical activity, there has been a growing interest in the advantages of participation in disability-specific settings, for example for meaningful interaction (Castañeda & Sherrill, 1999; Goodwin, Fitzpatrick, Thurmeier, & Hall, 2006) and development of identity among youths (Goodwin & Staples, 2005; Groff &

Kleiber, 2001). Goodwin and Staples (2005) used Gesler's (1992) notion of *therapeutic landscape* to study the meanings and experiences for youths with disabilities participating in a summer camp. The segregated setting of the sport camp provided a context where the participants could meet others with a disability and "explore individual biographies . . . and share in the collective experiences and interests of others with disabilities" (p. 169–70).

Ashton-Schaffer and coworkers (Ashton-Shaeffer, Gibson, Autry, & Hanson, 2001) used a Foucauldian framework to investigate the experience of a disability sport camp for adults with physical disabilities. They found that through participations in sports activities and interactions with peers at the disability sport camp, the participants felt more empowered to do resistance against the surveillance experienced in everyday life. In addition, they noted that the sport camp provided an environment with a mixture of novices and elite athletes, where "everybody learned from each other" (p. 101).

These studies draw our attention to the ways that peers can be resources for each other and how a segregated, adapted physical activity context can bring about meaningful interaction, which is not readily available in a society that fortunately is becoming increasingly more inclusive. The purpose of this study was to investigate the learning that takes place when people with disabilities interact in a rehabilitation setting. More specifically, the research questions were (a) How are peers resources for each others' learning in a rehabilitation context where adapted physical activity is used? (b) What are the meanings and experiences of learning for the participants in this setting?

Conceptual Framework

Situated learning (Lave & Wenger, 1991; Wenger, 1998) provides "a conceptual framework for thinking about learning" (Wenger, 1998, p. 11) and is used to facilitate the interpretation of data and discussion of the findings of the current study. Over the past decades there has been a rising interest in studying learning as situated action, where acts are not explained and understood in light of the mental states of the individual, but rather "in terms of what goes on between individuals, and between individuals and situations" (Marton & Booth, 1997, p. 11). Stating that learning is *situated* means something more than the obvious fact that it takes place in a specific setting located in space and time. It means that learning is a process, shaped by participation and coexistence in social contexts.

Lave and Wenger's (1991) concept of situated learning grew out of an analysis of several studies on apprenticeship learning. The master-newcomer relationship is considered as one of the fundamental characteristics of apprenticeships (Nielsen & Kvale, 1997). In relation to sports and movement activities, an important feature of the master-newcomer relation is imitation: Through direct observation of one or several models and subsequently trying out the movement, bodily habits are formed as movements and are learned and incorporated into the mover's repertoire of skillful action (Jespersen, 1997; Sheet-Johnstone, 2000).

Situated learning does not only pay attention to the master-newcomer relation. According to Lave and Wenger (1991), the resources that structure learning come from various sources that include, but are not limited to, the pedagogical activities

controlled by a teacher or instructor. Instead of the unilateral direction of learning from teacher to pupil or master to newcomer, Lave and Wenger (1991) break these dyadic relationships, thereby opening “a richly diverse field of essential actors and, with it, other forms of relationships of participation” (p. 56). This means that in a *community of practice*, resources for learning are found on all levels of expertise from newcomers to veterans.

The decentering analysis is provided by situated learning brackets. Traditionally, the most important sources for learning are the teachers and their instructions, or in the context of this study, the rehabilitation professionals and their service delivery. Situated learning is chosen as the conceptual framework, because it gives primacy to the learners’ perspective and active involvement in the learning process. In the context of this study, situated learning provides a lens through which we study the learning that happens in addition to—and sometimes in spite of—the activities controlled by the rehabilitation professionals.

Method

A qualitative, explorative investigation was undertaken. The approach used here is *phenomenological* in the sense that it is sensitive toward the individuals’ lived experiences (Kvale, 1996; van Manen, 1990), and it thus grants the researcher the opportunity to study the community of learning from the participants’ perspectives. The study is *hermeneutical* in the sense that it requires interpretations on the part of the researchers and the reader to make sense of the participants’ lived experiences of learning (Kvale, 1996; van Manen, 1990).

Participants

Two rehabilitation programs called *Wheels in Motion* (WiM) were followed to generate data. The first of these programs was used as a pilot study, but the data from that program are included in the material presented here. No substantial changes in the design of the inquiry were made after the pilot, and we feel that the findings from the pilot study are too valuable to not be included.

In total there were 21 individuals admitted to the two WiM-programs (9 in the pilot and 11 in the main study). All the participants were asked for their informed consent to be included in the observation part of the study. One person did not wish to participate. Of the 20 participants included in the study, 11 persons had spinal cord injuries, whereas 9 used a wheelchair due to other conditions, mostly neurological diseases, i.e., all had acquired disabilities. Four women and 16 men participated in the two programs. Their average age was 43 (ranging from 26 to 60 years). Experience with wheelchair use varied from 3 weeks to 30 years. Fifteen of the participants had used a wheelchair for less than 3 years.

