Published in final edited form as:

OTJR (Thorofare N J). 2015 January ; 35(1): 23–33. doi:10.1177/1539449214564146.

Identifying and Evaluating the Therapeutic Strategies Used During a Manualized Self-Advocacy Intervention for Transition-Age Youth

Jessica M. Kramer, PhD, OTR/L¹

¹Boston University, MA, USA

Abstract

Prior to undertaking randomized control trials, pilot research should ensure that an intervention's active ingredients are operationalized in manuals or protocols. This study identified the strategies facilitators reported to use during the implementation of a problem-solving self-advocacy intervention, Project "Teens making Environment and Activity Modifications" (*TEAM*), with transition-age youth with developmental disabilities, and evaluated the alignment of strategies with the intervention's hypothesized mechanisms of change. An iterative process was used to conduct a content analysis of 106 field notes completed by six facilitators. Facilitators used 19 strategies. Findings suggest that facilitators used strategies simultaneously to ensure universal design for learning, maximize relevance for individual trainees, and maintain a safe and encouraging environment. Facilitators can individualize Project *TEAM* in a way that operationalizes the mechanisms of change underlying Project *TEAM*. The quality of the intervention may improve by explicitly incorporating these strategies into the intervention protocol. The strategies may also be applicable to therapists implementing interventions informed by similar theoretical propositions.

Keywords

developmental disabilities; occupational therapy; adolescent; young adult

Introduction

A key goal of intervention research is to determine whether and how unique aspects of an intervention lead to change. Answering this question requires researchers to conduct rigorous clinical trials that utilize clearly articulated intervention protocols (Persch & Page, 2013). Such intervention protocols must explicitly operationalize the "active ingredients" that inform the delivery of the intervention (Durlak & DuPre, 2008; Kadzin & Nock, 2003).

© The Author(s) 2014

Reprints and permissions: sagepub.com/journalsPermissions.nav

Corresponding Author: Jessica M. Kramer, Department of Occupational Therapy, Boston University, 635 Commonwealth Ave., Boston, MA 02215, USA. kramerj@bu.edu.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

These active ingredients, or the procedures and processes used in an intervention to facilitate change, are derived from theoretical propositions that explain how and why change occurs (mechanisms of change). Prior to undertaking randomized control trials, pilot research should ensure that the proposed mechanisms of change are adequately represented and operationalized in intervention manuals and protocols.

Client-centered practice calls upon practitioners to deliver interventions that meet the needs and goals of each unique client. Occupational therapists delivering manualized types of interventions must use clinical reasoning (Mattingly, 1991) to individualize some aspects of the intervention while continuing to operationalize the theoretical propositions underlying intervention protocol. Ideally, operationalizing the proposed mechanisms of change by simultaneously adhering to the intervention protocol while providing individualization would maximize both intervention fidelity and outcomes for clients (Durlak & DuPre, 2008).

This is an exploratory study of the therapeutic strategies facilitators used during the pilot delivery of a manualized problem-solving self-advocacy intervention, Project “Teens making Environment and Activity Modifications” (*TEAM*). Therapeutic strategies are specific actions used to influence trainees’ performance, feelings, and thoughts to facilitate desired change (Kielhofner, 2008). Such therapeutic actions and behaviors have been referred to as “process” components (Parham et al., 2007; Parham et al., 2011). The aims of this study are to identify the nonmanualized and individualized therapeutic strategies (process components) facilitators reported to use during Project *TEAM* and evaluate the extent to which the strategies are aligned with the intervention’s hypothesized mechanisms of change. The findings will inform the continued refinement of the Project *TEAM* intervention protocol.

Project TEAM

Project *TEAM* seeks to empower youth ages 14 to 21 with developmental disabilities to systematically identify environmental barriers and supports, generate modification strategies, and request reasonable accommodations (Kramer et al., 2013; Kramer, Roemer, Liljenquist, Shin, & Hart, 2014). Project *TEAM* is a group-based intervention designed to be co-facilitated by an experienced leader with a disability (disability advocate) and a licensed service provider (such as an occupational therapist, social worker, or educator). Prior to beginning Project *TEAM*, trainees identify a personal activity goal to increase or begin participation in a self-selected school or community activity. During the eight Project *TEAM* modules, trainees learn to complete a structured problem-solving technique called the “Game Plan” to identify and resolve environmental barriers to their personal activity goal. Project *TEAM* was guided by four evidence-based practices that were anticipated to support client outcomes through specific mechanisms of change, as described below.

Cognitive-behavioral techniques—Project *TEAM* uses self-talk and self-monitoring techniques informed by a cognitive-behavioral approach (Meichenbaum, 1977). The Game Plan follows a Goal-Plan-Do-Check approach that has been demonstrated to support positive outcomes in goal attainment, school participation, and self-determination for young people

with disabilities (Sangster, Beninger, Polatajko, & Mandich, 2005; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000). Each step of the Game Plan is associated with a self-talk question that directs youth to systematically consider the potential social and physical environmental barriers and supports, the strategy that could be used to resolve those barriers, or the individual who can help the youth make any necessary changes (Kramer et al., 2013; Kramer et al., 2014). These self-talk questions lead to changes by shifting youth's attributions of participation challenges away from personal impairments toward environmental barriers. The Project *TEAM* learning activities incorporate the self-talk questions to facilitate the internalization of this new problem-solving process. Youth who internalize new ways of thinking may be more likely to generalize learning to new contexts (Polatajko, Mandich, Miller, & Macnab, 2001) and thus are more likely to apply what they learn in Project *TEAM* to their daily lives.

