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Impacting Occupational Therapy Assistant Student Knowledge about Occupation and Occupation-Based Practice

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Impacting Occupational Therapy Assistant Student Knowledge about Occupation and Occupation-Based Practice

Abstract

It is important for occupational therapy assistant (OTA) programs to teach about occupation and occupation-based practice (OBP). Few have published on this topic in relation to OTA education. This study focuses on determining if an educational module covering occupation and OBP would increase student knowledge of occupation and occupation-based practice. In this mixed-methods parallel convergent study, OTA students were immersed in an author-designed educational module to increase their knowledge of occupation, OBP, and the selection of occupation-based interventions. The students engaged in pretesting activities, prior to the module, consisting of short-answer essay and intervention selection tasks. At the conclusion of the module, the students completed posttest activities. The study results demonstrated significant learning in the areas of occupation, OBP, and the selection of occupation-based interventions. Quantitative analysis indicated a statistically significant increase in student learning, and qualitative analysis revealed increased levels of performance, when classified according to Bloom's Taxonomy. This study addresses a gap in the OTA education literature by showing evidence that use of the learning module increased OTA student knowledge of occupation, OBP, and the ability to select occupation-based interventions. This module was an efficient and effective method of meeting accreditation standards related to OTA education.

Comments

The authors report no potential conflicts of interest.

Keywords

occupational therapy assistant, educational module, mixed methods, convergent-parallel design, Bloom's Taxonomy, OTA education

Credentials Display

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It is vital that occupational therapy (OT) and occupational therapy assistant (OTA) students have opportunities to learn about occupation-based practice (OBP) in their educational programs so that they can implement in practice as posited by Lamb (2017). Unfortunately, little has been published regarding teaching about occupation and OBP to OTA students. The Occupational Therapy Education Research Agenda of the American Occupational Therapy Association (AOTA) challenged educators to identify the factors that facilitate OBP in order to promote learning and develop learners capable of competent practice (AOTA, 2018). In the most recent set of educational standards, the Accreditation Council of Occupational Therapy Education (ACOTE, 2018) reinforced the position that both OT and OTA programs should provide teaching related to OBP. O'Brien (2018) classified the training of an OTA as more of a technical level of education than that of the OT student. Although there are similarities in the accreditation standards for OT and OTA programs, the body of literature related to OT education cannot always be directly applied to OTAs because of differences in content, teaching methods, and levels of education. Thus, more work related to OTA education specifically is needed.

Occupation and Occupation-Based Practice (OBP) in OTA (Occupational Therapy Assistant) Education

The methods used by OT and OTA programs to teach occupation and OBP have little consistency. Several works by Hooper and colleagues explored how occupation is taught in educational programs (Hooper et al., 2015; Hooper et al., 2018; Krishnagiri et al., 2017; Price et al., 2017). Hooper et al. (2015) suggested that occupation should be explicit in OT and OTA programs to strengthen the understanding of OT. By doing so, students' professional identities and abilities to use occupation can be strengthened. In a related work, Krishnagiri et al. (2017) explored how the concept of occupation was taught in 25 OT and OTA programs that were surveyed for the project. The authors found variation in how occupation was covered in the educational programs represented. Disparity in the knowledge of occupation among educators was noted as a contributing factor to the lack of explicit inclusion of occupation in curricula (Krishnagiri et al., 2017). A third article in this series provided three approaches to teaching occupation (Price et al., 2017). Finally, in a study that examined curriculum-level strategies used to address occupation, the authors found that although students may excel in learning topics related to therapy, they did not think in terms of OBP (Hooper et al., 2018). This collection of articles provided a useful framework for making occupation a more central part of the curriculum in an OTA educational program.

Researchers outside the United States have also written about the use of occupation in OT education. Fortune and Kennedy-Jones (2014) presented occupation as a threshold, or basic concept, that must be understood by students in order for them to make the higher-level associations with health, well-being, engagement, and independence. Gillen and Greber (2014) indicated that occupation is returning as the focus of professional practice and that educators should work to maintain its focus in an increasingly complex curriculum in order to facilitate thinking based on occupation. This is corroborated by the most recent national accreditation standards for OTA education (ACOTE, 2018) and the national OT education research agenda (AOTA, 2018).

