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Educational Materials for Implementation of Cognitive Interventions Across Practice Settings

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EDUCATIONAL MATERIALS FOR IMPLEMENTATION OF COGNITIVE
INTERVENTIONS ACROSS PRACTICE SETTINGS

By

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This Scholarly Project Paper, submitted by Ashlyn Grindberg and Nicholas Wahlstrand in partial fulfillment of the requirement for the Degree of Master of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.


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ABSTRACT

Educational Materials for Implementation of Cognitive Interventions Across Practice Settings

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Purpose: The purpose of this project was to develop educational materials for the UND occupational therapy (OT) program to address cognitive strategies for intervention across populations.

Methods: A literature review was conducted to determine the need for our product. The review of literature included the role of OT in functional cognition, use of cognitive intervention strategies with populations, and specific frames of references used in OT practice settings. It was found that new OT practitioners did not feel prepared to address cognitive deficits across populations when moving from one setting to another.

Results: The Adult Learning Theory was used to create our product, *Educational Materials for Implementation of Cognitive Interventions Across Practice Settings*, for the UND OT program. These education materials include PowerPoint presentations, case studies, and discussion questions. The educational materials provide students with an intuitive, organized system designed to increase understanding of concepts. The result is an enhanced ability to implement cognitive intervention strategies in practice.

Conclusions & Significance: The literature has shown a lack of consensus amongst occupational therapists regarding the application of cognitive strategies in interventions for individuals of varying of diagnoses. By providing a product with detailed guidelines and easy to use lesson plans, students will effectively learn to tailor cognitive interventions to each individual client, regardless of their diagnosis. This product will enhance the UND OT program by equipping students with evidence-based skills in cognitive intervention. One limitation of this product is that it has not been implemented in a classroom setting.

CHAPTER I

INTRODUCTION

Cognitive dysfunction is prevalent among clients in a variety of healthcare settings. Problems with cognition may arise from congenital factors, physical injury, or mental trauma. In the US, 22.2% of older adults suffered from a cognitive impairment not related to dementia in 2002, and that number is on the rise (Plassman et al., 2009).

The occupational therapy profession has a substantial amount of research that verify cognition as an essential element of occupational performance (American Occupational Therapy Association, 2013). The role of occupational therapy (OT) addresses many different populations and settings, but often clinicians do not feel competent to address cognitive deficits in more than a few populations. Cognitive intervention is vital to amelioration of functional performance in those recovering from trauma, and can also benefit individuals with cognitive deficits at birth. OTs are well-equipped to evaluate and treat these individuals. Practitioners focus on holistic cognitive interventions to enhance occupational performance. Utilization of clients' meaningful occupations increases the effectiveness of interventions by augmenting motivation, resulting in increased functioning and enhanced participation in daily activities. (Giles et al., 2013). Frames of reference such as CO-OP, DIM, and CBT may be utilized to guide intervention strategies across client populations.

Current course curriculums do not tend to include lesson plans that instruct students to apply intervention strategies across a significant variety of populations.

The purpose of this project was the development of educational materials for the OT program at the University of North Dakota with the goal of addressing cognitive intervention strategies through a concept-based learning approach. Adult learning theory was utilized to provide an evidence-based guide for development of an appropriate sequence for effective learning.

The model of Andragogy was selected because it provides strategies shown to be effective for adult learners. Self-directed learning is emphasized in this approach, and learning should be problem-centered rather than content-based. It is important for educators to explain the reason behind selection of the content to be learned, as adult learners prefer task orientation over rote memorization. Once knowledge is acquired, adult students prefer to immediately apply what they have learned to their everyday lives. Adult learners are hands on and learn from being allowed to make mistakes. Educators utilizing an Andragogical approach also take individuals' unique culture and background into consideration (Bastable, Gramet, Jacobs, & Sopczyk, 2011).

This scholarly project consists of five chapters. A review of literature in chapter two details OT's role in cognition and addresses three prominent cognitive frames of reference used in practice. It also covers evidence-based cognitive intervention strategies including how to apply them when working with specific populations. Adult learning theory is also explored. Chapter three explains the methodology utilized to guide the literature review, the need for the product, and the topics that were highlighted throughout the project. Our product, *Educational Materials for Implementation of Cognitive Strategies Across Practice Settings*, will be included in chapter four. These materials will allow UND educators to effectively teach cognitive intervention strategies

which students will be able to apply in future practice. Lastly, chapter five provides summarization of the project.

CHAPTER II

LITERATURE REVIEW

Introduction

Individuals with a variety of health conditions experience cognitive decline which impacts their daily functioning. Those with conditions such as TBI, CVA, Schizophrenia, Autism, and Cerebral Palsy are impacted by cognitive dysfunction in the United States and across the globe. In the United States, 22.2% of older adults suffered from a cognitive impairment not related to dementia in 2002, and that number is on the rise (Plassman et al., 2009). People who suffer from a cognitive impairment are impacted in every area of life from simple daily tasks to maintaining a household. These individuals receive a variety of services and therapy from health professionals across the spectrum, including occupational therapy. Occupational Therapists (OTs) utilize a variety of treatment approaches to address cognitive deficits; these approaches are derived from various frameworks, including the Cognitive Orientation to Daily Occupational Performance (CO-OP), the Dynamic Interactional Model (DIM), and Cognitive Behavioral Therapy (CBT). Within the profession of occupational therapy, there is a need to provide students with a curriculum that integrates these evidence-based frameworks in a way that will allow them as professionals to follow best-practice guidelines in treating individuals who have different diagnoses but may benefit from similar treatment interventions. In order to develop effective, evidence-based cognitive interventions, first students must understand the many factors that impact cognitive function.

Cognition

Cognition can be defined in a variety of ways. Oxford Dictionary (2017) defines cognition as “the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses.” The American Occupational Therapy Association (2013) defines cognition as “information-processing functions carried out by the brain that include attention, memory, executive functions, comprehension and formation of speech, visual perception and praxis skills.” It is the brain's process of interpreting the information that is happening around and within one’s body. When problems with cognition occur, the result is a lowered capacity to process and utilize information, which may result in decreased daily functioning. No matter the diagnoses, dysfunction may result in difficulty with processing or organizing new information, trouble with attending to performance, and lack of ability to accurately recall knowledge. Individuals may also have trouble generalizing knowledge and skills across contexts (American Occupational Therapy Association, 2014). Cognition influences how one perceives, comprehends, and performs daily tasks such as dressing, bathing, medication and money management, and driving. Due to the dynamic interplay between all aspects of cognition, symptoms vary from one individual to another, and can fluctuate within one person over time. This can make it difficult for healthcare professionals to know how to approach and care for clients who suffer from cognitive impairments. Deficiencies may be more or less obvious depending upon the individual’s characteristics, the activity, or environmental demands in a given situation. Problems with cognition may have an impact on all areas of life, including ADLs, work, leisure, and social functioning.

Occupational therapy professionals are well-positioned to utilize cognitive interventions to address the wide variety of challenges their clients may face.

Occupational Therapy's Role in Cognition

Occupational therapy is “the therapeutic use of everyday life activities, or “occupations” with individuals or groups for the purpose of enhancing or enabling participation in roles, habits, and routines in home, school, workplace, community, and other settings” (American Occupational Therapy Association, 2014). Therapists serve a variety of populations, including pediatrics, physical disabilities, mental health, and geriatrics, focusing holistically on every area of life. These areas of life consist of activities of daily living (ADL), instrumental activities of daily living (IADL), rest and sleep, play, leisure, work, education, and social participation. Occupational therapists have a unique set of skills to provide interventions which facilitate their clients’ abilities to participate in meaningful activities. The benefits one can gain from occupational therapy services include improved quality of life, increased independence, enhanced well-being, greater participation in daily activities, role competence, and occupational justice (equal opportunity for all to participate in a desired occupation).

Occupational therapy (OT) is one of the health professions involved in the evaluation and treatment of cognitive deficits in clients with genetic or acquired diseases and other disorders that can affect one’s cognitive level. AOTA (2013) asserts that cognitive functioning is always related to occupational performance; therefore, it is essential that occupational therapists find the connection between overall cognitive functioning and each factor contributing to cognition with each of their clients. By recognizing specific factors through assessments, client interview and observation, and

analyzing activity, occupational therapists can develop cognitive strategies to assist clients to improve their occupational performance (Toglia, Rodger, & Polatajko, 2012). In other words, the occupational analysis and client-centeredness unique to OT allows therapists to find appropriate interventions to increase the likelihood that a client with cognitive impairments will have success in therapy.

Neurological Disorders and Cognition

Individuals with cerebrovascular accidents (CVA) and those with traumatic brain injuries (TBI) are two populations that can be affected greatly by cognitive deficits. Occupational therapy can benefit these populations by enhancing recovery from these injuries. Park, Maitra, & Martinez (2015) studied clients who received occupation-based cognitive rehabilitation. These clients experienced statistically significant improvements in cognitive and ADL functioning. Furthermore, the results show that client factors including values, beliefs, and spirituality also have a significant impact. The researchers in this study concluded that clients with TBI can improve their daily functioning and psychosocial health by participating in occupation-based cognitive rehabilitation (Park, Maitra, & Martinez, 2015). Holmqvist, Kamwendo, & Ivarsson (2009) evaluated occupational therapists' approach to therapy in individuals who had suffered from an acquired brain injury that resulted in cognitive impairments. By interviewing 27 OTs in a variety of fields, the authors concluded that occupational therapists had better outcomes with clients' self-awareness and motivation when they implemented therapeutic use of self into their treatment sessions (Holmqvist, Kamwendo, & Ivarsson, 2009). Cognition is a crucial factor that impacts a client's ability to perform daily tasks. Cognitive impairments can become a barrier for clients when trying to learn and adapt their daily

tasks post-injury. OTs, however, can help clients increase the effectiveness of treatment through the practice of therapeutic use of self and occupation-based interventions.