Universal design for learning—Project *TEAM* learning materials were designed in accordance with universal design for learning (UDL) guidelines (National Center on Universal Design for Learning, 2011) to provide access for youth with a variety of physical, cognitive, and sensory needs. This is accomplished by providing multiple opportunities for expression and engagement, and multiple representations of content. In Project *TEAM*, concepts are introduced using multiple modalities and each concept is associated with a unique symbol. For example, the step of the Game Plan “Plan Step 1” and the self-talk question “What parts of the environment help me or make it hard for me” is associated with a thumbs up and thumbs down symbol. This symbol is shown each time youth need to identify barriers and supports. Such supports facilitate comprehension and may enable trainees with a range of abilities to learn to use the Game Plan. UDL also encourages instructors to individualize and grade activities to ensure a successful and motivating learning environment. UDL supports changes in youths' knowledge and skills by providing a range of supports and reducing barriers to curricula.

Peer and social learning—Project *TEAM* builds individual and group capacity to identify and respond to environmental barriers through social learning and peer support (Field & Hoffman, 2002). Several studies report that youth with disabilities appreciate the opportunity to talk with others who face similar barriers in their day-to-day lives, and that youth acquire new skills and insights when exposed to other youth who have resolved similar problems (Joseph Rowntree Foundation, 2003; Powers et al., 2007). Incorporating social learning into Project *TEAM* fosters change by creating a safe environment in which youth can talk about common frustrating experiences, work together to identify solutions, and feel comfortable taking risks.

Experiential learning—Project *TEAM* uses a “learning by doing” approach and provides real-life opportunities to learn and apply concepts via experiential learning (King, Baldwin, Currie, & Evans, 2006; Merchant & Gajar, 1997). In Project *TEAM*, facilitators guide youth's discovery of environmental barriers and strategies through group discussion, investigative learning activities, and personal reflection. In addition, youth continually apply the concepts introduced in the Project *TEAM* training to a personal activity goal. Experiential learning changes not only youth's skills but also participation, by providing

youth with the opportunity to identify strategies that may remove environmental barriers and enable his or her participation in this goal activity within a supportive environment.

Approaches to Identifying Therapeutic and Process Components of Interventions

The literature contains several examples of systematic approaches used to identify and incorporate therapeutic or process components into pediatric rehabilitation intervention protocols. *One approach is consultation with expert clinicians and researchers.* The development of the Ayres Sensory Integration Measure used a nominal group process with interdisciplinary professionals to extract process core elements from the literature (Parham et al., 2007). The involvement of experts facilitates the identification of the specific therapeutic actions that may lead to desired outcomes. *A second approach is qualitative analysis of existing intervention data.* For this approach, observations of skilled interventionists delivering the intervention of interest are systematically coded to identify the potential mechanisms of change. One pediatric intervention, cognitive orientation to daily occupational performance (CO-OP), used qualitative observations of therapists to identify key strategies used during sessions with clients with developmental coordination disorder (Mandich, Polatajko, Missiuna, & Miller, 2001). The identified strategies were hypothesized to be one mechanism leading to the desired outcome of improved performance and incorporated into the manualized intervention (Polatajko, Mandich, Miller, & Macnab, 2001).

The approaches discussed above have been used to identify process components of pediatric rehabilitation interventions delivered to in a one-to-one ratio to school-aged children. The literature does not contain examples of how researchers identify process components used in group interventions targeted to transition-age youth with disabilities. This article will illustrate how one approach, qualitative analysis of existing data, was used with data collected during a pilot implementation of Project *TEAM*. This study sought to answer the research question:

Research Question 1: What therapeutic strategies did facilitators use to support youths' attainment of Project *TEAM* outcomes, and are those strategies aligned with the four best practices underlying Project *TEAM*'s hypothesized mechanisms of change?

Method

This study used retrospective qualitative content analysis (Patton, 2002) to identify the actions facilitators reported to use during Project *TEAM*. Boston University Institutional Review Board (IRB) approval was received for all study activities.

Original Data Collection

Project *TEAM* was delivered to three groups by two co-facilitators (the author and an advocate who identified as a person with a disability) and a graduate assistant (four assistants across all groups and sessions). Project *TEAM* consisted of eight modules, and delivery was adjusted to fit each site's existing schedule. In two high school classrooms, the

group met twice per week (15 sessions), and in an after school program, the group met once per week (8 sessions). In both groups, one module was completed per week.

Across three groups, a total of 21 youth with disabilities ages 15 to 17 (M age = 16.5 years, $SD = 0.83$ years) participated in Project *TEAM*. Youth all received special education services under the following Individual Education Program (IEP) qualifying categories: intellectual disability ($n = 13$); blindness and autism ($n = 2$ each); and multiple disabilities, deafness, and speech/language impairment (each $n = 1$; 1 missing). Within 24 hr after each session, each facilitator and assistant completed a field note describing specific actions each person used during each Project *TEAM* session. The field note was structured around 11 therapeutic strategy categories outlined by the model of human occupation (MOHO; Kielhofner, 2008). MOHO strategies were selected because (a) the strategies are occupation focused; (b) the strategies represent a range of techniques that are potentially applicable to this population including physical, cognitive, and environmental strategies; and (c) MOHO strategy categories are general enough to be applicable to all four of the best practice theories informing Project *TEAM*. The facilitator team generated a total of 106 field notes for analysis; the two co-facilitators (a disability advocate and an occupational therapist, the author) produced 25 and 35 field notes, respectively, and graduate assistants produced 7 to 17 field notes each.