Little research has been done to explore effective teaching and learning methods specific to OTA education in general (Amini, 2010), and even less as it relates to occupation and OBP specific to OTA programs (Fortune & Kennedy-Jones, 2014; Gillen & Greber, 2014; Hooper et al., 2015; Hooper et al., 2018; Krishnagiri et al., 2017; Price et al., 2017). Three major gaps were identified in the literature involving OT education, specifically related to OTA students: (a) more exploration into OBP and

preparing students to implement OBP into their practice is necessary; (b) additional research is needed in the area of preparing students and educators to address the gap between OBP learned in educational programs and clinical practice; and (c) more research and work, on a general level, is needed in the area of OTA education.

The lack of evidence in OTA education regarding OBP indicates a need for more research in this area. With OTAs responsible for delivering intervention in many practice settings, it is concerning that little to no scholarly work has been completed regarding OBP in OTA education. The disconnect between education and practice can create a situation for students in which their experience with OBP in academic learning conflicts with what they see carried out with clients. Amini (2010) found that novice (defined as having 1 year or less practice experience) OTAs simultaneously hold two identities, one that is focused on the beliefs and requirements of coworkers and the work setting, and another that is based through educational experiences from their academic institutions. Amini (2010) contended that in some novice OTAs, these two identities do not meld, causing a reliance on reductionist techniques instead of OBP. Additional work must be done to facilitate development of strategies to address the gap between OBP learned in educational programs and clinical practice, as the community of occupational therapists at large may not embrace OBP (Amini, 2010). The limitations in the literature serve to prevent optimal development of students' abilities to view clients through the profession's focus of occupation (Mitcham, 2014).

Many OTA educators are eager for scholarly research that is directly applicable to OTA students. However, they are left to rely on and modify the work directed toward graduate-level OT students as opposed to the more practical, technical resources that are needed to meet the OTA educational standards. Seminal research in OT education often does not distinguish between the undergraduate and graduate levels of the profession, and instead speaks to OT education as a whole. The review of available literature revealed a need to develop strategies specific to OTA education to develop quality future occupational therapists to deliver value-based OT services. The limitations in the literature indicated little research has been done to explore pedagogy to teach occupation and OBP in OTA programs. The aim of this study was to provide evidence for one such strategy, which was to increase the understanding in OTA students of occupation, OBP, and OT through the use of an author-designed educational module.

Method

Study Design

A convergent parallel design was used for this project and involved the simultaneous collection of data from the same pool of participants. According to Creswell (2014), this particular research approach involves conducting the quantitative and qualitative elements together, analyzing them independently, and combining the results. The convergent parallel mixed methods research was useful in offering a more in-depth understanding of the impact of the module through explanation of quantitative data with qualitative methods (Creswell, 2014). Institutional review board approval was obtained. This study sought to determine how OTA student participation in an educational module on OBP impacted the students' understanding of occupation, OBP, and OT.

Participants

Purposive sampling was used for study recruitment. Potential participants were enrolled in an introductory course during the first professional semester in a rural OTA program in the southeastern United States. The first author was the instructor for the course. Participation in the study was voluntary,

and informed consent was obtained from all participants prior to engagement in the study activities. The students in the course were educated about the study and provided written information on the potential benefits and risks, as well as a study overview. It was explained to the students that the module and activities were part of the course and that all students would be completing them as part of the course, per the institutional review board protocol, regardless of participation in the study. The students who opted not to participate in the study participated in the educational module and assessment activities, but their data were not included in the analysis or reporting. Of the 40 students enrolled in the course, 39 elected to participate in the study.

Module Description

An educational module about occupation, OBP, and OT was developed by the author using OTA textbooks (O'Brien, 2018; Sladyk & Ryan, 2015), official documents from AOTA (AOTA, 2014; AOTA, 2018), and position statements from the World Federation of Occupational Therapists (WFOT, 2010). For consistency with educational resources commonly used in OTA programs, the textbooks were chosen from the National Board for Certification in Occupational Therapy (NBCOT) list of commonly used OTA introductory textbooks (NBCOT, 2018). Additional resources were used during module development to provide background and a theoretical basis for occupation and OBP to ensure that current best practices in OT were included (McColl et al., 2015; Pierce, 2003).