Akbari, Ashayeri, Akbar Fahimi, Kamali, & Lyden (2011) stress the importance of cognitive interventions with post-CVA clients. They found that the brain goes through plasticity changes during the first three months after a CVA; therefore, this is the optimal time to evaluate and begin the recovery process for cognition. Occupational therapists have an important role in assisting clients post-CVA by implementing holistic, client-centered interventions that address cognition. This enables clients to maximize their reacquisition of functional performance. Continued research is important, as conclusions regarding plasticity are not 100% consistent across the board. For example, a systematic review analyzing research studies on thrombolysis in ischemic strokes between 1990 and July 2015 found only limited evidence that early intervention has an impact on cognition (Broome, Battle, Lawrence, Evans, & Dennis, 2016). It is however, important to utilize the current evidence and employ early intervention strategies.

Gillen et al., (2015) analyzed the effectiveness of cognitive interventions on occupational performance in clients who suffered from cognitive impairments secondary to a CVA. The 46 articles reviewed found cognitive rehabilitation was shown to improve cognitive functioning in persons with acquired brain injuries, including stroke, in addition to improving ADL performance. However, there was limited evidence to support ADL interventions to improve memory loss post-CVA (Gillen et al., 2015). The results of this study are noteworthy for occupational therapy practice since cognitive decline is prevalent in stroke and other neurological disorders. Occupational therapists can work

with patients to increase quality of life and occupational performance. More research in this area is pertinent to the ensure best practice is being updated.

Cameron (2017) conducted a study on individuals with cerebral palsy with cognitive deficits and the implementation of interventions based on the CO-OP approach. They were educated on a “Goal-Plan-Do-Check” strategy and were asked to apply it to specific tasks in order to learn target skills. Common goals included riding a bike, tying shoes, improving printing skills, and putting on clothes or operating fasteners. Results showed that all 9 children in the CO-OP group were able to learn the global problem-solving goal acquisition, and they gained significant progress in 23 of 27 goals during the use of the intervention. Participants who received CO-OP-based treatment showed an overall increase in the mean number of positive comments by the participants at follow-up compared to baseline. CO-OP was perceived by the researchers as more top-down compared to other approaches. Versus therapists who used the control model, CO-OP therapists focused on target goals 100% of the time, resulting in increased effectiveness. CO-OP was found by the researchers as efficacious for individuals with CP. It was shown to be as effective as current interventions but also has potential advantages as indicated by findings that skills acquired may generalize to a greater extent (Cameron, 2017).

Mental Health Disorders and Cognition

Other populations that benefit from cognitive-based intervention include those with diagnoses such as autism and schizophrenia. For example, in a study on cognitive-based intervention in autism, Loukas, Raymond, Perron, McHarg, and LaCroix Doe (2015) conducted focus groups that resulted in four major themes. The first theme was the importance of swapping family stories, which helped parents to feel supported by

their peers, making the subject matter feel lighter. The second was experiencing an epiphany, such as realizing they were not alone in the experience. The third was place making, which in effect was creating a safe place to talk about the individual's diagnosis and their experiences. The fourth theme was seeing a transformation in the participant. All of this was seen as cognitive support for caregivers to increase their capacity to reinforce cognitive interventions for their young adult with autism. Quantitative data on the one young adult participant with high functioning autism (HFA) showed improvements in emotion recognition and deciphering inferences during interpersonal communication. These results are pertinent to occupational therapy due to the discipline's emphasis on caregiver support as well as client-centered care. By teaching the caregivers cognitive strategies to use themselves, therapists can effectively increase the gains in cognitive performance made by the client. Further highlighting the positive impact of client-centeredness, in a study by Loukas, Raymond, Perron, McHarg, and LaCroix Doe (2015), researchers assessed the association of treatment *fidelity* to components of the STAR program. The authors define the word "fidelity" as treatment accuracy and/or intensity, such as staff adherence, staff skill, intervention intensity or duration, or a combination thereof. STAR is a comprehensive individualized program for children with autism which includes three types of interventions based on Applied Behavior Analysis (ABA): discrete trial training, pivotal response training, and teaching within functional routines. Six areas comprise the curriculum. They include: expressive language, receptive language, spontaneous language, functional routines, pre-academic concepts, and play and social interaction skills. Three levels of instruction for children up to age eight and includes specific activities to facilitate skill acquisition. Researchers found that,

of the three areas, fidelity especially to pivotal response training was found to be associated with significant increases in cognitive ability. Therefore, the researchers deduced that ameliorating fidelity to pivotal response training can improve cognitive functioning in children with autism. They suggested that the play-based teaching techniques utilized in pivotal response training allow for better generalization of skills due to an augmented level of client-centeredness. Play-based interventions are essentially occupation-based for this population; occupation-based intervention is often regarded as the most effective means of treatment that occupational therapists can provide.

Schizophrenia is another diagnosis in which several areas of cognition are impacted. The authors of a randomized control-trial study at UCLA investigated the scientific background and theoretical approach utilized to develop a cognitive remediation model for individuals after a recent first-episode of schizophrenia. They investigated both bottom-up and top-down approaches to cognitive remediation. The data were then utilized to bridge the gap between the two approaches, combining the most effective aspects of each to arrive at a more efficient model. They addressed seven individual cognitive domains that are impacted in schizophrenia. These include processing speed, vigilance, working memory, verbal learning, visual learning, reasoning and problem solving, and social cognition. They found that processing speed and working memory are most negatively impacted in individuals with this diagnosis. Returning to work or school was shown to help increase self-efficacy of individuals after a first-episode. Persons who received Individual Placement and Support (IPS) were particularly successful, being two times more likely to be competitively employed as control groups receiving traditional vocational services. The bottom-up approach involves intervention

at a more basic cognitive level through repetition and was found to be less motivating than the top-down, client-centered approach (Nuechterlein et al 2014). Furthermore, a study by Shimada, Nishi, Yoshida, Tanaka, and Kobayashi (2016) explored the impact of individualized occupational therapy. Improvements were seen in verbal memory, working memory, verbal fluency, attention, and executive function. Once again, the occupation-based, client-centered approach was shown to currently be the most effective model for practice.

In a single-case exploratory study by Puskar, Slivka, Lee, Martin, and Witt (2016), strategies to ameliorate neuroplasticity were investigated as a means to improve cognitive functioning in individuals with schizophrenia. Metacognitive training (MCT), which is “thinking about one’s thinking,” is an approach which includes psycho-education, cognitive remediation, cognitive behavioral therapy (CBT), as well as social cognitive training. This intervention utilized three strategies that included deep breathing, T’ai Chi, and headphones. Prompting was used to reinforce participation; researchers found that the focus and calmness these interventions induced contributed to the individual’s health by alleviating hallucinations and providing a sense of control over symptoms. Metacognitive training is one of the structured protocols of cognitive remediation for schizophrenia as it promotes self-awareness of symptoms; this results in improved social behavior, problem solving, and occupational outcomes.

According to research, neuroplasticity can be facilitated through lifestyle choices such as daily routines like sleep, exercise, and cognitive training. This can improve quality of life of individuals with schizophrenia by increasing tolerance of hallucinations and increasing social and cognitive skills (Puskar et al 2016).

Rajji, Dielle, and Mulsant (2014) found that as a first-episode of schizophrenia develops (FEP), cognitive deficits increase and continue. Patients experience general deficits across most areas of cognition, but severity varies between areas. Information processing speed, verbal and visual memory show the greatest deficits, whereas attention and motor processing speed remain relatively less impacted. Deficits stabilize in the chronic phase, but they do tend to be synergistic. The literature suggests that trajectory of the illness depends upon level of baseline cognition (Rajji et al 2014). However, as Puskar et al (2016) suggests, individuals may benefit from OT interventions that improve their lifestyle choices and effectively facilitate neurological functioning.

Cognitive Interventions

OTs across patient populations commonly focus on cognitive interventions that address life skills, emotional regulation, and cognitive remediation. These interventions are effective because they draw upon the clients' intact cognitive abilities to facilitate insight into and control of their behaviors. In order for clients to gain the greatest possible benefit, therapists teach cognitive strategies such as use of memory aids, structured schedules and routines, and the use of activity analysis to break activities into steps that can be repeated until learned. Therapists also utilize therapeutic use of self, and interventions are often occupation-based and client-centered, increasing efficacy and motivation. One must also take into account neuroplasticity and the importance of beginning holistic cognitive intervention early, especially in cases of acute neurological insult such as that found in CVA and Schizophrenia. Cognitive intervention can increase ADL performance, leading to increased independence. In order to most effectively

implement cognitive strategies, it is useful to utilize a framework to create interventions that are evidence-based, client-centered, and motivating.

Cognitive Orientation to Daily Occupational Performance (CO-OP) Approach

The Cognitive Orientation to Daily Occupational Performance (CO-OP) approach focuses on one's daily performance of occupations or tasks (Cameron et al., 2017). This approach primarily focuses on the client's abilities to problem-solve during task performance. The creators of the CO-OP approach drew from Meichenbaum's four-step problem solving approach: Goal-Plan-Do-Check. This approach focuses on providing the client with the structure to learn a new or previous task which they are unable to effectively complete due to cognitive limitations. First, the client chooses a goal they wish to accomplish. Next, with the help from their therapist, they develop a plan on how to achieve that goal. Once they develop a plan, they execute the plan. The last step of the process is to review and gain feedback from their therapist on their performance. This process is repeated until the client reaches their goal in the way they wish to perform it. The creators of CO-OP also drew from Feuerstein, Haywood, Rand, Hoffman, and Jensen (1986) who believed that adults can facilitate a child's learning by helping to interpret their daily experiences and customize environmental stimuli to suit current learning needs. This "mediational technique" is strongly emphasized in CO-OP. Dynamic Systems Theories explain that musculoskeletal, neural, and cognitive systems interact with an individual's motivation, task requirements and environmental contexts to contribute to the learning of new movement patterns. This is reflected in CO-OP through a process called "Guided Discovery," which requires that a therapist manipulate the environment to call attention to a child's problem areas in order to facilitate generation of alternate

solutions. Also, occupational therapy's dedication to client-centeredness is emphasized in the CO-OP approach, allowing for a child to set their own goals, therefore facilitating increased motivation. The CO-OP approach considers theories of cognitive-strategy use to facilitate generalization of skills. Through acquisition of problem-solving stratagem, a client is trained to self-monitor performance. In summary, the CO-OP approach emphasizes child-chosen goals, performance in a realistic setting with feedback opportunities, and a consistent problem-solving structure, which combined with mediation facilitates generalization of strategies (Cameron et al, 2017).