Analysis of Field Notes

An iterative process was used to identify meaningful codes to describe facilitators' actions. Field notes were analyzed by a team of eight individuals, including the author, a graduate research assistant (RA) involved in the delivery of Project *TEAM*, and additional graduate (three) and undergraduate (three) students. The full team received training in coding from the principal investigator (PI), an experienced qualitative researcher. The team was provided with an initial code list of the 11 therapeutic strategy categories. Each team member then received two to five field notes for analysis. Each coder reviewed all data line by line; each piece of data was examined to determine whether an existing strategy category best described the action. Coders also identified whether therapeutic actions were not adequately described by an existing strategy and proposed new categories.

A full team analysis session was held after coders completed their individual assignments. All coders reviewed field notes coded by different coders in "round robin" fashion and checked for consistency with strategy definitions. During the meeting, coders discussed data that did not match existing strategies and looked for similarities in data across field notes. At the end of the team analysis session, new strategy categories were created and existing definitions refined or collapsed. Individual coders revised their coding in response to feedback and changes to the code list using Atlas Ti. This review process was completed three times, with the code list expanded and refined with each round.

After all field notes were coded, each member of the coding team reviewed all data assigned to a specific code. Data within each code were checked for internal consistency, and possible new subcategories of codes were identified. Results were presented at a final team meeting, where the team attempted to identify new links between codes. All coded data were then reviewed for a final time by the PI using Atlas Ti for consistency with the new code

structure and to ensure each therapeutic interaction with a trainee was coded only once in each field note to avoid overrepresentation of data. Select data revised by the PI were reviewed by a ninth reviewer for triangulation, an additional graduate RA familiar with Project *TEAM* but who was not involved in the original coding. Codes with less than 20 occurrences were examined for salience and for potential outlier strategies used in less frequently occurring but important therapeutic circumstances prior to removal. Six codes did not provide a clear understanding of unique facilitator actions and were dropped.

Results

A total of 19 salient therapeutic strategies (Table 1) were identified in the field notes generated by six team members. The strategies are described from most to least frequently occurring.

Facilitate Attention

Facilitators used a variety of actions to facilitate trainees' attention to intervention activities ($n = 136$). Facilitators predominantly relied on their bodies to direct trainees' attention to specific materials, surroundings, or other people. Facilitators pointed their fingers ($n = 78$) to images on slide shows, lines on worksheets, and activity manipulatives to clarify what the trainee needed to attend to in order to engage in the activity. Facilitators also used physical proximity ($n = 31$), bringing their bodies closer to the trainees, to focus the trainees' attention on specific materials or to help trainees better attend to verbal instructions. When these nonverbal actions were not effective, the facilitators re-directed trainees ($n = 27$) by verbally reminding the trainee of the specific step or task he or she had last completed prior to becoming distracted.

Encourage

The strategy encourage ($n = 125$) provided emotional support and reassurance to trainees (Kielhofner, 2008) and recognized efforts at learning. Facilitators typically used generic but enthusiastic language such as "good job" and "great work" to help trainees stay engaged during challenging tasks. Facilitators also used physical contact such as high fives to acknowledge trainees' efforts. In these instances, positive encouragement was given regardless of trainees' performance. Facilitators also used encouragement to recognize a trainee's unique strengths or extraordinary efforts during activities. In these instances, encouragement was often public and provided the trainee with an opportunity to demonstrate their strengths or capacities.

Facilitate Use of Learning Resources

Facilitators supported trainees to complete intervention activities by encouraging the use of learning resources ($n = 114$) such as lists, symbols, pictures, and images. In accordance with the UDL framework, these resources were readily available to all trainees. Still, facilitators needed to use this strategy to show some trainees how to use such resources to help them look up concepts like the steps of Game Plan, the different parts of the environment, or strategies.

Directive

Directives ($n = 111$) were explicit instructions for how trainees should act or perform. Directives were simple instructions that helped trainees successfully engage in activities. Facilitators often gave directives after other strategies did not successfully support trainee engagement. Facilitators also gave directives to maintain appropriate trainee behavior during activities. This included directives to stop inappropriate interactions with other trainees such as teasing, swearing, and taking belongings. In both instances, directives maintained an environment in which trainees could meet activity expectations and remain safe.

Simplify/Break Down

The strategy simplify/break down ($n = 98$) reduced the steps, amount of input, or number of concepts presented at a time. Facilitators used this strategy to help trainees complete a complex activity by working one step at a time, covering up extraneous words or information to reduce distractions, or by working backward to demonstrate how to derive an answer.

Support Literacy

One role of the facilitators was to support literacy ($n = 90$). This included reading on behalf of trainees and spelling words during written activities. Facilitators also assured trainees that spelling and grammar did not matter when completing Project *TEAM* activities. The use of this strategy reduced the cognitive effort trainees needed to expend toward literacy and enabled trainees to focus their efforts on learning the new concepts taught in Project *TEAM*.