Module and learning activities were developed using evidence-based educational methods for creating experiences that are significant to the learner (Fink, 2013). Module development was completed using the backward design approach described by Fink (2013, p. 70–74), beginning with objectives and assessment tools (described below). Next, the course design component of determining appropriate teaching methods, learning activities, and number of class sessions needed to achieve the module learning outcomes was determined through Fink's backward design methodology (p. 114). Finally, review of the learning and assessment activities was conducted by the primary author and two national experts in OT and education to determine consistency with the module learning objectives. Objectives for the modules included:

1. The student will define OT and OBP and discuss the value of occupation in supporting client participation and promotion of health and wellness.
2. The student will identify occupation-based interventions and strategies based on stated client needs and evaluation data.

The module consisted of two, 3-hr class sessions and was embedded in the beginning of a first-semester introductory OTA course. The first session included class lecture and discussion of occupation and OBP as defined by WFOT and AOTA in professional documents such as the Occupational Therapy Practice Framework (AOTA, 2014) and the Statement on Occupational Therapy (WFOT, 2010). In small groups, the students discussed the impact of client, environmental, and other factors on engagement in occupation. During the second session of the module, the students participated in reflection activities about OBP, small group case application, generation of the characteristics of an occupation-based intervention, and engaged in identification of occupation-based activities through a web-based educational quiz game.

Prior to implementation, the module was reviewed by two nationally-recognized experts in OT education, one with substantial prior experience as an OTA educator. Feedback was provided regarding the use of a mobile quiz platform instead of paper quizzing to increase student engagement. Guidance was also provided related to narrowing down the theoretical basis and background on occupation as not

to overwhelm the students with text resources. As a result, the McColl (2015) and Pierce (2003) texts were used for module and learning activity development. For clarity, this study considered the Occupational Therapy Practice Framework (AOTA, 2014) to define OBP as the use of intervention to facilitate occupational engagement and performance. Minor changes were made to the sequencing of the class presentation content in response to the reviewer feedback.

Measures

Two assessments, a short answer essay task (described below) and an intervention selection activity (see Appendix), were developed by the author to measure student learning. These tools were created to be consistent with standard and accepted practice in undergraduate education. Both measures were reviewed by the same two OT education experts who were consulted during development of the module. The OT education expert reviewers provided editorial guidance to make scenarios clearer and decrease redundancy. The prompts of the short answer essay task were edited slightly in response to feedback in order to better match with the learning outcomes for the module. Both measures were administered before and after the educational module.

Short Answer Essay Task

The students responded in writing to four prompts: (a) define occupation, (b) discuss the value of occupation in supporting client participation and promotion of health and wellness, (c) define OT, and (d) define OBP and explain its importance. Essays were scored using a rubric that had four levels of proficiency with corresponding point values (limited = 1 point, emerging = 2 points, satisfactory = 3 points, and excellent = 4 points). Each prompt was worth 4 points, and the maximum possible score was 16 points. After development, the rubric was reviewed by the same two content experts described previously in this article.

Intervention Selection Activity

The intervention selection activity was developed to determine the degree to which the participants could identify occupation-based interventions. The task consisted of four client scenarios. Each scenario was followed by six interventions that an occupational therapist might conduct with that client. The scenarios were designed to be consistent with case scenarios in OTA textbooks and reflect a range of conditions, ages, and real-world situations. After reading each scenario, the participants chose three interventions from the list of six that best reflected OBP. The format for selection of interventions was modeled after the multi-option selection question type on the OTA national certification exam. Scoring was based on the number of correct responses chosen by the participant, with a correct response earning 1 point. Each of the four scenarios had three correct responses, for a possible score of 12 on the intervention selection activity.

Procedure

Before and after engagement in the OBP module activities, the participants completed the short answer essay task and intervention selection activity electronically. Essays were submitted in typewritten form and identified by number only to maintain confidentiality of responses. These were submitted by the students to an administrative assistant in another building on campus not affiliated with the program. The administrative assistant maintained the raw data (organized by participant number) in a spreadsheet to keep the researcher blinded until the conclusion of all activities associated with the study.

Data Analysis

Data collected from the short answer essay task was analyzed with qualitative and quantitative methods. Two raters, the study author and an OTA educator who was not affiliated with the course or the educational module, scored each short answer essay task using the rubric. Statistical testing of the data was completed using SPSS software, version 23. Paired samples, two-tailed t-tests were run for comparison to determine if the scores between the pre and post short answer essay tasks showed a statistically significant difference in student performance. Additional statistical testing was conducted to verify the interrater reliability of raters one and two on the pre and post short answer essay task scoring through the use of the intraclass correlation coefficient. This statistic is used to estimate reliability between raters (Kielhofner, 2006).