Dynamic Interactional Model (DIM) Approach

The Dynamic Interactional Model (DIM) is a multicontextual approach that focuses on determining the effect cognition has on one's ability to "process, learn, and generalize information" (Toglia, 2011). There are 6 components to the DIM that includes structural capacity, personal context, self-awareness, processing strategies, activity demands and environmental factors, and efficiency and effectiveness of occupational performance. In order for cognition to facilitate function, an individual requires the capacity to process information efficiently: they must effectively receive, elaborate on, and have the vigilance or attention to monitor a continuous stream of information. It also requires that an individual can generalize and apply information in various contexts (Toglia, 2011). Toglia explains the importance of addressing all areas of life, because the depression and subsequent lack of activity that can occur following cognitive dysfunction can further contribute to the problem. Therapists can promote occupational performance in a few ways according to Toglia. For example, performance can be enhanced by offering verbal cues. Alternatively, therapists can gradually change the components of the

activity one at a time to simplify the task for the client. Another way therapists can facilitate changes in occupational performance is by observing how well the client is applying the strategies while performing tasks and providing them with feedback (Toglia, 2011; Toglia, Rodger, & Polatajko, 2012). Toglia further explains that learning can be facilitated if similar elements are seen in multiple activities. In an exploratory case study by Zlotnik, Sachs, Rosenblum, Shapasser, and Josman (2009), the effectiveness of the DIM was studied. Participants included two individuals, 16 and 17 years of age, who had suffered from mild-moderate TBI. The Canadian Occupational Performance Measure, FIM, the Computerized Penmanship Objective Evaluation Tool, and Awareness of Mobility Deficits Questionnaire were used to determine outcome measures. Zlotnik et al. (2009), concluded that the DIM approach improved self-care, mobility, and graphomotor abilities in the two adolescents. Furthermore, the DIM was effective in aiding the two adolescents to become aware of their deficits by the conclusion of the study. All in all, the Dynamic Interactional Model approach is used to promote client self-awareness, which ultimately results in an individual wanting to make their own improvements within their daily lives.

Cognitive Behavioral Therapy Approach (CBT)

The Cognitive Behavioral Therapy (CBT) is widely used across an array of disciplines, including occupational therapy, to aid in the recovery of clients who experience cognitive dysfunction. The underlying assumption of this theory is that “thinking and feeling influences behavior (Cole & Tufano, 2008). There are a variety of strategies within the cognitive behavioral theory approach that are deemed to be effective to improve cognitive dysfunction. Duncombe (2005) categorizes these strategies into 3

sections: behavioral strategies, cognitive & behavioral strategies, and cognitive strategies. The primary purpose of using the strategies is to educate clients on skills to build their knowledge and daily problem-solving abilities in order to increase function (Duncombe, 2005). However, the most impactful component of this approach on therapy outcomes is engagement. A client needs to fully participate and maintain motivation in therapy in order to see an improvement in their cognition and function (Taylor, Lee, & Kielhofner, 2011). The client must have self-awareness of their thoughts, feelings, and actions in order to make a change. CBT has been shown to be an effective method to increase independence in clients with autism spectrum disorder, schizophrenia, and even in populations with physical disabilities (Drahota, Wood, Sze, & Van Dyke, 2010; Pinninti, Rissmiller, & Steer, 2010). Pinninti, Rissmiller, and Steer (2010) conducted a study to analyze the effectiveness of cognitive behavioral therapy versus antipsychotic medications in patients with schizophrenia. In the conclusion of the study, patients who had received both antipsychotic medications and CBT reported a decrease in the severity of their delusions. In another study, Drahota, Wood, Sze, and Van Dyke (2010) analyzed independence and self-help skills in children who were diagnosed with Autism Spectrum Disorder. They concluded that the CBT participants were more independent in their daily routines compared to the control group. CBT is a widely used framework that can be implemented with a variety of populations.

Student Learning

Frameworks and approaches are a crucial part of a student's learning development. They provide a foundation that allows students to learn how to guide evaluation and choose interventions that will best suit their future client. Learning and

practicing how to implement frameworks/approaches into practice can allow students to be more effective in their approach to provide clients with evidence-based care. Students are the key to the future of healthcare, yet opportunities to apply cognitive strategies in a classroom setting are rare. Currently, students are often taught about cognition and strategies to improve cognition for patients through lecture and PowerPoints, and these lessons are spread throughout the curriculum. However, it has been shown that this is not the most effective way for students to learn such crucial strategies. Hearn, Kopp Miller, and Nelson (2010) concluded that compared to demonstration, hands-on learning was a more effective way to learn for students studying nursing and health sciences, including occupational therapy. This way of learning has been shown to improve observation, concentration, and memory retention in students (Dunton, 1928 in Hearn, Kopp Miller, & Nelson, 2010). For this reason, it is important to provide hands-on activities for students to practice these strategies. Examples of a more hands-on approach include the use of case studies, video examples, and the opportunity to role-play with peers. There is further evidence that supports this technique of learning. McAlister (2014) and Bethea, Castillo, and Harvison (2014) all conducted studies that support hands-on learning through simulations and YouTube videos. They found that it facilitated students' learning of manual techniques, problem-solving, decision-making, and communication skills. In other words, students are more apt to retain the strategies and skills they learn in the classroom if they are able to physically complete and learn the task. The purpose of our project is to utilize the Adult Learning Theory of Andragogy in the development of educational materials for the OT program that will enable students to apply concepts and strategies used in the CBT, DIM, and CO-OP approaches across populations. From this,

occupational therapy students will be more equipped to apply skills and strategies upon entering practice.

Conclusion

As evidenced by current research on occupational therapy interventions for individuals with cognitive impairments, there is a need for practitioners with the skill to utilize cognitive strategies across populations. Studies have shown that individuals with acute neurological insults may experience increased recovery from early intervention due to brain plasticity (Puskar et al., 2016). Therefore, it is important for therapists to have thorough clinical guidelines for assessing and developing appropriate interventions. Occupational therapists that are adept at employing cognitive interventions across populations will prove to be significant assets in workplaces which treat a variety of diagnoses such as hospitals. With this being said, it is important to the profession of occupational therapy that students are provided the tools to tailor interventions as necessary. In order to achieve this, students require a background in a variety of diagnoses, a firm understanding of the facets of cognition and the impact of cognitive impairments on daily functioning. According to Evenson (2013), students improve their confidence by applying evidence-based practice during fieldwork and post-graduation when provided with the opportunity to learn in a hands-on environment. Tying these elements together in the college setting will allow students transition to the role of competent practitioner more quickly. Due to the lack of comprehensive curriculums that address this issue, further research and eventual implementation of enhanced curriculums is necessary.

CHAPTER III

METHODOLOGY

Our product, *Educational Materials for Implementation of Cognitive Interventions Across Practice Settings*, was designed utilizing the evidence-based model of Andragogy to provide future practitioners with knowledge, strategies, and intervention recommendations to address cognitive deficits in a wide variety of client populations. A literature review was executed to determine the need for our product. The topics that were addressed included cognition and cognitive interventions applied across diagnoses in occupational therapy settings. Diagnoses include traumatic brain injury (TBI), stroke, Autism Spectrum Disorder, Cerebral Palsy, and Schizophrenia. The literature was found by searching databases including CINAHL, PubMed, and AOTA (AJOT). Key words used while searching the databases included: brain injuries, cognition disorders/rehabilitation, occupational therapy, student learning, models psychological, Autistic Disorder, Schizophrenia, and Cerebral Palsy. The review of literature determined the inclusion of three of the most prominent evidence-based approaches to cognitive intervention: DIM, CO-OP, and CBT. These three are all utilized in interventions across populations and practice settings.

The literature review further described the definition of cognition; cognitive deficits; TBI; stroke; Autistic Disorder; Schizophrenia; Cerebral Palsy; approaches that influence interventions, and student learning strategies. Themes that arose included commonalities in the factors contributing to cognitive deficits across populations,

common barriers to independent living, and the effectiveness of Andragogy in adult education. The existing research on cognitive intervention highlights a lack in consensus amongst professionals regarding how to address cognitive deficits in practice. Our findings identified a need to develop a concept-based lesson plan to assist students in learning to apply effective cognitive strategies across diagnoses and settings.

Prior to developing the product, *Educational Materials for Implementation of Cognitive Interventions Across Practice Settings*, the Adult Learning Theory was chosen as a guide. Andragogy is learner-centered rather than teacher-centered; it can be considered a collaborative approach to learning. This method is a useful tool in both patient and staff education. As the adult learns, the role of the teacher changes. The learner becomes more independent and has an increased capacity to be self-directed. Their motivation is increased by relevance of knowledge to their meaningful social roles. Andragogy involves a hands-on approach, which results in active rather than passive learning. As opposed to pedagogy, andragogy is problem-centered, versus subject centered. The learner's motivation comes from their ability to apply acquired information and skills to solve imminent problems, and the subject matter must be applicable to their own lives (Bastable, Gramet, Jacobs, & Sopczyk, 2011).

Four abilities are needed for experiential learning to be successful. This includes an openness on the part of the learner to be open to new experiences, and the ability to observe and reflect on experiences in order to increase perspective. In addition, the learner must be proficient at analyzing experiences in order to form new ideas and concepts. Learners must be able to problem solve and make decisions utilizing the information and skills they've acquired as well. In order for effective learning to occur,

individuals must have self-efficacy, support, and trust in their supports (Merriam, Caffarella, & Baumgartner, 2007). When individuals have a positive environment and a willingness to learn, productive, effective education takes place.