Out of the 20 participants in the two programs, 8 were interviewed in depth about their experience with the WiM program (see Table 1). These interviews took place toward the end of each program. More participants could have been interviewed, but the researcher deemed that data saturation was reached; thus it was considered that making additional interviews was not required. The sampling for the interviews was based on maximum variation (Patton, 2002). It was sought to

Table 1 Description of Interview Participants

Name	Age	Gender	Disability	Wheelchair		Skill Level
				Experience		
Eva	28	Female	SCI	17		Beginner: Could not balance on back wheels, but managed up and down from smaller curbs
Turid	53	Female	Nonprogressive ND	3		Good, but had little confidence in own abilities
Oliver	48	Male	SCI	30		Excellent, perceived as a model by peers
Arne	25	Male	SCI	2		Beginner
Stein	41	Male	SCI	14		Excellent, perceived as a model by peers
Trond	50	Male	Progressive ND	4		Good
Aksel	44	Male	Progressive ND	2		Beginner
Jan	45	Male	SCI	1		Beginner
Kari	37	Female	SCI	10		Good, hired as peer consultant
Peter	49	Male	SCI	16		Excellent, hired as peer consultant

Note. SCI = spinal cord injury, ND = neurological disease. Skill level: based on researcher's professional judgment. Good means that the participant can balance on the back wheels and enter smaller curbs. Excellent means that the participant has full command of the wheelchair.

get diverse perspectives from people with different disabilities and different levels of experience with using a wheelchair.

In addition to the 8 participants, 2 peer consultants (Kari and Peter) were also interviewed. The peer consultants were included as they are an important part of the peer learning process that this study seeks to elucidate. One of the peer consultants, Kari, took part in both of the observed programs. Peter did not participate in the two programs that were observed. He was interviewed to broaden the understanding of the peer consultant's perspective.

Description of the Context: The Wheels in Motion Program

The study took place in a naturalistic setting, meaning that the first author entered an existing rehabilitation program to generate data by means of observation and semistructured interviews. The WiM-program has been running twice a year since 2000 at a rehabilitation center serving the southern part of Norway. WiM was initiated by a group of rehabilitation professionals who saw that wheelchair users coming to learn adapted physical activities often did not have the basic wheelchair techniques needed to be active in their daily life, let alone take part in more demanding sports activities like wheelchair basketball, dancing, or racing.

WiM is a 2 1/2 week-long program that emphasizes the active use of wheelchairs. The content of WiM includes adjustments and maintenance of wheelchairs, general wheelchair techniques (e.g., propulsion, getting over curbs, in and out of doors), and participation in various sports and recreational activities, mainly basketball, dancing, and racing. Each day there are 3–5 hr of training. It is individual goal setting that determines which activities each participant focuses on, and thus how each participant's weekly schedule looks like (an example of a week schedule can be obtained upon contacting the first author). The participants live at the rehabilitation center the whole time during the program.

The program is run by a cross-disciplinary team of rehabilitation professionals (i.e., physical and occupational therapists and adapted physical activity specialists, referred to as *sports pedagogues*). Other medical professionals, like doctors and nurses, support the team. The participants must apply to the rehabilitation institution to be admitted to the WiM program. They are primarily people who have little experience using manual wheelchairs. However, also individuals with considerable experience participate. The latter apply to the program with the purpose of learning specific sports activities or starting a healthier lifestyle. This means that participants are a mix of people with a lot of experience (in this study one of the participants had been using wheelchairs for 30 years) and newcomers who have been using wheelchairs for less than a year.

When WiM was started, the rehabilitation professionals saw the need for a person who was able to show the skills they wanted the participants to learn and who had first-hand experience with the learning processes that the participants were going through. Therefore, one peer consultant is included as part of the professional team. The peer consultant is an experienced wheelchair user, whose function is to be a model that can show the different techniques of wheelchair handling and be a role model for the rehabilitation processes of the participants. The peer consultant is recruited from a previous program. The choice of peer consultant is based on a professional judgment about how well potential candidates relate to other people and their ability to convey their experiences to others.

As opposed to what is the standard in PAL (cf. Ward & Lee, 2005), the peer consultant at WiM does not receive formal training by the rehabilitation professionals before program. However, the professionals and the peer consultant have daily meetings throughout the WiM-program. In these meetings, they go through the plans for the day (e.g., which activities and skills will be focus on, whether there are any participants that the peer consultant should take extra care of), and the peer consultant can report her experiences from the previous day. Thus, the peer consultant is sometimes given clear assignments about who to help and what to help out with. At other times, the peer consultant is present at practice sessions without having a specific task. In those instances, she has the freedom to help out where she finds it necessary, and more importantly, the participants can freely approach the peer consultant with their challenges. Finally, it is worth noting that in addition to the peer consultant, participants with a lot of experience also often act as models without being assigned such a role from the rehabilitation professionals. The WiM program was targeted for this study precisely because of this mixture of peer consultant and participants with a varied degree of experience and skill level.

Data Generation

Data were generated by the first author. Observations were used to illuminate the day to day interactions between the participants (Patton, 2002). Semistructured, qualitative interviews were used to capture the experiences of the interviewees relative to their participation in the WiM program (Kvale, 1996). Before data generation, the project was given the mandatory, ethical approval by the Data Inspectorate of Norway.

Observations. Close observation (van Manen, 1990) was used as the mode of study. This form of observation requires that the observer takes part in the life-world of the participants, and at the same time maintain a “hermeneutical alertness to situations that allows us to constantly step back and reflect on the meaning of those situations” (van Manen, 1990, p. 69). The first author, who has been working in the rehabilitation field as a sports pedagog, was involved as an assistant in the program, helping out during practice sessions. This allowed him to get close to practical situations, and it created a good rapport with the participants. Observations were conducted during the whole program, both in practice sessions, during meals, and in more informal situations in the participants’ leisure time. The researcher made observations from 3 to 6 hr per day during both programs.