Bloom's taxonomy (1956/2001) was also used as a framework for analyzing the short answer essay data. According to Armstrong (2016), the educational taxonomy has been commonly used in a wide range of settings to classify learning and skills and is an established system for classifying learning objectives and student outcomes. The taxonomy is structured across six categories of skills, ranging from lower-order to higher-order, with higher levels indicative of more complex learning or cognition (Adams, 2015). Many educators have used Bloom's taxonomy to effectively assess knowledge and/or skills through a variety of demonstration methods, including written assignments (Armstrong, 2016). Bloom's taxonomy was used with the short answer essay task responses to rank lower levels of cognitive processing (knowledge) to higher order skills that show evidence of deeper learning (evaluation).

Qualitative data from the short answer essay task were analyzed systematically, first by pretest then by posttest for each question. Data were grouped by similarity and color coded in a separate spreadsheet. An inductive coding process was based on Tesch's Eight Steps as described by Creswell (2014). Bloom's taxonomy (1956/2001) levels were used as an additional, predetermined set of codes to classify student responses, thus a combination of generated and predetermined codes were used. Then, responses were explored for themes that evidenced student understanding of occupation, OT, and OBP. The written participant responses from the short answer essay task were also classified into Bloom's taxonomy levels in order to explore potential growth in learning, as defined by movement from one level of the taxonomy to a higher level. The raters, both experienced educators, read and classified the pre and post short answer essay task answers into Bloom's taxonomy levels. Peer checking (Creswell, 2014) was completed in-person after individual analysis of data to come to agreement on codes, themes, and classification into Bloom's levels to ensure validity. Any disagreement between the raters was settled by a third rater.

The intervention selection activity results were analyzed using paired samples, two-tailed t-tests, run for comparison of performance between the pre and post intervention selection activity to determine if scores showed evidence of learning through a statistically significant difference in student performance.

Results

Quantitative

The quantitative results from the short answer essay task are presented in Table 1, according to rater. The increase in mean scores on pre and post testing for the short answer essay task was statistically significant ($p = 0.00$), which indicated that the student performance increased as a result of participation in the educational OBP module. In terms of measuring interrater reliability between the

two raters who scored the pre and post short answer essay task, the intraclass correlation coefficient was used. The results of statistical analysis indicated an intraclass correlation coefficient of .946 (p = 0.00), which demonstrated a high level of agreement between the two raters.

Table 1

Group Results of the Short Answer Essay Task, by Pretest and Posttest

Task	Rater 1 Score	Rater 2 Score	Mean Score	SD
Pretest	4.03	4.31	4.17	0.24
Posttest	10.49	10.33	10.41	1.36

Note. The maximum number of points possible for the Short Answer Essay Task was 16.

For the intervention selection activity, the mean score improved from 6.97 at pretest to 8.92 at posttest, which was a statistically significant increase in scores (p = 0.00). This indicated that the participants improved in their ability to select occupation-based interventions when provided with a client scenario. The results of the statistical testing are summarized in Table 2 for both the intervention short answer essay and the intervention selection activity.

Table 2

Results of Statistical Testing Comparing Pre/Post Test Performance, by Measure

Task	Mean Difference	95% Confidence Interval of Mean Difference	Significance
Short Answer Essay Task	6.24	Lower: 6.68 Upper: 5.80	p = 0.00
Intervention Selection Activity	1.95	Lower: 2.65 Upper: 1.24	p = 0.00

Qualitative

Examination of written responses provided in the short answer essay task indicated evidence of increased knowledge of occupation, OT, and OBP, demonstrated by movement to higher levels of Bloom's taxonomy. Themes identified (see Table 3) from the qualitative analysis included: (a) demonstration of higher-level learning measured by Bloom's taxonomy levels and (b) deepened perspectives regarding OBP and occupation. The qualitative findings are organized below by question, taken from the short answer essay task.