Educational Materials for Implementation of Cognitive Interventions Across Practice Settings was designed to assist OT students who are enrolled in the program to learn cognitive strategies that they can apply to fieldwork experiences and with their future clients in practice. Current research on cognitive remediation in occupational therapy settings is limited with respect to effective, client-centered strategies to promote independence and functional performance (American Occupational Therapy Association, 2013). Research shows that these populations benefit from early intervention, suggesting an urgency to come to consensus on and increase the use of evidence-based practice amongst OTs regarding cognitive interventions (Park, Maitra, & Martinez, 2015).

In summary, we developed this product for the UND OT program after completing a thorough literature review on cognitive intervention across diagnoses and choosing an educational model. Our product, *Educational Materials for Implementation of Cognitive Interventions Across Practice Settings*, will be presented in Chapter IV.

CHAPTER IV

PRODUCT

The progression rates for individuals suffering from cognitive impairments is on the rise. A cognitive deficit leads to decreased quality of life and occupational performance which does not allow individuals to live an independent life (Plassman et. al, 2009). Occupational therapy (OT) practitioners are able to assess and intervene to improve occupational performance and independence with clients who are negatively impacted by cognitive impairments. However, OTs and OT students have expressed difficulty with implementing effective intervention strategies with these individuals. The educational materials presented in this chapter will therefore aid in bridging the gap to better prepare future practitioners in addressing cognitive deficits.

The educational materials are arranged to provide educators with organized lesson plans to ease implementation to classroom settings. Because of this, students will be provided with effective strategies to apply to a variety of practice settings while on fieldwork and entry-level practice. The information is organized as follows:

- Educator handouts: PowerPoint handouts for educators detailing each lesson plan with additional notes and required readings to assign prior to class session to enhance the implementation process.
- Student handouts: PowerPoint handouts for students to take notes of important concepts discussed during the class sessions.

- Four case studies: A variety of client scenarios provide students with the opportunity to apply key concepts and strategies learned in each lesson. Included are discussion questions to facilitate synthesis of information.
- Educator guide: This provides educators with key points from case studies in order to facilitate richness of discussion.

The Adult Learning Theory of Andragogy was chosen for this product as the main theoretical foundation. We elected to use this model over others based on evidence obtained from the review of literature stating its effectiveness for adult student populations. Several key principles are outlined in this model. The first suggests that learning is related to one's present need for specific knowledge. This principle is reflected in our product, as OT students require knowledge of cognitive intervention strategies in order to adequately prepare them for fieldwork experiences and eventual entry-level practice. Learning from past experiences is also another relevant concept addressed. Students will be able to draw from their own life experience to facilitate integration of information (Bastable, Gramet, Jacobs, & Sopczyk, 2011). They will also build upon knowledge of evaluation and intervention processes previously learned in the OT program.

Another important principle states that learning is self-controlled and self-directed. This suggests that the teacher take on the role of a facilitator rather than solely relying on lecture. The class sessions outlined in our product are designed to allow students to be in charge of their own learning. Readings provided allow students to come to class prepared with an overview of information. Key concepts from prominent cognitive approaches are briefly reviewed. Afterwards students are presented with case

studies which introduce them to situations commonly seen in practice. After completing the case studies, discussion questions are posed to help students apply and synthesize knowledge. This aspect of the sessions addresses another principal of Andragogy. This principle states that learning is reinforced by application and prompt feedback. By having students complete case studies and receive feedback from their peers and educator, they will be able to maximize their learning retention. Utilizing Andragogical strategies for group learning, students are able to be active participants in the learning process (Bastable, Gramet, Jacobs, & Sopczyk, 2011). Both large-group and small group discussions will allow them to collaborate and brainstorm concepts and strategies which will further enhance learning.

The goal of this product is to provide OT students with the knowledge and skill-set to implement cognitive intervention strategies in fieldwork experiences and entry-level practice. After participation in the class sessions, students will be more fully equipped to successfully apply these intervention strategies, regardless of the population or practice setting. The educational materials are presented in the appendix.

CHAPTER V

CONCLUSION

After our personal fieldwork experiences and review of the literature, we discovered that there is a need for our product: *Educational Materials for Implementation of Cognitive Interventions Across Practice Settings*. Based on the evidence, addressing implementation of cognitive approaches across populations and practice settings will better prepare students for level II fieldwork and entry-level practice. Educational materials were created with the goal of ensuring that upon graduation, students are prepared to transition smoothly between practice settings with the confidence and skills to choose and apply effective cognitive strategies without requiring excessive site-specific training. As current occupational therapy students, we have noted that previous classes within this program have addressed cognitive interventions, but there appears to be a need for a more concept-based learning approach. With this approach, cognitive interventions would be presented in a comprehensive manner; students would then be able to compare them and apply them across diagnoses. This learning would be applied in students' future fieldworks, enhancing the experience for both the student and supervisor. The end result would be increased preparedness for entry-level practice upon graduation.

The educational materials are based on the Andragogical Model because it allows them to fit the learning needs of the college student demographic. Based on this model, our lesson plans provide the learner with the opportunity to complete required and suggested readings and participate in case study activities, discussion, and application

exercises. The PowerPoint slides introduce three prominent cognitive approaches. These include: Cognitive Behavioral Therapy (CBT), Cognitive Orientation to Occupational Performance (CO-OP), and the Dynamic Interactional Model (DIM). To synthesize the information, learners participate in groups to complete a final case study, applying knowledge acquired in class to the discussion. It will also be important to discuss previous fieldwork experiences within the context of class content.

One limitation of this product is that it has not been previously implemented in a classroom setting. It should be noted that modifications will be required in the future, owing to the latest research, updates to evidence-based practice guidelines, and OT program changes. Special considerations for students with particular needs will also be addressed further as the program is implemented.

Our product will be introduced into the UND occupational therapy program after students have been exposed to OT evaluation and assessments of cognition and after two level one fieldwork experiences. For the current OT masters program, the materials will be presented during the second year. After the transition to the doctoral program, the materials will continue to be presented during the fourth semester. Providing the materials at this time will build upon evaluation and assessment, the students will be equipped with the tools and resources in order to feel competent addressing cognitive deficits during their level II fieldwork experiences. Product effectiveness will be measured by both instructor and fieldwork educator feedback regarding student readiness for fieldwork experiences. Post fieldwork discussion will include subjective student feedback about their ability to utilize cognitive interventions.

The need for the educational materials presented in this product are supported by research. The presentation of these materials is based on the evidence-based, andragogical model. The utility of this product is therefore evident due to the implications it has for amelioration of occupational therapy practice, as well as documented effectiveness of the educational design. These materials will be valuable for the occupational therapy profession as a whole, as they will help to provide new therapists with the tools to be more effective, flexible practitioners. Product updates will include evaluation of product implementation, modification of the product based on results, updated research, comparison to similar existing materials, and follow-up with fieldwork educators to gauge the effectiveness of the product.

Future research on concept-based learning is recommended as well as reorganization of the product as the transition to the doctoral program is made. Additional product development will be dependent upon results of implementation. Future studies may be done specifically on this product; this will help to ascertain its effectiveness and contribute to updates. Publication of the product in various professional journals may be warranted once its effectiveness is determined.

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APPENDIX

Educational Materials for Implementation of Cognitive Interventions Across Practice Settings

EDUCATIONAL MATERIALS FOR IMPLEMENTATION OF COGNITIVE INTERVENTIONS ACROSS PRACTICE SETTINGS



<https://www.pexels.com/photo/2-persons-holding-their-hands-233223/>

Ashlyn Ouse Grindberg, MOTS

Nick Wahlstrand, MOTS

Advisor: Julie Grabanski, PhD., OTR/L

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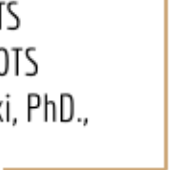
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EDUCATOR HANDOUTS



Cognitive Behavioral Therapy (CBT)

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Advisor: Dr. Julie Grabanski, PhD.,
OTR/L



Objectives

1. Students will be able to define cognition and cognitive dysfunction
2. Students will understand and differentiate between the four most historically prominent types of CBT
3. Students will demonstrate the ability to choose an appropriate type of CBT for individuals with varying levels of cognitive functioning

Assigned readings students were to complete prior to class:

- Brown & Stoffel (2011). Cognitive Beliefs. In Brown & Stoffel (Eds.), *Occupational therapy in mental health: A vision for participation* (267- 276). Philadelphia, PA, F.A. Davis Co.
- Toglia, J. P., Rodger, S. A., & Polatajko, H. J. (2012). Anatomy of cognitive strategies: A therapist's primer for enabling occupational performance. *Canadian Journal of Occupational Therapy*, 79(4), 225-236.

Warm-up activity

- Define cognition and cognitive dysfunction
- Discuss what you already know about CBT
- What CBT intervention strategies resonate the most with you?
- What populations do you feel this approach would be most useful for?

- Cognition
 - “Person’s capacity to acquire & use information to adapt to environmental demands” (Toglia, 2011).
- Cognitive Dysfunction
 - “ Functioning below expected normative levels or loss of ability in any area of cognitive functioning” (AOTA, 2013).

Cognitive Behavioral Therapy (CBT) (Brown & Stoffel, 2011)

The focus of CBT is on developing coping strategies to change cognitive patterns and behaviors to facilitate increased emotional regulation.

- **Assertion:** Cognition must be at a level such that the individual can become aware of unhelpful cognitive patterns and learn strategies to change them.
- Symptoms of many mental disorders are due to:
 - dysfunctional thoughts, information processing biases, distorted core beliefs:
 - Emotional Reasoning, Jumping to conclusions, all or nothing thinking
- Goal is to collaborate with clients to identify, reframe, and replace cognitive distortions.

CBT models (Brown & Stoffel, 2011)

Four of the most utilized models include:

- Learning Theory and Behaviorism
- Social Learning Theory and Social Cognitive Theory
- Behaviorally oriented CBT models
- Cognitively Oriented CBT models.