One of the most valuable aspects of going into the field as an observer was the opportunity it provided for informal interviews. These unstructured conversations are flexible and responsive to the situations such as those that occurred throughout the program (Patton, 2002). Situations between scheduled practices and during meals provided especially good opportunities to talk to participants about their experiences. The purpose of the informal interviews was to check whether observations reflected the participants’ own experiences and to get a deeper understanding of participants’ experiences as they relate to the learning situations, thus ensuring the validity of the observations.

Field notes were taken either during or immediately after the observed situations. The notes were jotted down in a notebook and subsequently transferred to a

computer file, where there was further elaboration. The notes were either descriptive, in the form of referring to a particular situation or conversation or analytical, reflecting on what had occurred or things that might need deeper probing (Dewalt & Dewalt, 2002).

Interviews. The interviews lasted from 25 to 96 min (average length, 49 min) and were audio-taped and transcribed verbatim. The participants were free to stop the interview at any time if they felt uncomfortable or wanted to change their answers. They also had the option of erasing the tape, although none of the participants used this option. Generally, the participants were open and eager to share their views.

Before the interviews, a guide was prepared that included a set of prearranged topics and examples of possible questions related to the research questions (Kvale, 1996). The questions centered on the participants' expectations of the program, how they experienced their own learning process, how they experienced learning together with the others, how they felt about the mixed level of experience in the group, and what they perceived as the most valuable lessons they had learned.

Data Analysis

First, a *meaning condensation* (Kvale, 1996, p. 193) was performed. Meaning condensation requires that the interview transcripts and field notes are thoroughly read and natural units of meaning searched out. A natural unit of meaning is an observational description, a statement, or an interchange between interviewer and interviewee that attracts the awareness of the researcher. The central meaning of the unit is then expressed as simply as possible and without prejudice. By studying the central units of meaning, patterns that recurred across the data material were detected. The data material was then reread and coded according to the patterns determined from the meaning condensation.

The next stage of analysis consisted of reading through the data material, looking for *disconfirming evidence* (Brantlinger, Jimenez, Klinger, Pugach, & Richardson, 2005). The researcher played "the devil's advocate" and looked faithfully for statements and interchanges that could contradict the results in the previous stages.

The final stage of the data analysis was the writing process. The coded data material was organized into four themes that are intended to do justice to the fullness of the experiences of the participants (van Manen, 1990). Writing also means continuous rewriting as a part of the hermeneutical movement between the text and the data material.

Trustworthiness

Several measures were taken to secure the trustworthiness and credibility of the research (Brantlinger et al., 2005). *Triangulation* of data from observations and interviews strengthens the study (Patton, 2002). Likewise, triangulation between investigators was used: The second author supervised the study and discussed the theoretical framework and methodical procedures. Peer debriefing was used by discussing the design of the study and interpretations of findings with experienced APA professionals. An example is that the interview guide was improved as a result

of comments from an experienced sports pedagog at the rehabilitation center. An audit trail was not kept, thus possibly limiting the trustworthiness of the study.

Member checking is a method used to increase the trustworthiness of the study (Kvale, 1996). Two levels of member checking can be discerned in this inquiry. The first level is during the interviews, when the interviewer continually tried to interpret the interviewees' statements and ask whether he had understood them correctly. Similarly, after observations, the researcher could ask the participants if his interpretations of the situations reflected their experience. A second level of member checking took place after the interviews were transcribed. A one-page summary of the interview was e-mailed to the participants. Six of the ten interviewees replied to the e-mail. Three of these simply stated that they found the summary to be satisfactory, whereas in three cases, they had comments that lead to an exchange of e-mails that deepened the researchers' understanding of the interview statements. The trustworthiness of the study could have been further improved if the final analysis had been discussed with the participants.

Results

The results will be presented in the voices of the participants. In the text, some voices are heard more often than others, because they in a particularly salient manner represented the subtleties of the meanings and experiences of the group. Four themes emerged from the data analysis: (a) learning together, (b) understanding my struggles, (c) getting a measuring stick, and (d) the wheels are my shoes. Subsequently, these results will be discussed in relation to the conceptual framework for the study.

Learning Together

An important focus during observations and the subsequent interviews were situations where the participants worked together to solve practical challenges during the practice sessions. When wheelchair skills were practiced, the structure of the sessions was quite loose, and the length of each session was fairly long (1–2 hr). Lessons started with some warm-up exercises for the whole group before one specific skill was demonstrated. Subsequently, the participants spent some time practicing the particular day's skill. After a while, each participant was free to work on the particular skill (e.g., getting onto curbs for beginners or going down stairs for more advanced participants) he or she preferred. The necessary equipment was available, and assistants (trained students on practicum visits to the rehabilitation center) were made available to support them. This way of organizing practice sessions led to formation of smaller groups where participants worked on specific tasks, according to their goals. Though the professionals were present and gave instructions to individuals or groups of individuals according to the purpose of the given practice session and the individuals' goals, the participants also spent time without professionals helping them out. This meant that at times, the participants were left alone to explore the techniques together. Thus, important resources for learning were found in the interplay between the participants.