Validate

Facilitators conveyed respect for trainees' experiences, perspectives, and feelings using validating words or actions ($n = 86$; Kielhofner, 2008). Facilitators used validation in response to trainee frustration, boredom, or anxiety. Facilitators acknowledged the trainee's mental or emotional state and, in some instances, gave the trainee the option to change or stop the activity. Facilitators also used the strategy when trainees' generated new ideas or solutions during Project *TEAM*. In these instances, facilitators' words and actions went beyond generic encouragement. Instead, facilitators would agree with a trainee's idea or incorporate a trainee's idea into the activity. Occasionally, the facilitators' needed to validate one trainee's perspective when other trainees disagreed. Although facilitators used the strategy validate in a range of circumstances, the common goal was to convey respect for the trainees' experiences and perspectives.

Give Feedback

Facilitators provided feedback ($n = 80$) with the aim of helping trainees understand the best possible answer to a question or solution to a problem. When a trainee gave a probable solution or a correct answer, facilitators gave positive feedback to let the trainee know that he or she was utilizing a logical or feasible thought process. Conversely, facilitators explicitly told trainees when an idea did not seem logical, feasible, or when there was more than one possible answer. Sometimes after giving feedback, when a trainee was incorrect, a facilitator provided the trainee with a second opportunity to generate a different answer.

Associate

Facilitators used the strategy associate ($n = 75$) when they related training concepts with actions and images to help trainees learn and understand content. Facilitators used this strategy in conjunction with training materials such as power points, posters, and workbook activities. In accordance with universal design, each Project *TEAM* concept was associated with an image and/or kinesthetic movement to facilitate comprehension and recall. To maximize this benefit, facilitators needed to explain the meaning of such symbols and movements and help trainees understand how these features could help them remember the concepts.

Demonstrate/Model

The strategy demonstrate/model ($n = 71$) involved facilitators verbally or physically showing an action or process, so that trainees could imitate to engage in an intervention task. The Game Plan self-talk questions were designed to be delivered with corresponding kinesthetic movements, such as crossing forearms in front of one's body to symbolize a barrier when asking the self-talk question "what part of the environment is making it hard?" Facilitators often used demonstrate/model to encourage trainees to mirror these kinesthetic movements to help with recall and comprehension. Facilitators also used demonstrate/model when conducting learning activities to ensure trainees who had difficulty understanding verbal or written directions could participate in the activity by watching and mimicking.

Examples

Facilitators used the strategy of providing examples ($n = 68$) to help trainees understand new Project *TEAM* concepts or a possible answer to the Project *TEAM* self-talk questions. Examples were most effective when they were linked to trainees' familiar experiences at school, home, or community. These concrete examples helped trainees better understand and apply new concepts during activities in the Project *TEAM* protocol.

Orienting Questions

Orienting questions ($n = 66$) helped trainees consider or attend to a *specific* idea, outcome, or factor. This strategy enabled trainees to generate a new idea or self-identify a previously unrecognized barrier. This strategy reduced the need for facilitators to directly provide an answer or solution and increased trainee's independence in problem-solving. Orienting questions were most effective when linked with trainee's lived experiences.

Restate/Rephrase

Facilitators used the strategy restate/rephrase ($n = 63$) to repeat or modify what was said, read, or contributed by a trainee or facilitator to support comprehension. This strategy required facilitators to use different words to convey the same idea and clarify meaning. Sometimes facilitators restated/rephrased to reduce the number of words used to support trainees who had difficulty processing auditory information.

Peer Support

Facilitators encouraged peer support ($n = 38$) by making specific suggestions about how trainees could help each other. Facilitators also explicitly asked trainees with certain knowledge or skills to assist other trainees in need. This strategy reduced the trainees' reliance on the adult facilitator. In this study, many of the trainees required extensive support for literacy; much of the peer support was for spelling and reading. However, facilitators occasionally used peer support to encourage trainees to work together to identify environmental barriers and strategies.

Choice

The strategy choice ($n = 34$) provided trainees with options for actions, ways to complete activities, or behavior. Providing trainees with choices for how and what learning activities to complete helped ensure Project *TEAM* was as interesting and as relevant as possible to each trainee. Facilitators also used the strategy choices to communicate expectations for behavior. Providing trainees with choices for how to behave rather than requiring specific behaviors (as in the strategy "Directive") also created learning environment in which trainees had control.

Physical Action on Behalf

Facilitators provided physical action on behalf of trainees ($n = 33$) to ensure trainees could complete activities in the intervention protocol. This physical support was provided to trainees with motoric difficulties as well as trainees with cognitive difficulties such as initiation and attention. When the facilitators performed the physical actions such as turning pages, writing down answers that trainees dictated verbally, or moving materials, trainees could maintain the pace with the group and engage in the same activity.

Explain

Facilitators asked trainees to explain ($n = 32$), or articulate, the reasoning underlying an idea or response. The use of this strategy served two purposes. The first was to allow trainees to practice explaining environmental supports, environmental barriers, or strategies that could resolve a barrier. The ability to explain ideas to others is an important component of self-advocacy. The second purpose was to enable trainees to self-identify limitations in their ideas. Through the process of explanation, a trainee would often identify information that he or she had not previously included or considered in the initial response.

Negotiate

Facilitators negotiated ($n = 29$) by engaging in give and take to achieve an agreement about something the trainee will do in the context of the intervention (Kielhofner, 2008). Facilitators only engaged in negotiation after a trainee initiated a request or stated a preference. In contrast, facilitators initiated the use of other strategies at any time based on clinical judgment. Negotiation often involved changing expectations for task performance such as completing fewer questions, applying a question to a different topic, or changing the rules of an intervention activity. Facilitators negotiated task expectations in an attempt to

keep trainees engaged in the intervention and to demonstrate respect for the trainee's preferences.