Learning Theory and Behaviorism (Brown & Stoffel, 2011)

- Behavior modification, systematic use of external rewards
- System involved:
 - Analyzing behaviors to be changed
 - Breaking them down into “chunks” and increasing difficulty by grading
 - Shaping and Chaining
- Much greater focus on the use of external reinforcement rather than looking at the individual’s thought structures

Can be used with clients that have lower cognitive functioning
Therapist should still try to bring in the cognitive component, increasing this aspect as the patient gains awareness

Social Learning Theory and Social Cognitive Theory

-Albert Bandura

Four Fundamental Constructs:

- Observational Learning - Learning can occur by
 - Vicarious Reinforcement
 - Modeling
- Reciprocal Causation - the person, environment, and behavior interact
- Human functioning viewed as self-reflective
- Focus on Self-Efficacy - belief that individuals can create and accomplish their own goals

(Brown & Stoffel, 2011)

- Ask students:
 - What is vicarious reinforcement?
 - What is modeling?
 - What does it mean that human function is self-reflective?
 - Why is it important in OT for individuals be involved in creating their own goals?

Behaviorally Oriented CBT Models (Brown & Stoffel, 2011)

-Meichenbaum

"Cognitive Behavior Modification"

- Purpose: INDIRECTLY change beliefs through acquisition of cognitive skills
- Program of "self-instruction training"
 - Changing Self-talk to be more instructive and helpful
- Stress Inoculation Training
 - Self-instruction training
 - Cognitive restructuring
 - Cognitive and behavioral coping strategies
 - Stress Education
 - How it relates to beliefs, emotions, and behavior

Cognitively Oriented CBT Models (Brown & Stoffel, 2011)

-Albert Ellis, Aaron Beck

Based on Information Processing Theory

- Purpose: DIRECTLY change beliefs using cognitive restructuring
- Rational Emotive Behavior Therapy
 - Beliefs about how things “should” be for an individual to be happy actually end up making the person feel sadness.
 - Irrational Expectations are a symptom rather than a cause of emotional disturbance
 - Overgeneralization, Catastrophizing
- ABC Model:
 - People THINK that Activating Events (A) cause Consequences (C), but these consequences are actually caused by an irrational system of Beliefs (B).

- What does it look like when an individual is overgeneralizing or catastrophizing a situation?
 - Has this ever happened to you?
 - What specific thoughts were you telling yourself?
 - What might you tell yourself in order to “snap out of it?”
- How do we as therapists collaborate with a client to facilitate changing their system of beliefs?

Activity

Case Study: Andrew

- After activity:
 - Have each group share their findings.
 - What other populations could this approach be used with?
 - When did you see this approach used on fieldwork?

Summary

Main points of the CBT approach:

How can we differentiate between the four most historically prominent types of CBT?

How do we vary the approach for different levels of cognitive functioning?

How does CBT compare with the previously learned models?

Ask students to summarize using these questions based on session objectives.

Answers should include details about:


- Learning Theory and Behaviorism
- Social Learning Theory and Social Cognitive Theory
- Behaviorally oriented CBT models
- Cognitively Oriented CBT models.

Varying the approach includes meeting the client where they are at:

- If a client is lower functioning, the therapist should apply models that are closer to the behavioral end of the spectrum.
- The higher the client's cognitive level, the therapist can apply strategies closer to the cognitive end of the spectrum.
- CBT facilitated the creation of Co-Op and DIM, as there are elements included in those approaches which were derived from the CBT approach.

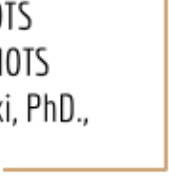
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Cognitive Orientation to Daily Occupational Performance (CO-OP)

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OTR/L



Objectives (Polatajko, Mandich, & McEwen, 2011)

1. Students will be able to identify the 7 main features of the CO-OP approach.
2. Students will be able to understand and apply the CO-OP approach to evaluation and treatment interventions.
3. Students will be able to apply the CO-OP's key concepts to children and adult populations.

Assigned readings students were to complete prior to class:

- Polatajko, H. J., Mandich, A., & McEwen, S. E. (2011). Cognitive Orientation to Daily Performance (CO-OP): A Cognitive-Based Intervention for Children & Adults. In Katz, N. (Eds.), *Cognition, Occupation, and Participation Across the Lifespan: Neuroscience, Neurorehabilitation and Models of Intervention in Occupational Therapy* (pp. 299-321). Bethesda, MD: AOTA Press.
- Toglia, J. P., Rodger, S. A., & Polatajko, H. J. (2012). Anatomy of cognitive strategies: A therapist's primer for enabling occupational performance. *Canadian Journal of Occupational Therapy, 79*(4), 225-236.

Warm-Up

- Review the key concepts of the CBT approach.
- What populations benefit from this approach?
- What examples have you seen on Level I Fieldwork of the CBT approach?

With a partner or small groups, have students recall the main concepts of the CBT approach that was covered in the previous class session.

Cognitive Orientation to Daily Occupational Performance (CO-OP) (Polatajko, Mandich, & McEwen, 2011)

- Facilitate learning by helping interpret one's daily experiences & environmental stimuli
- Allow clients to set their own goals
- Dynamic Systems Approach
- Facilitates generalization of skills through learning problem-solving skills
 - Self-monitoring
- Meichenbaum's 4-step problem-solving approach
 - Goal-Plan-Do-Check

- Highlight Figure 14.2 on pp. 301 of Polatajko, Mandich, and McEwen (2011).

Cognitive Orientation to Daily Occupational Performance (CO-OP) (Polatajko, Mandich, & McEwen, 2011)

- Seven (7) key features
 - Client-chosen goals
 - Dynamic performance analysis (DPA)
 - Observation-based process to identify performance breakdown & problems
 - Cognitive strategy use
 - Goal-Plan-Do-Check
 - Guided Discovery
 - Therapist manipulates the environment to call attention to one's problem areas to facilitate the client to come up with alternative solutions
 - Four (4) enabling principals
 - Make it fun, promote learning, work toward independence, and promote generalization and transfer
 - Parent/significant other involvement
 - Intervention format

Intervention format: Box 14.1 on pp. 313 of Polatajko, Mandich, and McEwen (2011).

Activity

Case Study: Max

Have students use Table 2 on pp. 229 of Toglia, Rodger, and Polatajko (2012).

- After activity:
 - Have each group share their findings.
 - Keep in mind: during certain *phases of recovery*, which strategies would be most effective?
 - What other populations could this approach be used with?
 - When did you see this approach used on fieldwork?

Summary

- Describe the similarities and differences between the CO-OP and CBT approaches.
- How can the CO-OP approach be applied to both children and adult populations?
- What are the benefits to incorporating the CO-OP approach into evaluation and treatment of clients with cognitive dysfunction?


Ask students to summarize using these questions based on session objectives.

Answers should include details about:

- Generalization and transfer of learning
- 7 key features (guided discovery)
- Dynamic Systems Approach: recognizing that new skills derive from the interaction between the individual, the task, and the environment
- Meichenbaum's 4-step problem-solving approach
- Client's setting their own goals and feedback on performance

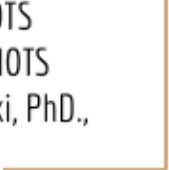
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Dynamic Interactional Model (DIM)

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OTR/L



Objectives (Toglia, 2011)

1. Students will be able to identify the main concepts of the DIM approach.
2. Students will be able to understand and apply the DIM approach to the evaluation and treatment of various client populations.
3. Students will understand the theoretical foundations of the DIM approach.

Assigned readings students were to complete prior to class:

- Toglia, J. P., Rodger, S. A., & Polatajko, H. J. (2012). Anatomy of cognitive strategies: A therapist's primer for enabling occupational performance. *Canadian Journal of Occupational Therapy, 79*(4), 225-236.
- Toglia, J. P. (2011). The Dynamic Interactional Model of Cognition in Cognitive Rehabilitation. In Katz, N. (Eds.), *Cognition, Occupation, and Participation Across the Lifespan: Neuroscience, Neurorehabilitation and Models of Intervention in Occupational Therapy* (162-201). Bethesda, MD: AOTA Press.

Warm-up

- What is unique to the DIM approach that is not apparent in the previous two approaches?
- What are the similarities?
- Are there any client populations with whom you would not recommend using this approach?

Unique aspects:

- Includes personal factors i.e. client's personality, emotions, self-awareness, etc.
- Dynamic assessment of cognitive modifiability
 - "Cognitive abilities are not viewed as fixed traits or as a stable hierarchical set of subskills" (Toglia, 2011).
- All approaches require the client to have self-awareness of their strengths & problem areas.
- Clients who have decreased self-awareness of their cognitive deficits.

Dynamic Interactional Model (DIM) (Toglia, 2011)

- **Assertion:** One must have the capacity to process information efficiently to effectively receive, elaborate on, & have the attention to monitor a continuous stream of information
- Problems occur when one has difficulty processing and utilizing information
- Change is facilitated when:
 - Feedback and/or cues are given
 - Strategies are taught
 - Demands of the activity are decreased
- Promotion of learning occurs if similar elements are seen in multiple tasks

Highlight figure 9.1 on pp. 162 of Toglia (2011).

Dynamic Interactional Model (DIM) (Toglia, 2011)

- Six (6) components
 - Personal context
 - Characteristics of the client (i.e. personality, coping style, beliefs, values, expectations, lifestyle, motivation, emotions)
 - Self-awareness
 - Understanding one's cognitive strengths & limitations
 - Processing strategies
 - How one selects & uses the information to perform tasks
 - Activity demands & environmental factors
 - Efficiency & effectiveness of occupational performance

Activity

Case Study: Tim

Have students utilize Table 9.4 on pp. 182-183 in Toglia (2011).

- After activity:

- Have each group share their findings.
- What other populations could this approach be used with?
- When did you see this approach used on fieldwork?

During certain *phases of recovery*, which strategies would be most effective?