One of the reasons for using a peer consultant at WiM was that this person could be a model for the participants; however, it was not only the peer consultant who was a model for newcomers. Each of the interviewees with little experience (Turid, Arne, Trond, Aksel, and Jan) expressed that being in a group with experienced peers was a valuable aspect of the program. Therefore, being a model for the other participants was a role filled by experienced participants as well as by the peer consultant. Turid said, "It is great to be in a group with people who are more experienced, like Stein. I learn from him all the time . . . by seeing how he does things." Whereas Aksel said that "You look at how they manage the wheelchair. How easy it is for them . . . so when I see how good they are doing, I dare to try it out myself." The peer models (i.e., both the peer consultant and experienced participants) were models not only in the sense that they showed how skills and techniques should be done, but also by showing the range of skills and techniques that actually can be mastered in a wheelchair. The experienced participants at the programs acknowledged their role as models for the newcomers. Both Stein and Oliver expressed almost a sense of duty when it came to making themselves available to their less experienced peers. Stein described that he actively sought to help out newcomers: "I think it is very positive to help others, and they need it. So, I try to see where they are lacking in their technique, and I help them work on it." The experienced participants told stories from their own rehabilitation process where veteran peers in some way helped them to develop. The relationship to experienced peers was something they recognized as a positive input when they first entered rehabilitation. Oliver recalls how his more experienced peers took him under their wings and contributed to his own learning process, almost thirty years ago:

In the rehabilitation unit I quickly became friends with the other guys, and they took me out to town. I followed those who were quite a bit better than me, so I saw the techniques they were using, and I tried to learn them as good as I could.

Groups of newcomers would often work together on some of the more basic techniques, for instance, balancing on the back wheels or getting onto lower curbs. They sometimes practiced these skills without an instructor or peer model around. As opposed to seeing the skill being carried out by an expert and then trying it out for themselves, the trials and errors of their fellow newcomers made it easier for them to find out how the skill should be performed: "You don't have to go first all the time, right? You can wait and see how the others are doing it, so then you have seen it two or three times, instead of just one," said Trond. Turid talked about practicing getting onto a curb: "You see that their wheels are not in contact with the curb, or they forget to stretch their arms, or they don't lean forward enough. Very useful!" By seeing the others, the participants could note the specific details of the skill, like when and how much force should be applied and when and how they should shift their weight.

In situations like those described by Trond and Turid, the participants would help each other out by sharing their views and telling each other how they thought they could improve their performance. In this manner, they acted as instructors for their peers. For instance, Arne recalled discussing how to get on the curb with one

of the other participants. For him, learning together with other newcomers was a rewarding experience:

You, know, we're both beginners, so I gave her a word or two of advice, and she told me what she thought might work, and in sum, it turned out good. . . . It is great that someone who is a beginner can learn from another beginner.

Understanding My Struggles

One of the ideas behind incorporating peer consultants into the WiM program was the assumption that this person would have a higher degree of credibility than an able-bodied, nonwheelchair user when it came to showing different techniques. Kari, one of the peer consultants, shared experiences from her own rehabilitation process: "Being in a group with an instructor who had a disability was what motivated me the most. You have someone who speaks the same language, who has been through it all, both physically and mentally."

The rehabilitation professionals at the program did not have a disability, but after years of experience in teaching wheelchair technique, they were quite good at using wheelchairs. Still, the participants underscored that there was a difference in credibility between an able-bodied instructor and a peer model showing the same technique. Trond said: "You know that this is in fact a person who actually knows what we are [dealing with]. It is not just somebody who has learned to become very good at it." Others added that able-bodied instructors who have good balance and full function in arms and legs cannot show the techniques in a truly realistic way. An example is transferring from the floor to the chair, where it is close to impossible for a person with full function in her legs to perform that skill as if she has no leg function. In addition, there was an existential dimension to these practical situations: After showing the techniques, an instructor who does not have a disability can stand up and walk out of the chair. When participants had difficulties learning the techniques they were taught, they could say to the instructor: "That's easy for you to say, you can just stand up and walk."

The credibility of the instructors, however, did not rest solely on the distinction between having and not having a disability. In the two programs that were observed, the peer consultant, Kari, on some occasions told the participants that she felt scared for some challenges (e.g., going down stairs), and she hadn't herself mastered some of the more difficult skills. When the interviewed participants were asked how they felt about this, almost all reacted positively. One of them, Eva, did not have a particularly high level of skills, even though she had been using wheelchairs for 17 years. In the interview, she talked about how she was anxious before meeting the peer consultant. She had on prior occasions felt that "the bar was raised too high" by the presence of highly skilled peers. When Kari showed her fears and worries, this made her more "down to my level," as Eva put it.

The sense in which the personal dimension of the peer consultant was important for the newcomers' learning is aptly illustrated by Turid's comments on her relation to Kari. Turid, who had been using the wheelchair for three years following a neurological illness, found it difficult to deal with her situation. She avoided social interaction in her home community and initially thought that a wheelchair program was something she did not want to take part in, because she saw the wheelchair

as “my enemy.” Participating in the program made her think differently on some of these issues, and the personal relation to the peer consultant was important in that respect:

I feel that the peer consultant is important because she is Kari, and she has climbed the same steps that we are climbing. Like the other day somebody said “This thing about going to stores, that’s not a problem, really. You just shouldn’t feel [that it is difficult]. It is just to keep your head high.” But then Kari said that she had felt that going to stores was difficult, and she still feels that way, so she has kind of seen it from our side. . . . With her whole way of being, she has in a sense taught me a lot.

Getting a Measuring Stick

The rehabilitation program was a rare chance for the participants to meet others in a similar situation. One of the most tangible observations from the first days of the two programs was how fast people, who initially were complete strangers to each other, started discussing matters that were fairly private. Kari said: “At home you are often alone; you don’t meet other wheelchair users . . . so when you come here for three weeks with others in the same situation as yourself, you take in all the information you can.” A lot of the time during the two and a half weeks was devoted to discussing solutions to practical matters. These exchanges of experiences were not restricted only to wheelchair techniques, but concerned all aspects of life, from which car they had chosen, which wheelchair brand is the best, to private matters like toilet routines and sexuality.