Advise

Facilitators advised ($n = 17$) when they recommend a specific action or strategy to facilitate participation in a trainee's personal goal activity (Kielhofner, 2008). Facilitators tailored advice for each trainee's unique needs and circumstances. Although this strategy was used less frequently, it is important as the facilitators' expertise helped trainees achieve personal activity goals.

Integrating Strategies

A frequency analysis was conducted to determine how often two strategies were utilized together in one therapeutic interaction. Out of 171 possible strategy pairs, 78 (45.6%) had at least one co-occurrence (range = 1–19, $M = 3.2$). For example, the strategies "Associate" and "Demonstrate/Model" were used in combination 19 times, and "Give Feedback" and "Explain" were used together 5 times. While these numbers may seem small given the total sample of 106 field notes, the layout of the field note may have caused facilitators to underreport the combined use of strategies. These findings do provide a starting point to explore when and why facilitators used strategies in combination. An inductive analysis of co-occurring strategies suggests that facilitators had three primary reasons for integrating strategies together:

1. *Ensure UDL.* The facilitators operationalized the principles of universal design through the simultaneous use of multiple strategies aligned with UDL principles (see Table 2). In the following example, the primary facilitator used several strategies ("Demonstrate/Model," "Facilitate Attention," and "Associate") to optimize the accessibility of the instruction of the "Game Plan":

To help students learn the Game Plan steps, I had to verbally repeat the base and step over and over ... I drew the student's attention to the goal symbol they identified as a target or circles, but did not seem to understand how that signified goal ... When I stood in front of each individual student and pointed to the goal poster, those that could read were able to state what the question was (Facilitator 1, Group 2)

This example also suggests that facilitators needed to select and use strategies "improvisationally" (Mattingly, 1991) to enhance trainees' understanding of the Project *TEAM* concepts. This may have been particularly vital during this first pilot implementation of intervention materials.

2. *Maximize relevance for individual trainees.* The UDL, cognitive-behavioral, and experiential learning frameworks informing Project *TEAM* share the proposition that interventions are most successful when participants work on problems relevant to their everyday lives. The analysis suggests that facilitators enacted this assumption by combining strategies that individually align with these best practices (Table 2). For example, a facilitator combined "Simplify/Break Down" (aligned

with UDL principles) and “Orienting Questions” (aligned with experiential learning principles) to make a review activity more relevant for a trainee:

It seemed to help when [I] focused on one activity ... for instance, for [the trainee] who cleaned leaves on the ground last week, I devised my questions based on this specific activity: What was it in the environment that made it hard for you to clean the leaves? Was there anything that helped you to clean the leaves? (Facilitator 6, Group 1)

In other examples, facilitators similarly combined strategies to link Project *TEAM* concepts with trainees’ everyday experiences.

3. *Maintain a safe and encouraging environment.* Facilitators used combinations of strategies to maintain a positive, therapeutic environment for trainees in challenging circumstances, such as when learning difficult concepts or when being corrected for inappropriate behaviors. In the example below, one facilitator used “Validation” after her co-facilitator provided a specific “Directive” for inappropriate behavior:

[A trainee] used a swear word and was immediately corrected by [another facilitator]. He laughed but said he was sorry, then I said “[the comment] is funny but the swear word is not.” [After this] I specifically tried to elicit his participation in the [activity] (Facilitator 1, Group 3)

The juxtaposition of emotionally assuring strategies such as “Validate” and “Encourage” with instructive strategies such as “Directive,” “Give Feedback,” and “Explain” may have maintained trainees’ motivation to continue to engage in the intervention even when frustrated or angry.

Discussion

The systematic qualitative analysis of facilitator field notes provided a rich understanding of the variety of actions and behaviors facilitators reported to use during Project *TEAM*. We identified 19 salient strategies that align with the best practices underlying Project *TEAM*’s hypothesized mechanisms of change. Table 2 describes how different strategies operationalize cognitive-behavioral techniques, social learning, experiential learning, or UDL.

Our findings suggest that facilitators can individualize Project *TEAM* to meet trainee needs in a way that is aligned with and further supports the active ingredients of the intervention. For example, facilitators frequently worked with individual trainees to promote the use of Project *TEAM* learning resources. These resources, such as picture-based lists of Project *TEAM* concepts, were developed according to UDL standards. Trainees could use these resources to learn new content using multiple modalities and to support their successful completion of intervention activities. Yet without facilitators’ additional actions to facilitate the use of those resources, trainees may not have fully benefited from the UDL framework embedded in the Project *TEAM* curriculum. Promoting the use of these learning resources may also help trainees become more independent problem-solvers and supports the

principles underlying cognitive-behavioral techniques. Facilitators also combined strategies in sophisticated ways to ensure universal design and access for all, maximize personal relevance for individual trainees, and maintain a safe and encouraging environment. Each of these purposes aligns with at least one of the best practices informing Project *TEAM*'s mechanisms of change.

Implications for Research and Practice

The findings point to three implications for Project *TEAM* that may be equally relevant for other group interventions targeting transition-age youth with developmental disabilities. First, an intervention protocol should incorporate explicit directives for therapeutic actions to avoid gaps between the intended and actual delivery of the intervention (Persch & Page, 2013). In this study, facilitators rarely used strategies that operationalized peer support and experiential learning principles. Only three strategies were aligned with these theoretical approaches, and facilitators only used the strategy "Peer Support" in 38 unique therapeutic interactions with trainees. Other literature suggests that youth enhance their capacity for problem-solving when working with peers. Furthermore, fostering an environment in which youth, not adults, resolve barriers may help create a social network that trainees could call upon for support after the intervention formally ends (Powers et al., 2007).