Define Occupation and Articulate its Value

An increase in complexity was demonstrated in the responses provided by the participants. This increase illustrated movement from lower-order Bloom's levels to higher-order ones. For example, participant A1 defined occupation on the pretest as a job or something a person does for a living. On the posttest, A1 demonstrated elaboration of learning with the following response: "activities that enable people to have self-worth, that is interesting to them. It also has meaning, and it makes them feel like they contribute to society." This response showed movement from the typical definition of occupation as a job that most people think of, to thinking in terms of meaningful and purposeful activity that is important to a person. This can be classified as improvement from the knowledge level to the application level of Bloom's taxonomy.

On the pretest, participant A5 defined occupation as "something one does for a living, whether work-related or recreational, without having to use any thought." As evidence of increased learning, A5 responded to the same question on the posttest with a definition more in line with terminology used in professional documents. A5 stated, "occupation can be defined as activities one does to bring purpose or meaningfulness to their life to help create their identity. Performing anything that makes them feel happy and satisfied." This response demonstrated evidence of a misconception of occupation becoming clearer through the OBP module activities. Although concise, participant A29 demonstrated learning from pre to posttest by his/her definition evolving from "activities of daily living" to "occupation is an everyday activity that a person engages in that gives meaning and purpose to their lives." These examples showed higher-level learning regarding the concept of occupation and its value through movement from Bloom's level of knowledge to the comprehension level (Bloom, 1956/2001).

Define OBP and Articulate its Value

The quality and depth of the responses on the short answer essay task changed for the participants from the pretest to the posttest. For example, participant A15's pretest essay response stated, "occupation-based practice is where you focus on their occupations." This could be classified as the knowledge level of Bloom's taxonomy, defined as the retention of basic facts, such as definitions (Adams, 2015). However, the posttest response for participant A15 was more complex: "OBP is important because you are using a patient's occupation for their treatment. This will help them function in everyday life and in society." This student's posttest response indicated comprehension, defined by Bloom's taxonomy as demonstrating when a learner can paraphrase or explain something to others (Adams, 2015). Participant A28 had a similar increase in level of complexity from pretest to posttest. The pretest response stated, "occupation-based practice is important in a patient meeting his/her goals of increasing independence." However, the posttest response was: "occupation-based practice allows for client input on goal setting. The act of meaningful doing engages clients to be active participants in their own recovery. In doing so, a person is empowered." The difference in these responses also indicated an increase in complexity from Bloom's taxonomy (Armstrong, 2016) level of recall (knowledge) to the level of understanding (comprehension). Other student participants provided examples in their posttest essay responses to demonstrate command of the subject matter.

Table 3

Themes from Pre and Post Essay with Example Participant Quotes Linked to Bloom's Taxonomy

Theme	Participant quotes from pretest	Participant quotes from posttest
Demonstration of higher-level learning (evidenced by Bloom's taxonomy levels)	Bloom's level: Knowledge/Comprehension A11: "Occupational therapy helps people continue to be independent. This can be done by modification, changing how it is done, and assistive devices. Occupational therapy can help people with cognition, strength, and memory."	Bloom's level: Application A11: "Occupational therapy is where you help someone reach a goal that pertains to their occupation, such as brushing their teeth or showering independently. During therapy, several methods may be used; the therapist may choose to use the occupation as an end goal or as the means to get to the goal. When using occupation as a means the therapist chooses to use the occupation to reach the goal, such as if the client wanted to put their own groceries up, the therapist would work on putting up groceries."
	Bloom's level: Knowledge A37: "An occupation by definition is a job or	Bloom's level: Comprehension A37: "Occupation is the activities that a

	activity, or anything that requires a person to do an activity."	person takes part in to bring meaning, enjoyment, and purpose into their lives. Occupation can be their work, their hobbies, or their everyday routines."
	A38: "An activity used in a person's daily life."	A38: "Occupation is an activity that a person may need/want to get through their everyday life. Occupational activities have a meaning and purpose for the person performing the activity."
Deepened perspectives regarding OBP and occupation	A1: "Occupation is what a person does for a living. A job someone works at."	A1: "Occupations are activities that enable people to have self-worth, that are interesting to them. It also has meaning and makes them feel like they contribute to society."
	A8: "Normal activities that an individual does every day such as working."	A8: "Occupation is what is meaningful to you and gives you purpose. Occupation can be known as your identity. It is also known as a task you do every day. Your occupation could be writing, cooking, exercising, playing, etc."
	A9: "To rehabilitate patients to recover or compensate for their deficits or disabilities."	A9: "Occupation-based practice is using occupations to reach the goals. It helps with the client's purpose and well-being in recovery. You can use what they actually need to do to work on the goals."
	A22: "Occupation is where a person dwells or spends most of their time. It is considered to be a place concerning health and well-being."	A22: "The daily activities one engages in that is meaningful to them. These give individuals a sense of purpose and identity. Occupation contributes to physical and mental health, as well as overall well-being."