Trond made a point that was shared by other participants when he said, “You get to know how others are doing different things, and I find that important, because it is not everything that goes by the book.” Experience had taught the participants to make personal modifications to their techniques and equipment. Sharing these modifications was important to them, because it was a way of seeing whether one’s own solutions were useful or could be improved. The participants were able to make comparisons to others and find out what is possible for them to do, what they are able to do themselves, and what they need to learn. Turid, who had been struggling with coming to terms with her disability said this:

I’m over 50 years old, so I was a little surprised that I was admitted to the wheelchair program. And now I have experienced that—you know I was afraid that I was going to be sitting here and be the one that didn’t dare and didn’t manage things. But it hasn’t been like that at all, so this has been a boost for my confidence.

The idea that Turid had of herself as being helpless was challenged, not only because she felt she had improved her skills, but also because she saw that she was doing quite well when she compared herself to the others. The other participants provided a standard against which one’s practical solutions could be measured. By being together, the participants found a measuring stick by which to compare themselves.

For the most experienced participants, there was seldom much new to learn about wheelchair skills. However, the technique training provided an arena in which

they could check out and confirm that they still had mastery over the skills. For Oliver, seeing his skill level in relation to Stein was valuable, because it served as a wake-up call for him: “By seeing Stein, I am reminded that maybe I have become a little too careful the last few years.” To Oliver, Stein was a reference point for skills he had already learned, but forgotten to use.

Discussions between participants appeared to provide a way to contextualize the skills, of testing their relevance for everyday life. Eva recalls that at the time she and her peers practiced going through doors, she did not agree with the techniques she was taught to use. She found that her own technique was good enough for her daily life, but during the practice, she didn’t have the confidence to say so. Later, she discussed this with some of the other participants over dinner, and as a result of such conversations, she commented,

I started to think more critically about what we are learning here, and that’s healthy, I guess. There are a lot of things that are good here, but . . . when I am in institutions like this, I have become so accustomed to getting told how to do things and just accept it. In a sense, that’s fine, because you have to learn, but you also have to become aware of what your own needs are, so that you don’t take everything for granted.

Through discussions and negotiations of meaning, Eva got a critical perspective on what they were taught. The standard provided by the rehabilitation professionals for how skills and techniques should be performed was adjusted through conversations with other participants.

The Wheels Are My Shoes

Another theme that came up during the field work was the language used in the conversations between the participants. The language they used was their own, and not the technical phrases of the healthcare system or the sometimes derogatory and insensitive language of able-bodied persons. Peter explained how he felt estranged by the language and concepts used by healthcare professionals and how speaking with others with a disability was a way of reclaiming a language about himself:

In a healthcare institution we often have the feeling of giving away our bodies to doctors, therapists, and others, because it is always they who define us. Here, we use everyday language about our disabilities, problems, or health, so we are distancing ourselves from the healthcare system to take back our bodies and minds.

An example of how a common language was shared by the participants is from Aksel’s relation to Knut, one of the more experienced and skilled participants who were not interviewed. Knut had a sporty looking chair with cambered wheels and lightweight spokes. In an informal interview during observations, Knut was asked why he had chosen those wheels. His reply was that “the wheels are my shoes, and just like you I like to wear nice shoes.” At the end of the program, Aksel was interviewed and he mentioned Knut as one of the people he had learned a lot from. Later in the interview Aksel was asked if it is important how the chair looks: “Yes it is. The wheels are your shoes . . . it should be clean, like you don’t wear dirty

shoes all day. You shine ‘em, and we wipe dust and dirt from the chair.” The phrase “the wheels are my shoes” had been passed on to Aksel, and it gave him a way of talking about his chair that was meaningful to him.

The wheelchair was more than an assistive device for transportation. It was a part of the outfit for the participants. Experienced participants had stripped their chairs of some of the standard equipment that was delivered with them. Brakes and handles on the back had been removed and stickers with the manufacturers’ labels were peeled off. Some had put their own stickers on the wheels. This way of making the chair more personal was adopted by newcomers. The newcomers also were inducted into the disagreement that existed between users of different brands of wheelchairs. Arne said,

We discuss different brands and their different solutions and which type is the best, whether it is Quickie, Pantera, XLT or whatever. Stein is a Kùschall fan and Trond thinks Pantera is the only useful chair on earth, and they never agree! We can spend hours talking about this.

Through these practices, the wheelchair is revealed to be far from a neutral tool. It is a personalized object invested with meaning. By becoming a participant in discussions about the wheelchair, thus acquiring a nontechnical language with which to talk about the wheelchair, newcomers were inaugurated into meaningful ways of making sense of the situation that they were in as wheelchair users.

Discussion

The results presented above support the findings of several recent studies that have pointed to the value of segregated settings (cf., Ashton-Shaeffer et al., 2001; Goodwin et al., 2006; Goodwin & Staples, 2005; Groff & Kleiber, 2001). In this study, it is the resources for learning in such settings that are highlighted. One of the most important resources in this respect is peer learning. Both the peer consultants and the experienced participants expressed almost a sense of duty to pass on their skills and knowledge to newcomers. This generational encounter between veterans and newcomers allowed the newcomers to observe the skills and techniques used by veterans, who were “living testimonies to what is possible, expected and desirable” (Wenger, 1998, p. 156).