To maximize these potential benefits, the Project *TEAM* intervention protocol could specify specific ways in which facilitators can foster peer-to-peer learning. For example, the protocol for discussion activities could direct facilitators to elicit contributions from trainees with similar experiences, or the protocol could specify that the first strategy to use when a trainee requests assistance is "Peer Support." In addition, revising the intervention to incorporate more small-group activities may make it easier for facilitators to encourage peers to help each other and work together. However, it may be challenging for facilitators to incorporate principles of social learning into their therapeutic repertoire. Facilitators may be accustomed to playing the role of "expert" and the power associated with that role (Falardeau & Durand, 2002). As a result, facilitators may unknowingly reflect potential leadership opportunities away from peers and back to the authority of the professional. Facilitators who value and recognize the unique expertise that is grounded in each youth's lived experiences (Mayall, 2004) may more readily adopt strategies that facilitate peer-to-peer learning and be best suited to deliver interventions such as Project *TEAM*.

Second, the quality of the intervention may improve by incorporating research-based strategies into the intervention protocol. The different strategies used during the pilot implementation of Project *TEAM* can inform revisions to the intervention protocol that may improve the quality and relevance of the intervention (Polatajko et al., 2001). Although this study conceptualized therapeutic strategies as nonmanualized actions and modifications undertaken with *individual* trainees, the frequent use of many strategies suggests that multiple youth may similarly benefit by incorporating specific strategies into the intervention protocol. For example, facilitators used the strategy "Demonstrate/Model" to show trainees with auditory processing difficulties how to complete a learning activity. The intervention protocol could incorporate a facilitator or peer demonstration of every activity to supplement written or auditory directions. The protocol can also be improved by

incorporating the way facilitators “Restated/Rephrased” different words or definitions. For example, Project *TEAM* used the expression “what works for you” and “what doesn’t work for you” to explain the concept of environmental supports and barriers. However, one of the co-facilitators reported, “I would ask [two trainees] what makes getting up easier [for you] ([instead of] what works for you), and alternatively, what makes it harder to get up (sometimes followed by what doesn’t work)” (Facilitator 2, Group 2). The more familiar and concrete language of “helps me” and “makes it harder” was incorporated into the revised Game Plan. The systematic approach used in this study allowed the research team to identify and then incorporate the strategies most likely to operationalize the intervention’s mechanisms of change.

Third, the strategies identified in this study may be applicable to other therapists implementing interventions with theoretical frameworks similar to Project *TEAM*. The methodology used in this study depended upon facilitator’s thick, rich descriptions of actions and behaviors (Geertz, 1973) during therapeutic encounters with individual trainees. The strategies reported in this study provide a nuanced description of the various ways a therapist may provide support during an intervention. Rather than relying on a vague description of support such as “verbal prompts,” a therapist could specify if “Orienting Questions” were posed to help a client reflect on a possible solution, or if alternatively the therapist provided an “Example” as a model of a possible solution. This specificity may help therapists improve documentation and communication with others by providing a clear understanding of the types of verbal prompts that are most successful for a particular client. This study also illustrates how strategies proposed by the MOHO (Kielhofner, 2008) can be refined for a specific intervention. Several strategies were directly transferrable to Project *TEAM* (see Table 2). Other strategies proposed by the model, such as identify and structure, were expended into several strategies that operationalize the mechanisms of change underlying this specific intervention.

Limitations

This study only analyzed facilitator field notes; thus, it is possible that the written documentation did not match the facilitator’s actual behaviors or did not capture all possible facilitator actions. These data are based on the field notes generated by one team of facilitators; it is possible that if Project *TEAM* was implemented by other facilitators and in other contexts, different strategies would be reported. Future studies should triangulate these facilitator strategies by reviewing video recordings of different facilitators implementing Project *TEAM* in a variety of contexts. The results of this study may not be applicable to interventions other than Project *TEAM*.

Conclusion

Facilitators used strategies to facilitate accessibility, relevance, and engagement for transition-age youth with developmental disabilities. Findings suggest that facilitators can individualize Project *TEAM* in a way that is aligned with and further supports the mechanisms of change of the intervention. However, further revisions to the Project *TEAM* protocol are needed to improve the quality and to avoid gaps between the intended and

actual delivery of the intervention. The results of this qualitative study can inform such revisions and help ensure the intervention protocol operationalizes the active ingredients of the Project *TEAM* intervention.

Acknowledgments

Thank you to the insightful facilitators of the pilot implementation of Project *TEAM*: Stacy Hart, Boston Center for Independent Living, and BU graduate students Kristin Roemer, Kendra Liljenquist, Sarah Kreditor, and Julia Shin. This article additionally benefited from the efforts of and contributions from Melissa Demir, Romeissa Selmane, Ellen Cohn, Harjas Chilana, Jean MacLachlan, Jenny Pianucci, Teng Peng Zhao, Deep Shah, and Sumire Sato.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The implementation of Project *TEAM* was funded by Deborah Munroe Noonan Memorial Research Fund, Bank of America, N.A., Trustee. Principal investigator (PI): Kramer. Additional funding support was provided by the U.S. Department of Education, NIDRR Grant H133G120091 (PI: Kramer) and National Center Medical Rehabilitation Research, National Institute of Child Health and Human Development/National Institute Neurological Disorders and Stroke, National Institutes of Health K12 HD055931 (Awardee: Kramer).