Discussion

The ability to understand and apply the concepts of occupation and OBP are important skills for OTA students. It is well established in national educational standards that OTA programs must teach about occupation and OBP (ACOTE, 2018). However, there is virtually no published literature on educational strategies, pedagogies, use of OBP, or other related topics in the area of OTA education. The study aimed to examine how OTA student participation in an educational module impacted their understanding of occupation, OBP, and OT. The results showed that the participants' understanding increased in the areas of knowledge of OBP and occupation. The students demonstrated growth through the increased complexity and quality of language they used to describe OBP and occupation; the change in the language was also more reflective of the professional documents of OT. The students also demonstrated an improvement in the ability to select occupation-based interventions. The study findings answered the research question by showing that student learning increased as a result of the educational module on OBP and occupation. More national conversation and scholarship is needed about these important topics, especially related to the OTA level of education, in order to close the gaps in the

literature that exist. The study provides evidence that an educational module developed specifically for OTA students was an effective pedagogical strategy for teaching students about OT, occupation, and OBP.

Demonstration of Higher-Level Learning

In this study, the students demonstrated the ability to think more deeply and critically about occupation and OBP, which is important for the delivery of value-based OT services (Lamb, 2017). If the purpose of educators is to train future occupational therapists to think in terms of occupation and use OBP to guide therapeutic decision-making (Hooper et al., 2015), then it is vital that an understanding of these concepts be built and strengthened in students. The ability for OTA students to understand and use OBP in practice is an important part of creating a strong professional identity for the OTA (Amini, 2010) and the OT profession (Hooper et al., 2015).

An educational module, such as the one developed for this study, is an effective method of meeting accreditation standards and achieving student learning outcomes. Modules are easily designed and implemented, often requiring few resources. They can be an efficient way to create effective learning experiences and are congruent with methods used by programs to teach students about occupation (Krishnagiri et al., 2017; Price et al., 2017). The results of this study demonstrated that a module with as few as two class sessions can be effective in moving student thinking to a higher level of Bloom's taxonomy. In that sense, the module can be considered a high-impact practice (powerful outcomes in a relatively short time). The use of high-impact practices is especially critical in OTA programs that are typically shorter in duration than OT programs, but have a similar number of standards that must be met during that time. This is one important consideration in the unique needs of OTA educators and OTA programs, which supports that OTA students may need to be educated differently from OT students (O'Brien, 2018).

Changed Perspectives and Misconceptions of Occupation

It was apparent from the pretesting that the participants came into the study with misconceptions of the concept of occupation. This was surprising because the students were all eager to enter the field of OT, yet seemed to misunderstand one of the key concepts of the profession and its relationship to the intervention process. This is similar to the findings of Hooper and colleagues (2018). All of the participants grew in their perspectives of occupation, with most broadening their view of the concept. One of the most evident changes related to meaning and purpose. Many students who omitted meaning and purpose in their responses on the short answer essay task pretest made it prominent in their short answer essay task posttest responses. This is an important consideration in the concept of occupation, supported by many official documents and textbooks in the OT field (AOTA, 2014; Pierce, 2003) as well as the OT literature (Fleming-Castaldy & Gillen, 2013; Fortune & Kennedy-Jones, 2014; Hooper et al., 2015).

Selection of Occupation-Based Interventions

In this study, the intervention selection activity was designed as a method for determining whether OTA students could successfully identify OBP interventions when provided with client scenarios. In essence, the participants were asked to use the thinking and problem-solving skills of an occupational therapist to successfully complete the task. The pretest results revealed that the students were unable to accurately identify occupation-based interventions based on the client information provided. As a result of the educational module and its learning activities, students demonstrated a significantly increased ability to select occupation-based interventions. Hooper and colleagues (2018)

asserted that curricular-level strategies need to be examined in order to increase the number of students who can reason in this way. The use of the educational module in this study was a practice consistent with the use of such curricular-level strategies. OTA programs could benefit from the addition of such explicit teaching on occupation and OBP, consistent with findings of studies examining the teaching of these concepts in OT and OTA programs (Krishnagiri et al., 2017; Price et al., 2017).