Through the generational encounter, newcomers are presented with exemplars that are grounds and motivations for the newcomers’ learning activities (Lave & Wenger, 1991). These exemplars are particularly strong, because they in a very real sense embody the goals of learning. As pointed out by several participants, the veterans know what they are talking about, because they have been through the same learning processes that newcomers are going through. One may also say that such exemplars are important, because in inclusive societies, there are few, if any, models that can guide newcomers. At WiM, the participants were presented with standards of excellence that they could compare themselves to, thus being able to see what they needed to learn. By comparing themselves to such standards, the participants also saw what they were able to do well. The lack of such measuring sticks in their daily lives meant that some of the participants were quite unsure of whether their skill level was any good at all. By being able to make comparisons,

some of them found that they actually were doing quite a bit better than they initially had thought.

The results of this study indicate that it was not only the formally appointed peer consultant who filled the role as a peer model. Experienced peers were also perceived as valuable models for the novice participants. The only real difference between these experienced participants and the peer consultant was that the latter was appointed beforehand by the rehabilitation center, whereas the former filled more or less the same role because their experience, and their way of conveying this experience, was valued by the other participants. This suggests that an outside mandate, like the endorsement given to the peer consultant from the rehabilitation professionals, is not necessary for peer modeling to take place. Thus, peer modeling can be said to be a process that cannot be entirely controlled by professionals. It might also happen behind their backs and sometimes even in spite of their intentions.

Situated learning transcends the individualized focus on skill acquisition. In particular, situated learning pays attention to the community of practice where learning takes place (Lave & Wenger, 1991; Wenger, 1998). A community of practice does not exist only because people are doing things together at the same place, at the same time. It is also necessary for these people to engage each other and negotiate the meaning of what they are doing (Wenger, 1998). Such mutual engagement was established between the participants quite fast. Already on the first day, the participants started to discuss and share their viewpoints on matters that were fairly private. This engagement was sustained through ongoing discussions about matters ranging from wheelchair techniques to shared experiences of being a wheelchair user. Negotiation of meaning should be understood as a process “that requires sustained attention and readjustment, as in ‘negotiating a sharp curve’” (Wenger, 1998, p. 53). This is a process that is not necessarily meant to reach an agreement or an understanding shared by all participants. Rather, engagement can just as likely lead to homogeneity, as to harmony and agreement.

According to situated learning, the continuously ongoing negotiation of meaning is conducive to learning. The participants at WiM asked—and were asked—questions like, “What do you think about that?” and “How do you deal with this?” These are questions that introduce the participants to a variety of ways of solving different, common problems and to other people’s perceptions and experiences with using a wheelchair. By actively engaging in such questions, the participants were invited to consider their own positions in a new light.

The active process of negotiation of meaning added an extra dimension to the curriculum at WiM. WiM do not have a curriculum that is reified in a written document, but through their instructions and ways of organizing practice sessions, the rehabilitation professionals provided a curriculum that emphasized wheelchair skills, physical activities, and also theoretical teaching about health issues related to wheelchair users. Lave and Wenger (1991) make a distinction between teaching and learning curricula, where the former is seen in the perspective of the service providers, and the latter refers to “a field of learning resources . . . *viewed from the perspective of learners*” (p. 97, italics in original). The learning curriculum that Lave and Wenger (1991) refer to is owned by the participants. It is an outcome of the mutual engagement that the participants shared from their joint enterprise of learning wheelchair skills and adapted physical activities.

It is not meaningful to see these two concepts as competing, even though there certainly can be tensions between the teaching and learning curricula. Recall Eva, who got a new perspective on what she had been taught by discussing with her peers. Some of the elements that the rehabilitation professional had emphasized were not seen as important by the participants, and thus took on a marginal role in their joint enterprise. Other aspects of the teaching curriculum were valued and took on a more central role. The joint enterprise of the participants is therefore not something that can be wholly determined beforehand by the service providers. It has a negotiated character that adds the participants' interpretations and responses to the teaching curriculum that is being pursued. Thus, service provision in the form of teaching or instruction is not only a question of transmitting knowledge and skills to the learners. Learners do not just learn by taking in instructions and being "on-task." At WiM, important lessons of learning also took place when the participants negotiated the meaning of what they were presented by the service providers.

The learning curriculum is the participants' "negotiated response to their situation and thus belongs to them in a profound sense" (Wenger, 1998, p. 77). This means that in most instances there will be a noncoincidence between the teaching and learning curricula. Rather than seeing this as a deficit with the service provision, it draws our attention to the learning that takes place when the participants are given freedom to explore the meaning of what they are learning.

In addition to skills and techniques, the participants learned symbols, routines, expressions, and jargon. This is what Wenger (1998) terms a shared repertoire. The shared repertoire was expressed, for instance, in ways such as personalizing the wheelchair and adopting phrases like "the wheels are my shoes" that were passed on from veterans to newcomers. It is important to note that not all people using wheelchairs will find the notion of the wheels as their shoes meaningful. The point is that to those who pick up this phrase and start using it, the phrase is a means of making sense of their situation as wheelchair users. Just like peeling off the manufacturers' stickers on the chair, using such phrases is a way of transforming the wheelchair from a technical object to becoming an integrated part of one's self.