References

- Durlak JA, DuPre EP. Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*. 2008; 41:327–350. [PubMed: 18322790]
- Falardeau M, Durand MJ. Negotiation-centred versus client-centred: Which approach should be used? *Canadian Journal of Occupational Therapy*. 2002; 69:135–142.
- Field S, Hoffman A. Preparing youth to exercise self-determination: Quality indicators of school environments that promote the acquisition of knowledge, skills, and beliefs related to self-determination. *Journal of Disability Policy Studies*. 2002; 13:114–119.
- Geertz, C. Thick description: Toward an interpretive theory of culture interpretation of cultures. New York, NY: Basic Books; 1973.
- Joseph Rowntree Foundation. An evaluation of a young disabled people's peer mentoring/support project. Water End, UK: Author; 2003.
- Kadzin AE, Nock MK. Delineating mechanisms of change in child and adolescent therapy: Methodological issues and research recommendations. *Journal of Child Psychology and Psychiatry*. 2003; 44:1116–1129. [PubMed: 14626454]
- Kielhofner, G. A model of human occupation: Theory and application. 4. Baltimore, MD: Lippincott Williams & Wilkins; 2008.
- King GA, Baldwin PJ, Currie M, Evans J. The effectiveness of transition strategies for youth with disabilities. *Children's Health Care*. 2006; 35:155–178.
- Kramer JM, Barth Y, Curtis K, Livingston K, O'Neil M, Smith Z. Involving youth with disabilities in the development and evaluation of a new advocacy training: Project *TEAM*. *Disability & Rehabilitation*. 2013; 35(7):614–622.10.3109/09638288.2012.705218 [PubMed: 22897636]
- Kramer JM, Roemer K, Liljenquist K, Shin J, Hart S. Formative evaluation of Project *TEAM* (Teens making Environment and Activity Modifications). *Intellectual and Developmental Disabilities*. 2014; 52(4):258–272.10.1352/1934-9556-52-4.258 [PubMed: 25061770]
- Mandich AD, Polatajko HJ, Missiuna C, Miller LT. Cognitive strategies and motor performance in children with developmental coordination disorder. *Physical & Occupational Therapy in Pediatrics*. 2001; 20:125–143. [PubMed: 11345507]
- Mattingly CF. What is clinical reasoning? *American Journal of Occupational Therapy*. 1991; 45:979–986. [PubMed: 1793121]
- Mayall, B. Sociologies of childhood. In: Holborn, M., editor. *Developments in sociology: An annual review*. Vol. 20. Lancashire, UK: Causeway Press; 2004. p. 37-57.

- Meichenbaum, D. Cognitive-behavioral modification: An integrative approach. New York, NY: Plenum Press; 1977.
- Merchant DJ, Gajar A. A review of the literature on self advocacy components in transition programs for students with learning disabilities. *Journal of Vocational Rehabilitation*. 1997; 8:223–231.
- National Center on Universal Design for Learning. Universal design for learning guidelines—Version 1.0: Research evidence. 2011. Retrieved from <http://www.udlcenter.org/research/researchevidence>
- Parham LD, Cohn ES, Spitzer S, Koomar JA, Miller LJ, Burke JP, Summers CA. Fidelity in sensory integration research. *American Journal of Occupational Therapy*. 2007; 61:216–227. [PubMed: 17436844]
- Parham LD, Roley SS, May-Benson TA, Koomar JA, Brett-Green B, Burke JP, Schaaf RC. Development of a fidelity measure for research on the effectiveness of the Ayres Sensory Integration intervention. *American Journal of Occupational Therapy*. 2011; 65:133–142.10.5014/ajot.2011.000745 [PubMed: 21476360]
- Patton, MQ. *Qualitative research and evaluation methods*. 3. Thousand Oaks, CA: SAGE; 2002.
- Persch AC, Page SJ. Protocol development, treatment fidelity, adherence to treatment, and quality control. *American Journal of Occupational Therapy*. 2013; 67:146–153.10.5014/ajot.2013.006213 [PubMed: 23433268]
- Polatajko HJ, Mandich A, Miller LT, Macnab JJ. Cognitive orientation to daily occupational performance (COOP) Part II: The evidence. *Physical & Occupational Therapy in Pediatrics*. 2001; 20:83–106. [PubMed: 11345514]
- Powers LE, Garner T, Valnes B, Squire P, Turner A, Couture T. Building a successful adult life: Findings from youth-directed research. *Exceptionality*. 2007; 15:45–56.
- Sangster CA, Beninger C, Polatajko H, Mandich A. Cognitive strategy generation in children with developmental coordination disorder. *Canadian Journal of Occupational Therapy*. 2005; 72:67–77.
- Wehmeyer ML, Palmer SB, Agran M, Mithaug DE, Martin JE. Promoting causal agency: The self-determined learning model of instruction. *Exceptional Children*. 2000; 66:439–453.

Table 1

Field Note Data for Each Strategy.