Summary (Toglia, 2011)

- Dynamic interactions between the person, activity and the environment affect cognitive performance
- Self-awareness and processing strategies are key aspects when addressing cognition
 - Modifiable
 - Should be the main area to address during intervention to maximize occupational performance
- External and internal factors influence cognition

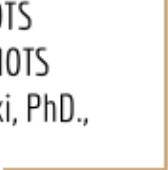
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Overview of Cognitive Intervention Strategies

Ashlyn Grindberg, MOTS
Nicholas Wahlstrand, MOTS
Advisor: Dr. Julie Grabanski, PhD.,
OTR/L



Objectives

1. Students will be able to identify and assess common cognitive problems associated with a variety of particular diagnoses
2. Students will be able to differentiate and apply a variety of cognitive approaches across client populations.
3. Students will be able to recommend effective cognitive intervention strategies to promote client occupational performance and increased independence.

Warm-Up

- With a partner, define the main concepts of the DIM, CO-OP, and CBT approaches.
- Compare and contrast these approaches, and their utility in therapy with clients of varying diagnoses.
- What do you like about the approaches? Is there anything you don't like?

Activity

Case Study: Barb

Split class into groups and assign each group one of the following approaches:

- DIM approach
- CO-OP approach
- CBT approach

During certain *phases of recovery*, which strategies would be most effective?

Discussion Questions

- Provide rationale for why your approach is suitable for Barb.
- Upon reflection, in your opinion, which of the three approaches is most beneficial in Barb's case? Why?
- What strategies were most effective to increase Barb's independence? Provide rationale.
- Which of these approaches/strategies did you see on your Level I fieldwork?
 - What were the outcomes?
 - Is there an approach you did not see that you feel would have been effective? Please explain.
- How will you implement these approaches into your future practice?

Have students discuss in their small groups and report key points to the whole class.

- Consider different settings, populations, ages, etc.

Summary

The previous sessions addressed cognitive interventions and strategies associated with a variety of evidence-based approaches, including CBT, CO-OP, and DIM.

The case studies completed in class are a representation of common potential client scenarios that you will see as OT practitioners, but there are other potential situations that could present themselves.

It is important to keep in mind all of these approaches when creating interventions for clients with cognitive dysfunction, and to utilize clinical reasoning to choose the approach most effective for the client's unique circumstances.

STUDENT HANDOUTS

Cognitive Behavioral Therapy (CBT)

Ashlyn Grindberg, OTS
Nicholas Wahlstrand, OTS
Advisor: Dr. Julie Grabanski, PhD.,
OTR/L

Objectives

1. Students will be able to define cognition and cognitive dysfunction
2. Students will understand and differentiate between the four most historically prominent types of CBT
3. Students will demonstrate the ability to choose an appropriate type of CBT for individuals with varying levels of cognitive functioning

Warm-up activity

- Define cognition and cognitive dysfunction
- Discuss what you already know about CBT
- What CBT intervention strategies resonate the most with you?
- What populations do you feel this approach would be most useful for?

Cognitive Behavioral Therapy (CBT) (Brown & Stoffel, 2011)

The focus of CBT is on developing coping strategies to change cognitive patterns and behaviors to facilitate increased emotional regulation.

- **Assertion:** Cognition must be at a level such that the individual can become aware of unhelpful cognitive patterns and learn strategies to change them.
- Symptoms of many mental disorders are due to:
 - dysfunctional thoughts, information processing biases, distorted core beliefs:
 - Emotional Reasoning, Jumping to conclusions, all or nothing thinking
- Goal is to collaborate with clients to identify, reframe, and replace cognitive distortions.

CBT models (Brown & Stoffel, 2011)

Four of the most utilized models include:

- Learning Theory and Behaviorism
- Social Learning Theory and Social Cognitive Theory
- Behaviorally oriented CBT models
- Cognitively Oriented CBT models.

Learning Theory and Behaviorism (Brown & Stoffel, 2011)

- Behavior modification, systematic use of external rewards
- System involved:
 - Analyzing behaviors to be changed
 - Breaking them down into "chunks" and increasing difficulty by grading
 - Shaping and Chaining
- Much greater focus on the use of external reinforcement rather than looking at the individual's thought structures

Social Learning Theory and Social Cognitive Theory

-Albert Bandura

Four Fundamental Constructs:

- Observational Learning - Learning can occur by
 - Vicarious Reinforcement
 - Modeling
- Reciprocal Causation - the person, environment, and behavior interact
- Human functioning viewed as self-reflective
- Focus on Self-Efficacy - belief that individuals can create and accomplish their own goals

(Brown & Stoffel, 2011)

Behaviorally Oriented CBT Models (Brown & Stoffel, 2011)

-Meichenbaum

"Cognitive Behavior Modification"

- Purpose: INDIRECTLY change beliefs through acquisition of cognitive skills
- Program of "self-instruction training"
 - Changing Self-talk to be more instructive and helpful
- Stress Inoculation Training
 - Self-instruction training
 - Cognitive restructuring
 - Cognitive and behavioral coping strategies
 - Stress Education
 - How it relates to beliefs, emotions, and behavior

Cognitively Oriented CBT Models (Brown & Stoffel, 2011)

-Albert Ellis, Aaron Beck

Based on Information Processing Theory

- Purpose: DIRECTLY change beliefs using cognitive restructuring
- Rational Emotive Behavior Therapy
 - Beliefs about how things "should" be for an individual to be happy actually end up making the person feel sadness.
 - Irrational Expectations are a symptom rather than a cause of emotional disturbance
 - Overgeneralization, Catastrophizing
- ABC Model:
 - People THINK that Activating Events (A) cause Consequences (C), but these consequences are actually caused by an irrational system of Beliefs (B).

Activity

Case Study: Andrew

Summary

Main points of the CBT approach:

How can we differentiate between the four most historically prominent types of CBT?

How do we vary the approach for different levels of cognitive functioning?

How does CBT compare with the previously learned models?

References

Brown, C., & Stoffel V. (2011). *Occupational therapy in mental health: A vision for participation* (267- 276). Philadelphia, PA, F.A. Davis Co.

Cognitive Orientation to Daily Occupational Performance (CO-OP)

Ashlyn Grindberg, MOTS
Nicholas Wahlstrand, MOTS
Advisor: Dr. Julie Grabanski, PhD.,
OTR/L

Objectives (Polatajko, Mandich, & McEwen, 2011)

1. Students will be able to identify the 7 main features of the CO-OP approach.
2. Students will be able to understand and apply the CO-OP approach to evaluation and treatment interventions.
3. Students will be able to apply the CO-OP's key concepts to children and adult populations.

Warm-Up

- Review the key concepts of the CBT approach.
- What populations benefit from this approach?
- What examples have you seen on Level I Fieldwork of the CBT approach?

Cognitive Orientation to Daily Occupational Performance

(CO-OP) (Polatjko, Mandich, & McEwen, 2011)

- Facilitate learning by helping interpret one's daily experiences & environmental stimuli
- Allow clients to set their own goals
- Dynamic Systems Approach
- Facilitates generalization of skills through learning problem-solving skills
 - Self-monitoring
- Meichenbaum's 4-step problem-solving approach
 - Goal-Plan-Do-Check

Cognitive Orientation to Daily Occupational Performance

(CO-OP) (Polatjko, Mandich, & McEwen, 2011)

- Seven (7) key features
 - Client-chosen goals
 - Dynamic performance analysis (DPA)
 - Observation-based process to identify performance breakdown & problems
 - Cognitive strategy use
 - Goal-Plan-Do-Check
 - Guided Discovery
 - Therapist manipulates the environment to call attention to one's problem areas to facilitate the client to come up with alternative solutions
 - Four (4) enabling principals
 - Make it fun, promote learning, work toward independence, and promote generalization and transfer
 - Parent/significant other involvement
 - Intervention format

Activity

Case Study: Max

Summary

- Describe the similarities and differences between the CO-OP and CBT approaches.
- How can the CO-OP approach be applied to both children and adult populations?
- What are the benefits to incorporating the CO-OP approach into evaluation and treatment of clients with cognitive dysfunction?

References

Polatajko, H. J., Mandich, A., & McEwen, S. E. (2011). Cognitive Orientation to Daily Performance (CO-OP): A Cognitive-based Intervention for Children & Adults. In Katz, N. (Eds.), *Cognition, Occupation, and Participation Across the Lifespan* (pp. 299-321). Bethesda, MD: AOTA Press.

Dynamic Interactional Model (DIM)

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Nicholas Wahlstrand, MOTS
Advisor: Dr. Julie Grabanski, PhD.,
OTR/L

Objectives (Topka, 2011)

1. Students will be able to identify the main concepts of the DIM approach.
2. Students will be able to understand and apply the DIM approach to the evaluation and treatment of various client populations.
3. Students will understand the theoretical foundations of the DIM approach.

Warm-up

- What is unique to the DIM approach that is not apparent in the previous two approaches?
- What are the similarities?
- Are there any client populations with whom you would not recommend using this approach?

Dynamic Interactional Model (DIM) (Loggia, 2011)

- **Assertion:** One must have the capacity to process information efficiently to effectively receive, elaborate on, & have the attention to monitor a continuous stream of information
- Problems occur when one has difficulty processing and utilizing information
- Change is facilitated when:
 - Feedback and/or cues are given
 - Strategies are taught
 - Demands of the activity are decreased
- Promotion of learning occurs if similar elements are seen in multiple tasks

Dynamic Interactional Model (DIM) (Loggia, 2011)

- Six (6) components
 - Personal context
 - Characteristics of the client (i.e. personality, coping style, beliefs, values, expectations, lifestyle, motivation, emotions)
 - Self-awareness
 - Understanding one's cognitive strengths & limitations
 - Processing strategies
 - How one selects & uses the information to perform tasks
 - Activity demands & environmental factors
 - Efficiency & effectiveness of occupational performance

Activity

Case Study: Tim

Summary (Toglia, 2011)

- Dynamic interactions between the person, activity and the environment affect cognitive performance
- Self-awareness and processing strategies are key aspects when addressing cognition
 - Modifiable
 - Should be the main area to address during intervention to maximize occupational performance
- External and internal factors influence cognition

References

Toglia, J. P. (2011). The Dynamic Interactional Model of Cognition in Cognitive Rehabilitation. In Katz, N. (Eds.), *Cognition, Occupation, and Participation Across the Lifespan: Neuroscience, Neurorehabilitation and Models of Intervention in Occupational Therapy* (162-201). Bethesda, MD: AOTA Press.