Limitations

This was the first place in the OTA program curriculum that formally discussed concepts related to occupation and OBP. The module was conducted during the first month of classes during a first year, first-semester course in an OTA program. Although specific content related to occupation and OBP was introduced to students during the study, it was possible that students had prior exposure to the concepts during other classes or earlier in the curriculum. Another limitation was that the researcher was the course instructor and was involved in the creation of assessment measures, scenarios used, and data analysis. This could have potentially influenced the students to participate. Steps were taken to reduce bias, including having multiple raters, professional experts reviewing rubrics and module materials, and peer checking. In addition, the deidentified study data was maintained by an administrative assistant in another department and not released to the study authors until the conclusion of all study activities. However, the possibility of bias cannot be ruled out entirely. A final limitation is that the study was conducted with and the results based on one cohort of students. Additional research with additional student groups will be needed to generalize the results.

Future Research

This study aimed to address existing gaps in the literature related to OBP in OTA education. Although the results of this study did show a change in the perceptions of OTA students in regard to occupation and OBP, more research is needed to determine the duration of their learning and ability to apply the skills to practice. A study in which the students were tasked with applying OBP concepts to intervention planning for a client case could provide such additional data. An additional module on confronting the barriers to OBP in practice settings would also be a valuable tool to address the gap between theory and practice discussed previously in the article. In addition, replication of this study with future cohorts would provide more data by increasing the sample size and assessing outcome over different groups of students with different backgrounds and experiences. More studies are needed related to OTA education in order to build the evidence base, specifically on topics related to OBP, occupation, and the scholarship of teaching and learning.

Conclusion

Occupation-based practice as part of a program's educational curriculum can demonstrate the value and focus of the OT profession to students. Despite the limited evidence in the area of OTA education and OBP in OTA programs, these are critical topics that must be addressed in educational programs (ACOTE, 2018). The results of this study found that first semester OTA students improved in knowledge of occupation, OBP, and their ability to select occupation-based interventions based on client scenarios upon completion of specific active learning modules. This study contributes needed information to the body of literature in the area of OTA education. Additional research is needed to build the evidence for educational practices in OT, especially related to the OTA.

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Appendix

Occupation Based Practice Module Intervention Selection Activity Task

Scenario 1: Marjorie is a 61-year-old woman who has severe osteoarthritis in her right hip. Over time, she has become less able to engage in exercise, and now the pain is limiting her ability to perform vital aspects of her job as a college professor. Marjorie agreed to have a total hip arthroplasty and the surgery was completed with no complications. She and her partner reside in a two-story home with stairs, but the master bedroom and bath are located on the main floor, where she has access to a walk-in shower and a deep tub. Taking baths is a major form of relaxation for her after a long day. Her partner primarily takes care of the cooking and household chores. She is also active in her local church, where she enjoys playing harp in the choir, which requires her to stand at least 5 min at a time. Most of her friends and social relationships are associated with church activities. Marjorie has two grown children and three grandchildren, ages 5–9, who live in a bordering state. She is a very active grandmother and enjoys spending time with the grandchildren. During Marjorie's occupational therapy sessions, the certified occupational therapy assistant (COTA) worked with her on the following interventions.

Underline and place an X in front of the three interventions from the list that best reflect occupation-based practice.

1. The COTA has Marjorie state her hip precautions to check to see if she still remembers them.
2. Marjorie uses the rolling walker to complete five transfers from her chair to standing in order to improve her functional mobility as needed for safety in her home environment.
3. Marjorie places pegs in an elevated pegboard to work on her standing tolerance needed for participation in the church choir.
4. The COTA educates Marjorie on adaptive equipment that is available for self-care tasks and has her practice using a long-handled shoe horn to put on her shoes.
5. Marjorie makes the bed in her room while maintaining hip precautions and her standing tolerance level.
6. Marjorie completes a series of upper extremity exercises designed to increase the strength needed for transferring into and out of the bathtub and shower.