Therapeutic strategy	Example quote
Facilitate attention	"I asked them to identify the symbol ... I had to go around and physically point to the target in the center" (Facilitator 1, Group 3). "I placed the poster directly in front of [two students]" (Facilitator 2, Group 2).
Encourage	"When [one trainee] came up with a great [rhyme], I openly gave him praise and asked others 'Wow ... you must be a great rapper!'" (Facilitator 6, Group 3).
Learning resources	"When I asked [the trainee] what part of the environment it was, he said music, so I referred him back to the list; he would then be able to name the [part of the] environment" (Facilitator 2, Group 3).
Directive	"Move to a seat to face the PowerPoint" (Facilitator 1, Group 2). "I asked him to read the definition of [the strategy] Planning Ahead" (Facilitator 2, Group 2).
Simplify/Break down	"[The trainee] seemed stuck after drawing the line from the guitar to 'things.' I went through [the questions] one by one by first asking which word he would like to find a picture to match. He had trouble with that, so I switching to asking him 'What picture should we look at next to see if we can figure out what part of the environment it is?'" (Facilitator 3, Group 3).
Support literacy	"He would say 'Goal' and then he would write it as we spelled it" (Facilitator 2, Group 3).
Validate	"[One trainee] said something was 'fun' ... and [a second trainee] said no, and I told [the trainee] that everyone could think differently and it was ok if [he] felt differently, and that I wanted to know both opinions" (Facilitator 1, Group 1).
Give feedback	"[The trainees] would often identify the wrong category for a part of the environment. I would say 'no that is an example of [a different] part of the environment'" (Facilitator 1, Group 2).
Associate	"I pointed out that a 'target' always indicates 'goal'" (Facilitator 6, Group 2).
Demonstrate/Model	"I flipped an [environment Uno] card over to explain that the students could match by another picture of the same part of the environment ... or any other card with the same color" (Facilitator 1, Group 1).
Examples	"When he stated he used a marker instead of a pencil to do homework I took this as an opportunity to teach him that this was [the strategy using things or technology]" (Facilitator 5, Group 2).
Orienting questions	"[The trainee] was not sure if light, sound, and smell was part of shopping at the market. I had to provide extensive verbal questions such as 'how do you see' and 'what's on the ceiling' and it took her several questions to identify 'lights.' She was then able to identify that you would hear other people talking at the market as well" (Facilitator 1, Group 1).
Restate/Rephrase	"I would ask [trainees] what makes getting up easier [instead of] what works for you, and what makes it harder to get up [instead of] what doesn't work for you" (Facilitator 2, Group 2). "The trainees did not seem to get the word 'consumer' but they understood 'customer' instead" (Facilitator 1, Group 3).
Peer support	"I [asked two trainees] to help each other out and work together during the scavenger hunt. They figured out how to spell things together. One of them could identify a part of the environment and the other would help figure out which category it belonged in" (Facilitator 4, Group 1).
Choice	"I gave both groups the choice of either acting out the scene or reading it out loud" (Facilitator 4, Group 1). "I said that he would either need to keep his phone in his pocket ... or that we would take the phone away until the end of class" (Facilitator 5, Group 2).
Physical action on behalf	"When we reviewed the previous materials, I opened [the trainee's] binder for him. He had his head down, not engaged" (Facilitator 2, Group 1). "I would physically guide her hand to ... check off what strategy could be used" (Facilitator 5, Group 2).
Explain	"When completing the Plan Step 1 I would ask [both trainees] to explain to me why they believed the part of the environment to be a help or a hindrance. If their explanation did not match what they had checked I would ask them if it didn't help why did they mark a support or vice versa. This would allow them to think about making the change ..." (Facilitator 5, Group 1).
Negotiate	"[One trainee] had only written down two problems for his strengths and difficulties worksheet. He said he did not want to write a third one. Rather than try and convince him to do this, we worked on the two problems we identified" (Facilitator 5, Group 1).
Advise	"[A trainee] was filling out his asking for change script, and he was unable to identify someone who worked at [his agency] whom he could ask about his goal ... He was unable to answer. I said 'What about [the director]?'"

Table 2

Alignment of Facilitator Strategies With Best Practices Informing the Design and Delivery of Project *TEAM*.

Peer support or social learning	Experiential learning
These strategies foster individual and group capacity through interactions with other trainees.	These strategies utilize examples or instances from trainees lived experience to support learning and application of concepts.
<ul style="list-style-type: none"> • Peer support 	<ul style="list-style-type: none"> • Examples • Orienting questions
<i>Cognitive-behavioral techniques</i>	<i>Universal design for learning (UDL)</i>
These strategies encourage young people to identify barriers and problem-solve solutions using the “Game Plan” as independently as possible to facilitate generalization to everyday life. These strategies often facilitated a trainee’s awareness of his or her own problem- solving process.	These strategies operationalize the three primary principles of UDL. (a) Provide trainees with alternative ways of expressing and demonstrating their knowledge, (b) ensure trainees are motivated to be engaged by providing a safe learning environment and individualizing content for optimal relevance, and (c) represent content in multiple ways using multiple approaches.
<ul style="list-style-type: none"> • Advise^a • Explain • Give feedback^a • Learning resources • Orienting questions 	<ul style="list-style-type: none"> • Associate • Choice • Demonstrate or model • Directive • Encourage^a • Example • Facilitate attention • Give feedback^a • Learning resources • Negotiate^a • Physical action on behalf • Restate or rephrase • Simplify or break down • Support literacy • Validate^a

Note. *TEAM* = Teens making Environment and Activity Modifications.

^aThese therapeutic strategies are articulated by Kielhofner, 2008. In some instances, the original definitions were revised to reflect the intervention context of Project *TEAM*.