The shared repertoire of language and routines was created by and belonged to the participants, not to healthcare professionals or other service providers. These stories, expressions, and discourses are important not as a means to cope with their situation, but rather, as Edgar (2005) puts it, "to understand and bear witness to their [chronic] illness" (p. 165). One might say that not only did the participants learn wheelchair skills, they also learned to become wheelchair users. This does not mean that the participants took on an identity solely as wheelchair user. Rather, it means that through engagement in the community of practice, and the mutual understanding they experienced, the participants were provided with resources to make sense of their situation.

The participants described the setting at WiM as a place where they were free from the gaze of people without disabilities and where they could meet others who "spoke the same language." It was also a retreat in the sense that the participants did not have to spend their energy on going to work, studying, or taking care of a family. The setting is similar to what Goodwin and Staples (2005), drawing on Gesler (1992), called a therapeutic landscape. Here we hope to have shown that this setting also can be a landscape of learning. In fact, the segregated context of WiM is, in the etymological sense of the word, a school. School stems from the

Greek word *skholê*, that was a place and time shielded from the urgencies and necessities of daily life, a place for “studious leisure” (Bourdieu, 1990, p. 381), where one could withdraw to learn.

For the purpose of this study, the situated learning approach has been useful to understand the learning processes that took place between peers. Peers are resources for each other in a variety of ways. As discussed above, peers act as models for imitation, regardless of whether this is intended by the instructors or not. In addition, peers are discussion partners who can help each other find solutions to common challenges and be critical discussion partners. By having a variety of skill and experience levels, newcomers find measuring sticks for where they stand and orientation points for where they can go. By both giving and receiving help, the participants in this study contributed to the development of others as well as developing themselves.

Limitations of the Study

One of the limitations of this study is that it only follows the participants at the rehabilitation center. One may ask to what extent the learning that took place there is relevant for everyday life. Are the communities of practice developed in disability-specific settings overlapping or tangential to other communities of practice where the participants take part, or are they singular points with no relevance for the participants’ everyday life? Thus, future studies should investigate the transitions between disability-specific settings and daily life in an integrated society. A second limitation pertains to the time frame. Two-and-a-half weeks is a relatively short duration, and one may question whether such a time frame has any lasting influences. Further studies should investigate the time perspective. These studies would also have to take into account that lived experiences of time are different from clock time (Toombs, 1992). Though the time may be short, the intensity and weight of the experiences may still prove to be valuable.

Yet another limitation is that the link between the adapted physical activities provided in the WiM program and the results presented above is unclear. APA seems to disappear from the participants’ experiences of the program. In one sense this is correct. To some degree the same goes for the wheelchair technique. Though this latter aspect is more highlighted in the data material, it was surprising to the researchers how little emphasis the participants put on both the adapted physical activities and wheelchair skills. Several of the participants expressed that they were surprised at what they had learned. They expected to learn wheelchair skills and adapted physical activities, but for many of them, the meeting with the others and the mutual understanding they experienced provided valuable yet unexpected learning. We interpret this to mean that the WiM program provided a context for learning about issues that goes well beyond the technicalities of wheelchair technique and APA.

In studies on peer-assisted learning, it is commonly emphasized that the peer mentor should be given proper training before the mentoring process (cf. Ward & Lee, 2005). In this study, there was no ready-made training program that the peer consultants went through. There was no formula for the peer consultant’s role (e.g.,

how much training before the program was given, to which degree was she lead by the professionals during the program, how much freedom did she have to choose who and how much to help). This makes it difficult to contextualize the findings presented here to replicate the WiM-program elsewhere. Though we acknowledge that this lack of clarity poses a problem for other researchers interested in replicating the findings presented here, we would suggest that unclear role of the peer consultant might be a necessary feature for the relative success of the WiM-program as it is portrayed here: It gives people with disability the freedom to pursue those aspects of learning that are important from their own perspective, uncontrolled by rehabilitation professionals.

Implications for Adapted Physical Activity

In relation to this study, the content of the adapted physical activities and their relation to the participants' experiences of learning has not been a focus in the research. Adapted physical activities, however, were important because the inclusion of APA made the WiM program interesting also for those participants who already mastered the basic wheelchair skills, but wanted to learn specific activities. Without these experienced participants, the peer learning process would have been significantly reduced. The inclusion of APA in the WiM program attracted the experienced participants and gave them a possibility to return to the rehabilitation setting. This was a possibility that Carpenter (1994) in her study mentioned above, found wanting.

Williams and Taylor (1994) indicate that the generational encounter between expert and novice wheelchair racers was the most important source for learning about the activity. Other studies in APA also suggest that adapted physical activities provide resources for learning that go beyond the activity itself (cf. Goodwin & Staples, 2005). An implication of the current study to APA might therefore be that the context of APA can function as a meeting place that provides an observational lookout post for people with disabilities from which to get an impression of the entire process of living with a disability.

In this study we have bracketed the rehabilitation professionals' contribution to learning; however, their contribution must not be underestimated. The interplay between participants was acknowledged as an important source for learning by the professionals who organized the program. Further, the result of this study indicate that the rehabilitation professionals had also acknowledged that important instances of learning take place behind their backs and at times even in spite of their intentions. The professionals accommodated this learning by setting up lessons that were low in intensity and long in duration. By structuring the sessions thus, they made available not only plenty of time for the participants to be "on-task," but also sufficient time for learning in between, i.e., those conversations and discussions that took place alongside and in between practice sessions. It might thus be suggested that APA professionals concerned with learning hold a responsibility not only to allow the participants to acquire skills and knowledge, but also to allow the participants the freedom to take on critical perspectives and think differently than the professionals' opinions.