Overview of Cognitive Intervention Strategies

Ashlyn Grindberg, MOTS
Nicholas Wahlstrand, MOTS
Advisor: Dr. Julie Grabanski, PhD.,
OTR/L

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Warm-Up

- With a partner, define the main concepts of the DIM, CO-OP, and CBT approaches.
- Compare and contrast these approaches, and their utility in therapy with clients of varying diagnoses.
- What do you like about the approaches? Is there anything you don't like?

Activity

Case Study: Barb

Discussion Questions

- Provide rationale for why your approach is suitable for Barb.
- Upon reflection, in your opinion, which of the three approaches is most beneficial in Barb's case? Why?
- What strategies were most effective to increase Barb's independence? Provide rationale.
- Which of these approaches/strategies did you see on your Level I fieldwork?
 - What were the outcomes?
 - Is there an approach you did not see that you feel would have been effective? Please explain.
- How will you implement these approaches into your future practice?

Summary

The previous sessions addressed cognitive interventions and strategies associated with a variety of evidence-based approaches, including CBT, CO-OP, and DIM.

The case studies completed in class are a representation of common potential client scenarios that you will see as OT practitioners, but there are other potential situations that could present themselves.

It is important to keep in mind all of these approaches when creating interventions for clients with cognitive dysfunction, and to utilize clinical reasoning to choose the approach most effective for the client's unique circumstances.

CASE STUDIES

Case Study #1

Andrew is a 24 y/o Caucasian male with paranoid schizophrenia. He recently has come out of a state of psychosis after a medication change. He has been in the acute psychiatric hospital setting for one year. During this time, he has had two psychotic breaks where he needed to be removed from his work position running the on-site convenience store while it is open for 20 minutes twice per day. Currently his therapists report that he is performing well with work tasks, requiring minimal to moderate assistance to check that shelves are kept stocked and organized before opening the store. He also requires intermittent minimal assistance to perform simple mental calculations when totaling up to 4 items each patient is allowed to purchase and when giving back change. He is aware of his weekly schedule but has had issues being late for work in the past; he has stated that this is due to group sessions he must attend beforehand on the other side of the building. He has been prompted to let the therapist know he must leave 5 minutes early in order to be on time for work, and has followed through in spurts. Prior to hospitalization, Andrew lived with his parents in a nearby town and contributed to household chores such as cooking and cleaning. Before his symptoms began, he completed two years of college, working towards a degree in computer science. Upon admission he stated that he used to enjoy playing video games, eating out with family and friends, dancing, and curling.

Prior to hospitalization, Andrew began experiencing auditory and visual hallucinations. He claims he can see vampires and that he needs to 'get rid of them' because they tell him to touch people inappropriately. During group sessions he has required prompting to stay on task because he would pretend to shoot the vampires, pointing his finger at the wall and making a noise like a gun firing.

Andrew is admitted to the inpatient unit, but currently has been attending all groups requested by his treatment team and has earned a pass for off ground privileges. He is able to walk outside in the park area and participate in community outings with supervision. He says he enjoys the outings, but he wants to be more sociable with his peers in order to make friends.

Discussion Questions:

1. What are Andrew's occupational problems?
2. What are your goals for Andrew?
3. How can you relate the concepts of the CBT approach to Andrew's case?
4. What outcomes do you expect to achieve with Andrew?
5. Choose strategies from page 228 of the Primer to use with Andrew.
6. While completing Andrew's evaluation:
 - Come up with 3 different activities you could use to structure intervention (Leisure, IADL, ADL, etc).
 - What strategies specific to CBT would you utilize to facilitate Andrew's cognitive performance in these tasks?
 - What other cognitive models would be appropriate in Andrew's case?

Case Study #2

Max is a 7-year-old boy who has been diagnosed with Autism Spectrum Disorder and Sensory Processing Disorder when he was 4 years old. He is attending outpatient OT services to improve functional performance in self-care, peer interactions, and community participation. He attends first grade at a local elementary school and receives speech and behavioral services. He enjoys playing with cars, trains, and puzzles. His strengths include having a strong social support from his family, has a good sense of humor and an interest in learning.

Max experiences difficulty with auditory and visual sensitivities, peer/social interactions, impulsivity, focus and attention, and difficulty with problem-solving and following directions. Furthermore, he demonstrated decreased eye contact with peers and gets upset easily making it difficult to calm down and return to tasks. Transitions are also hard for him, often seen raising his voice and refusing to move to the next task. Max is able to dress himself, however still needs assistance from mom or dad for bathing, toileting, and grooming tasks.

Discussion Questions:

1. What are Max's occupational problems?
2. What are your goals for Max?
3. How can you relate the concepts of the CO-OP to Max's case?
4. Would Max be a good candidate for the CO-OP approach?
5. Using the CO-OP approach, what strategies can be used to help Max increase his occupational performance? Provide rationale.
6. What outcomes do you expect to achieve with Max?
7. Max's parents want to focus on easing his daily routines. He is currently having difficulty with problem-solving while transitioning from one task to another during his routine. Mom reports he is hard to redirect to the next task, getting easily upset and raising his voice. You, his OT, choose to focus your intervention plan on getting Max to follow his daily routine and make transitions easier.
 - a. What strategies from the Primer will you use to help Max complete this task? (Table 2 on page 229).
 - b. What problems/barriers do you predict to Max to have while completing this activity?

Part 2:

Max graduated from high-school 3 years ago and is working as a bagger at a local grocery store. He is able to live in his own apartment with assistance from direct support professionals daily. He continues to have decreased social skills, not initiating conversations or maintaining eye contact. He also has a decreased attention span, having trouble concentrating on tasks for longer than 5 minutes. Max experiences decreased problem-solving skills when completing ADL and IADL activities when at home and at work. He responds well to structure environments, as well as visual schedules and reminders. In his free time, he enjoys watching movies, playing video games, and playing sports.

Discussion Questions:

1. What goals do you have for Max?
2. How can you relate the concepts of the CO-OP approach now that Max is an adult?
3. What strategies from the CO-OP approach would you use with Max? Are they similar or different from when he was a child?
4. How will you improve Max's occupational performance relating to his new adult roles?
5. Choose an intervention that is meaningful to Max & apply the GOAL-PLAN-DO-CHECK strategy (Use page 313 in Katz).

Case Study #3:

Tim is a 66-year-old Native American man who suffered from a left hemorrhagic cerebrovascular accident (CVA) one week ago. He was brought into the ER by his wife showing symptoms of slurred speech and right sided weakness. Upon further testing Tim was shown he exhibited right hemiparesis along with moderate expressive & receptive aphasia. He uses a communication board to communicate with his therapists and other members of his healthcare team. He owned a car dealing business that he recently sold and is now retired. He and his wife live in a single-story home and have 2 grown children who live out of state along with 4 grandchildren. Tim enjoys attending local native pride events, reading, and playing cards with friends.

He has been recently transported from the local hospital to an inpatient rehabilitation setting. Tim is currently moderate assist with all of his ADLs and transfers. He has sustained attention, can follow simple, one-step commands and has appropriate self-awareness. However, he has decreased judgement and cannot appropriately sequence tasks.

Discussion Questions:

1. What are Tim's occupational problems?
2. What are your goals for Tim?
3. How can you relate the concepts of the Dynamic Interactional Model (DIM) to Tim's case?
4. Would Tim be a good candidate for the Dynamic Interactional Model (DIM)?
5. Using the DIM, what strategies can be used to help Tim increase his occupational performance? Provide rationale.
6. What outcomes do you expect to achieve with Tim?
7. Tim wishes to return to grocery shopping for him and his wife. The therapist plans on having Tim retrieve different items from his grocery list in the clinic's simulated grocery store.
 - a. What techniques would you use before the activity? Use Toglia pg. 182.
 - b. What strategies would you use to improve Tim's cognitive performance during and after this task? Use Toglia pg. 182-183.
8. What other populations would the DIM be appropriate for?

Case Study #4

Barb is a 45-year-old Caucasian woman who suffered a traumatic brain injury from a motorcycle accident. She and her husband were on a motorcycle ride in the late afternoon and struck a raccoon, causing Barb to fall backwards off of the motorcycle. She was wearing a helmet. She was transported to the local hospital where she was stabilized and then taken by helicopter to a large hospital that could deal with her head trauma. She spent several weeks at the acute care hospital, hundreds of miles from her home. Her husband was also injured but was discharged from the local hospital a week later.

Prior to the accident Barb was worked as an LPN in a skilled nursing facility. She and her husband have 4 children (all boys) ranging in age from 8 to 16 years old. Prior to the accident, she was active in her community and with her children's activities. Her leisure interests include cooking/baking, water sports, gardening, social gatherings, and spending time with her children. She and her family live in a ranch style home in rural community. Her husband Mark works at the skilled nursing facility in maintenance. The plan is for Barb to be discharged from the outpatient day treatment program in 1 week. The Occupational Therapist has initiated the OT evaluation and has documented the following information:

Barb is functioning at Ranchos Level VII-Automatic-Appropriate. She responds to three step directions, has poor short-term memory, and becomes distracted easily. She has just begun to demonstrate some carry over of new learning from one session to the next, particularly with familiar activities. She continues to lack problem-solving abilities and judgement even with familiar tasks. She has intact sensation, vision, and hearing. She continues to have difficulty with spatial relations, categorization, and position in space. She requires stand by assistance with all ADL and mobility tasks due to visual/perceptual and cognitive deficits. When conversing with her, you notice that she responds robotically, and views items of conversation as either "black" or "white."