Scenario 2: You are working as a COTA in a skilled nursing facility (SNF). A new client, John, has been placed on your caseload by the occupational therapist. John is an 81-year-old retired engineer who has a diagnosis of dementia. His condition has progressively worsened, and he has become increasingly confused. He has been a long-term resident of the SNF for 2 months now, and nursing staff have reported a decline in orientation and awareness of surroundings, a decline in self-care skills, social withdrawal, and increased agitation. His referral to therapy is the result of this, as well as two falls in the past week. Although John is a poor historian, you are able to speak to his children who tell you that he enjoyed building and tinkering with things, working with his hands, and took great pride in cooking and gardening. During John's occupational therapy sessions, you work with him on the following interventions.

Underline and place an X in front of the three interventions from the list that best reflect occupation-based practice.

1. Labeling drawers and closets in John's room with items located in them, then work with John on morning self-care using this system.
2. Teach and practice deep breathing and relaxation exercises to decrease John's agitation so that he can participate in everyday activities.
3. Educate the facility activities director on activities that John enjoys so that he can be engaged in social activities.
4. Work with John on sanding wood pieces and constructing a simple birdhouse to hang outside his room for birdwatching.
5. Engage John in the facility gardening group where he can take care of the plants and flowers, harvest produce, and engage in social participation with other residents.
6. Provide John with a series of nuts and bolts and have him match the pieces to provide him the opportunity to work with his hands.

Scenario 3: A school system COTA is working with a student, Torrie, who has ADHD. Torrie is 9 years of age, and has difficulty with organization and completing classroom assignments, and she frequently forgets to turn in her homework. According to the evaluation data obtain from the occupational therapist, Torrie's family, and classroom teachers, she also has decreased fine and gross motor skills that are below her age level. Torrie tells you that she does not like to write because it makes her hands hurt, and you know from the evaluation data that this is likely because of decreased strength and/or poor positioning. She does not have many friends and other children bully her because of her poor social skills. Based on observations and parent reports, she seems to have difficulty spontaneously initiating play. Her difficulties are causing her to fall behind in school and have emotional difficulties. During Torrie's occupational therapy sessions, you work with her on the following interventions.

Underline and place an X in front of the three interventions from the list that best reflect occupation-based practice.

1. Collaborate with Torrie and her teacher to set up an organization system to keep up with homework and classwork.
2. Squeeze resistive putty to strengthen Torrie's hands so they do not hurt during handwriting.
3. Engage Torrie in spontaneous play activities during class recess time with her peers.
4. Work with Torrie on handwriting during class time when she is completing written assignments needed for class.
5. Practice forming letters on lined paper to increase speed and accuracy of handwriting.
6. Have Torrie trace mazes of increasing complexity to increase her fine motor skills and practice holding a pencil correctly.

Scenario 4: You are working in the inpatient rehabilitation unit of a local hospital and have been assigned a client who suffered a severe stroke (CVA) that has affected the right side of her body. Your client, Dorothy, is 64 years of age, retired, and lives with her spouse in a single level garden home in a gated community. She is right hand dominant. All of her children and grandchildren live in the same town as Dorothy and her husband. Dorothy loves family gatherings, working in her flower garden,

watching reality TV shows, and morning walks around the neighborhood with her husband. She also enjoys hosting the entire family for lunch every Sunday. Dorothy is famous for her cooking, but especially her "made from scratch" brownies. Because of the stroke, she cannot move her right arm, except for wiggling her fingers slightly. Her balance and endurance have declined, and she is learning to walk with a walker during her physical therapy sessions, but progress is slow. Dorothy requires maximum assistance with all self-care activities and transfers from one surface to another. Her cognitive status is normal, and she is very motivated to recover. Her family is extremely supportive, visit her daily, and attend her therapy sessions. During Dorothy's occupational therapy sessions, you work with her on the following interventions.

Underline and place an X in front of the three interventions from the list that best reflect occupation-based practice.

1. Complete passive range of motion exercises with Dorothy to prevent joint contractures and loss of motion in the right arm.
2. Neuromuscular electrical stimulation to regain muscle movement in the right arm to allow for increased use during everyday activities.
3. Weight bearing with the right arm on the counter while preparing brownies in the kitchen.
4. Using the walker, practice transitioning from the seated position to standing up in order to increase strength, endurance, and standing balance needed for everyday activities.
5. Complete morning self-care and ADLs using adaptive techniques and equipment to increase Dorothy's independence in this area.
6. Teach energy conservation techniques to Dorothy and have her practice them during a cooking activity in the kitchen.

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