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References

- Ashton-Shaeffer, C., Gibson, H., Autry, C., & Hanson, C. (2001). Meaning of sport to adults with physical disabilities: A disability sport camp experience. *Sociology of Sport Journal, 18*, 95–114.
- Block, M.E., & Oberweiser, B. (1995). Using classwide peer tutoring to facilitate inclusion of students with disabilities in regular physical education. *Physical Educator, 52*, 47–56.
- Bourdieu, P. (1990). The Scholastic Point of View. *Cultural Anthropology, 5*, 380–391.
- Brantlinger, E., Jimenez, R., Klinger, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional Children, 71*, 195–207.
- Carpenter, C. (1994). The experience of spinal cord injury: The individual's perspective—implications for rehabilitation practice. *Physical Therapy, 74*, 614–628.
- Castañeda, L., & Sherrill, C. (1999). Family participation in challenger baseball: Critical theory perspectives. *Adapted Physical Activity Quarterly, 16*, 372–368.
- Dewalt, K.M., & Dewalt, B.R. (2002). *Participant observation: A guide for fieldworkers*. Walnut Creek, CA: Alta Mira Press.
- Edgar, A. (2005). The expert patient: Illness as practice. *Medicine, Health Care, and Philosophy, 8*, 171.
- Fuhrer, M., & Keith, R.D. (1998). Facilitating patient learning during medical rehabilitation: A research agenda. *American Journal of Physical Medicine & Rehabilitation, 77*, 557–561.
- Gesler, W.M. (1992). Therapeutic landscapes: Medical issues in light of the new geography. *Social Science and Medicine, 34*, 735–746.
- Goodwin, D.L., Fitzpatrick, D.A., Thurmeier, R., & Hall, C. (2006). The decision to join Special Olympics: Parents' perspective. *Adapted Physical Activity Quarterly, 23*, 163–183.
- Goodwin, D.L., & Staples, K. (2005). The meaning of summer camp experiences to youths with disabilities. *Adapted Physical Activity Quarterly, 22*, 160–178.
- Groff, D.G., & Kleiber, D.A. (2001). Exploring the identity formation of youth involved in an adapted sports program. *Therapeutic Recreation Journal, 35*, 318–332.
- Houston-Wilson, C., Dunn, J.M., van der Mars, H., & McCubbin, J. (1997). The effect of peer tutors on motor performance in integrated physical education classes. *Adapted Physical Activity Quarterly, 14*, 298–313.
- Hutzler, Y., & Sherrill, C. (2007). Defining adapted physical activity. International perspectives. *Adapted Physical Activity Quarterly, 24*, 1–20.
- Jespersen, E. (1997). Modeling in sporting apprenticeship. *Nordisk Pedagogik, 17*, 178–185.
- Kvale, S. (1996). *InterViews*. London: Sage Publications.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Legg, D.F.H. (2003). Physical activity as rehabilitation. In R.D. Steadward, G. Wheeler, & E.J. Watkinson (Eds.), *Adapted physical activity* (pp. 175–188). Edmonton, Canada: The University of Alberta Press.

- Lieberman, L.J., Dunn, J.M., van der Mars, H., & McCubbin, J. (2000). Peer tutors' effect on activity levels of deaf students in inclusive elementary physical education. *Adapted Physical Activity Quarterly*, 17, 20–39.
- Mannerkorpi, K., & Gard, G. (2003). Physiotherapy group treatment for patients with fibromyalgia: An embodied learning process. *Disability and Rehabilitation*, 25, 1372–1380.
- Marton, F., & Booth, S. (1997). *Learning and awareness*. Mahwah, NJ: Lawrence Erlbaum Associates.
- May, L., Day, R., & Warren, S. (2006). Perceptions of patient education in spinal cord injury rehabilitation. *Disability and Rehabilitation*, 28, 1041–1049.
- McNevin, N.H., Wulf, G., & Carlson, C. (2000). Effects of attentional focus, self-control and dyad training on motor learning: Implications for physical rehabilitation. *Physical Therapy*, 80, 373–385.
- Nielsen, K., & Kvale, S. (1997). Current issues of apprenticeship. *Nordisk Pedagogik*, 17, 130–139.
- Normann, T., Sandvin, J.T., & Thommesen, H. (2004). *A holistic approach to rehabilitation*. Oslo, Norway: Kommuneforlaget.
- Patton, M.Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Sheet-Johnstone, M. (2000). Kinetic tactile-kinesthetic bodies: Ontogenetical foundations of apprenticeship learning. *Human Studies*, 23, 343–370.
- Toombs, S.K. (1992). *The meaning of illness. A phenomenological account of the different perspectives of physician and patient*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- van Manen, M. (1990). *Researching lived experience. Human science for an action sensitive pedagogy*. Ontario, Canada: State University of New York Press.
- Ward, P., & Lee, M-A. (2005). Peer-assisted learning in physical education: A review of theory and research. *Journal of Teaching in Physical Education*, 24, 205–225.
- Wenger, E. (1998). *Communities of practice. Learning, meaning and identity*. Cambridge, UK: Cambridge University Press.
- WHO. (2001). *Internasjonal klassifikasjon av funksjon, funksjonshemming og helse*. [International classification of functioning, disability and health]. Oslo, Norway: KITH.
- Williams, T., & Taylor, D. (1994). Socialization, subculture, and wheelchair sport: The influence of peers in wheelchair racing. *Adapted Physical Activity Quarterly*, 11, 416–428.