Discussion Questions:

1. What are Barb's occupational problems?
2. What are your goals for Barb?
3. Which cognitive approaches(s) would you apply to Barb's case and why?
4. What activities could you use to structure your intervention with Barb?
5. What strategies can be used to help Barb increase her occupational performance?
Provide rationale (Utilize previous readings/resources).
6. What outcomes do you expect to achieve with Barb?
7. Barb agrees to bake brownies in the facility's kitchen.
 - a. How would you structure this intervention to utilize elements of your chosen model?
 - b. What strategies would you use to help Barb with her cognitive performance?

EDUCATOR GUIDE

Educator Guide

Case Study #1:

1. What are Andrew's occupational problems?
 - a. ADLs
 - i. Personal hygiene/grooming
 - b. Medication management
 - i. Lack of awareness of his condition
 - ii. Tendency towards not taking prescribed meds
 - c. Household management
 - d. Social participation
 - i. Lack of ability to deal with unseen's in a socially appropriate manner
 - e. Work
 - i. Temporal awareness
 - ii. Calculations
 - iii. Organizing the store
 - iv. Staying on task
2. What are your goals for Andrew?
 - a. Be able to identify and demonstrate use of coping strategies for symptoms
 - i. Increase awareness into his condition
 - ii. Identify unhelpful thought patterns and behaviors
 - b. Increase ability to follow schedule in a timely manner
 - c. Increase ability to sequence task performance
 - d. Increase ability to perform mental calculations and/or use a calculator when appropriate
3. How can you relate the concepts of the CBT model to Andrew's case?
 - a. By increasing awareness of his condition, thoughts, and behaviors, and by learning new coping strategies he will be able to change his behavior and increase occupational performance.
4. What outcomes do you expect to achieve with Andrew?
 - a. Improved emotional regulation
 - b. Increased social participation
 - c. Increased efficiency at work
 - d. Improved awareness and use of strategies
5. Choose strategies from page 228 of the Primer to use with Andrew.
 - a. Deep breathing, muscle relaxation, visualization
 - b. Thought challenging
 - c. Behavior modification

6. During Andrew's evaluation, you discover he would like to
 - a. Activities
 - i. Create a board game group in his unit (could use for sequencing, social participation)
 - ii. Learn to trim his beard (sequencing, personal hygiene)
 - iii. Assist with his own medication management
 - b. What strategies specific to CBT would you utilize to facilitate Andrew's cognitive performance in these tasks?
 - i. Grading tasks
 - ii. Role modeling
 - iii. Shaping/chaining
 - iv. Thought stopping
 - v. Strategic questioning
 - vi. Reinforcement
 - vii. Exploring reality testing
 - viii. Changing delusions and hallucinations
 - ix. Examining factors which precipitate relapse
 - x. Managing relapses.
 - c. What other cognitive approaches would be appropriate in Andrew's case?
 - i. CO-OP: Strategies such as Goal-Plan-Do-Check combined with therapist's interpretation of daily experiences.

Case Study #2:

1. What are Max's occupational problems?
 - a. ADLs
 - b. Social & community participation
 - c. Sensory processing
 - d. Impulsivity
 - e. Difficulty attending to tasks
 - f. Difficulty problem-solving & following directions

2. What are your goals for Max?
 - a. Follow directions
 - b. Improve problem-solving skills
 - c. Ease transition periods

3. How can you relate the concepts of the CO-OP to Max's case?
 - a. Facilitate learning by helping him interpret his experiences & environment
 - b. Guided discovery--therapist helps identify a problem then is provided assistance to solve

4. Would Max be a good candidate for the CO-OP model?
 - a. Yes

5. Using the CO-OP model, what strategies can be used to help Max increase his occupational performance? Provide rationale.
 - a. Guided discovery
 - b. GOAL-PLAN-DO-CHECK

7. What outcomes do you expect to achieve with Max?
 - a. Able to follow directions
 - b. Able to solve routine problems
 - c. Easier transitions

8. Max's parents want to focus on easing his daily routines. He is currently having difficulty with problem-solving while transitioning from one task to another during his routine. Mom reports he is hard to redirect to the next task, getting easily upset and raising his voice. You, his OT, choose to focus your intervention plan on getting Max to follow his daily routine and make transitions easier.
 - a. What strategies from the Primer will you use to help Max complete this task? (Table 2 on page 229).
 - i. Modality specific strategies
 - ii. Anticipation
 - iii. Rehearsal
 - iv. Organization
 - v. Task simplification

vi. Lists

- b. What problems/barriers do you predict to Max to have while completing this activity?
 - i. Refusal
 - ii. Behavioral issues-- raising voice, kicking, etc.
 - iii. Listening/following directions

Part 2:

1. What goals do you have for Max?
 - a. Increase problem-solving ability
 - b. Improve social participation
 - c. Improving attention span
 - d. Generalization of skills

2. How can you relate the concepts of the CO-OP model now that Max is an adult?
 - a. Client-centeredness-- Max can set his own goals
 - b. Generalization of skills will come when he learns basic problem-solving skills
 - c. Therapist will facilitate learning by helping him interpret his experiences & environment

3. What strategies from the CO-OP model would you use with Max? Are they similar or different from when he was a child?
 - a. Guided discovery
 - b. GOAL-PLAN-DO-CHECK
 - c. Similar, these strategies can be used at any age

4. How will you improve Max's occupational performance relating to his new adult roles?
 - a. Give him strategies and skills to problem-solve effectively during his ADL/IADL tasks
 - b. Play off of his strengths & apply the "just right challenge" to improve daily performance at home and work
 - c. Guided discovery-- therapist will manipulate environment to focus Max on his problem areas to then come up with solutions.
 - d. Ultimate outcome: generalization of skills to a variety of contexts

5. Choose an intervention that is meaningful to Max & apply the GOAL-PLAN-DO-CHECK strategy. (Use page 313 in Katz)
 - a. Bedtime routine
 - i. Goal-- Max wishes complete his bedtime routine independently
 - ii. Plan-- Max will use a visual schedule and place necessary materials within view/reach
 - iii. Do-- Max will complete his bedtime routine.
 - iv. Check-- Therapist will ask Max how he performed during the task & any changes he could make to better improve his performance. They also will ask what other tasks this strategy can be used with.

Case Study #3

1. What are Tim's occupational problems?
 - a. Decreased ability to perform ADLs/IADLs
 - b. Communicating wants/needs
 - c. Difficulty attending to tasks
 - d. Difficulty sequencing tasks
 - e. Impulsivity
2. What are your goals for Tim?
 - a. Follow 2 to 3 step commands
 - b. Improve judgement
 - c. Sequence tasks appropriately
3. How can you relate the concepts of the Dynamic Interactional Model (DIM) to Tim's case?
 - a. Tim has self-awareness but doesn't understand why he is having these problems. He is having difficulty processing and using the information given to him.
4. Would Tim be a good candidate for the Dynamic Interactional Model (DIM)?
 - a. Yes.
5. Using the DIM, what strategies can be used to help Tim increase his occupational performance? Provide rationale.
 - a. Test-teach-retest strategy
 - b. Cueing
 - c. Self-questioning
 - d. Guided Anticipation
 - e. Self-assessment
 - f. Strategy reinforcement
 - g. "Stop and Check" Periods
6. What outcomes do you expect to achieve with Tim?
 - a. Improving daily participation
 - b. Able to follow multiple step directions
 - c. Improve judgement & impulsivity
 - d. Able to sequence tasks appropriately
7. Tim wishes to return to grocery shopping for himself and his wife. The therapist plans on having Tim retrieve different items from his grocery list in the clinic's simulated grocery store.
 - o What techniques would you use before the activity? Use Katz pg. 182.
 - i. Guided Anticipation
 - ii. Self-prediction

- What strategies would you use to improve Tim's cognitive performance during and after this task? Use Katz pg. 182-183.
 - i. Self-questioning
 - ii. Strategy reinforcement
 - iii. "Stop & check" periods
 - iv. Self-assessment
 - v. Specific goal rating

- 8. What other populations would the DIM be appropriate for?
 - a. TBI
 - b. Schizophrenia
 - c. Cerebral Palsy
 - d. Any diagnose where the client's cognition is affected & they have self-awareness of their deficits

Case Study #4

1. What are Barbara's occupational problems?
 - a. ADLs
 - b. Mobility
 - c. Social Participation
 - d. IADLs

2. What are your goals for Barbara?
 - a. Increase problem solving ability
 - b. Improve judgement
 - c. Categorize and Sequence tasks appropriately
 - d. Gain insight into her cognitive deficits

3. Which cognitive approaches do you feel is most appropriate to utilize in Barbara's case?
 - a. Students choose approach and provide rationale

4. What activities could you use to structure your intervention with Barbara?
 - a. Leisure, such as card games (memory, sequence, social participation)
 - b. Cooking/baking
 - c. Handicrafts related to gardening

5. What strategies can be used to help Barb increase her occupational performance?
Provide rationale.
 - a. Visual/tactile cues
 - b. Reconstruction
 - c. Self-guidance
 - d. Stimuli reduction
 - e. Task simplification
 - f. Pacing strategies

6. What outcomes do you expect to achieve with Barbara?
 - a. Improving daily participation
 - b. Able to follow multiple step directions
 - c. Improve judgement & impulsivity
 - d. Able to sequence tasks appropriately

7. Barbara agrees to bake brownies in the facility's kitchen.
 - a. How would you structure this intervention to utilize elements of your chosen model?
 - i. Have Barbara think back on her previous experiences with baking.
 - ii. Collaborate on making a list of each step in the correct sequence.

- b. What cognitive strategies would you use to improve Barbara's performance?
 - i. Mental strategies such as:
 - 1. mnemonic techniques for memorization, rote scripts, reconstruction of past experiences with activity to help guide performance in current activities.
 - ii. Task modification such as:
 - 1. Stimuli reduction (lowering the amount of incoming sensory information to enhance focus), task simplification, utilizing lists, etc.
 - 2. Finger pointing to gently help Barbara attend to steps in correct sequence.

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