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Understanding occupation-based practice among Thai occupational therapy students: A mixed-methods study

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ABSTRACT

Background: In Thailand, Occupation-based practice (OBP) has been emphasized in the curriculum of outcome-based education for Chiang Mai occupational therapy students towards the revised bachelor curriculum year 2021; however, it was essential in how they comprehensively understand and skills implementation in recent years.

Objective: The aim of this study was to explore an understanding of OBP among Thai occupational therapy students towards their clinical fieldwork and classroom experience.

Materials and methods: This study used a convergent mixed method by collecting data with a forty-item developed self-assessment questionnaire of the clinical fieldwork experience from third- and fourth-year students and employing focus group interviews with first- to fourth-year students between September and October 2022. Descriptive statistics were analyzed for seventy-five return questionnaires. Thirty-eight participants participated in a total of nine focus group interviews, and the qualitative data were analyzed by content and thematic analyses. Both sets of data were merged. An interpretation with six levels (remembering, understanding, applying, analyzing, evaluating, and creating) of cognitive domains of Bloom's revised taxonomy was used.

Results: The understanding of OBP in the clinical fieldwork experience years has ≥66.7% for all items within high self-assessment of understanding OBP in the six levels: 90.67%, 81.33%, 86.4%, 79.93%, 85.33%, and 83.47%, respectively. Two main themes, firstly, Occupation as the central focus of practice, and secondly, Importance of theoretical knowledge and experience, are presented. Analyzing, evaluating, and creating levels of a high cognitive domain were revealed in fourth-year students, while remembering, understanding, and applying levels were basic cognitive domains that support the students' understanding of OBP.

Conclusion: The results indicate an average comprehension of OBP in a high percentage, over 75% for overall levels with the supportive two themes, which is further useful in improving outcome-based learning and teaching of the occupational therapy curriculum.

Introduction

Occupation-based practice (OBP) is a concept and practice that emphasizes occupation, which is the core value of the occupational therapy profession.[1] Occupational therapists use occupation as a means and an end to promote clients' meaningful occupations.[1-3] Thus, OBP helps occupational therapists understand and focus on occupation through the lens of a client-centered and holistic approach by fostering occupational engagement,

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such as activities of daily living (ADLs), work, education, leisure, and social participation.[3-5]

OBP challenges the power of occupation through the clinical implementation of both intervention and evaluation, such as stroke rehabilitation and marginalized youth programs,[5,6] highlighting OBP's transformative potential; however, its application continues to persist globally with barriers. The examples are the dominance of impairment-based practices, limited resources, systemic constraints, and time restrictions,[7-9] which are often found in the group of students and new graduates.[9-13] Regarding this, OBP and its implementation underlying the necessity of conceptual clarity and supportive systems in real contexts remain complex.

In Thailand, the study of OBP found working OBP to be consistent with integrated medical sciences,[13] although it is valued in improving services and achieving better occupational outcomes. This ambiguity suggests that the implementation of OBP from the perspective of Thai occupational therapists is still fragile. Interestingly, increasing evidence-based reasoning in OBP within the Thai context may help.

Thailand's occupational therapy curriculum is an important part of OBP knowledge improvement. The 2021 revised curriculum at Chiang Mai University introduces OBP early in alignment with the outcome-based education of the occupational therapy undergraduate program. The curriculum promotes pre-clinical education (Years 1 and 2), which builds a theoretical foundation through courses on anatomy, physiology, and core occupational therapy principles, while it supports the integration of OBP in advanced coursework and clinical internships during Years 3 and 4, ensuring graduates develop competencies required for professional practice. The clarification of the key occupational therapy terms,[2] including occupation-based (OB uses meaningful activities as both a means and goal of intervention), occupation-centered (OC centers occupation as the foundation of all reasoning and practice), and occupation-focused (OF focuses on resolving specific occupational performance issues) approaches, was initially discussed. Nevertheless, these concepts were disrupted by limited experience in clinical practice, especially during the COVID-19 pandemic, in fostering an understanding of clients' occupations in Thailand. Literature reviews[7-9,13] showed that occupational therapists struggle with their beliefs about the type of occupational therapy intervention as well, towards questioning on "what they do and how they do it".[2] Therefore, the challenges of unclear OBP concepts and complex skills implementation reveal an essential proposition for occupational therapists and students. To address these issues, embedding OBP principles into the curriculum is crucial to fostering students' understanding from pre-clinical education onwards.

This study used Bloom's Revised Taxonomy to develop a self-assessment questionnaire and interview guides of understanding OBP,[14,15] and to use as an analytical framework for data analysis following six levels of cognitive domains: remembering, understanding, applying, analyzing, evaluating, and creating. The aim of this research was to explore the understanding of OBP among Thai occupational therapy students towards their clinical fieldwork and classroom experience.

Materials and methods

Study design

This research used a concurrent mixed-methods design to mainly examine the understanding and application of OBP among Chiang Mai University occupational therapy students during the clinical fieldwork experience of the third- and fourth-year students through a quantitative study. A qualitative study was conducted through semi-structured focus group interviews for first- to fourth-year students.

Participants and recruitment

The population of third- and fourth-year occupational therapy students at Chiang Mai University was 100 (N=100). Inclusion criteria were enrolling in the first semester of the 2022 academic year, having clinical fieldwork experience for half of the clinical fieldwork courses (at least two groups of clients or more during the subject of clinical fieldwork practice 1 for Year 3 and clinical fieldwork practice 3 for Year 4), and volunteering for the research. The inclusion criteria were used for participants in both quantitative and qualitative studies. Participants were involved in completing a self-assessment questionnaire (10–15 minutes) and/or joining a focus group interview.

First- and second-year students, who had only theoretical experience and were enrolled under the OBE curriculum during the 2022 academic year, volunteered to participate in a focus group interview. Recruitment was carried out via announcements disseminated through student representatives, along with a distributed poster inviting voluntary participation.

Research instruments and data collection

The researchers developed a self-assessment questionnaire to examine the students' understanding of OBP towards clinical practice and classroom experience. The questionnaire uses yes/no questions. Scoring and interpretation of "yes" referred to "understanding the specific item", while "no" referred to "not understanding or unable to understand the specific item." The questionnaire ensured content validity with an Index of Item-Objective Congruence (IOC) assessment with three independent experts. The general criteria of the experts were obtaining a master's degree and having expertise in OBP, resulting from teaching or research. Additionally, one more specific expertise in OBP is needed, with at least 10 years of clinical experience or advanced experience in the measurement/assessment tool development in occupational therapy research. The first version of the questionnaire development consisted of 45 items. Four items scored IOC <0.50 were removed on the IOC process, and one was deleted due to redundancy. The revision questionnaire comprised 40 items, which underwent pilot testing with 16 volunteer students. The final version of the questionnaire had 40 items. The researcher distributed the questionnaire to

participants through class representatives, who had been assigned the appointment schedules in advance.

The researchers reviewed literature on OBP and the cognitive process of Bloom's revised taxonomy for developing the semi-structured interview guide, which was divided into the clinical experience and pre-clinical experience. The researchers interviewed the participants by using semi-structured and open-ended questions addressing the understanding and application of OBP during clinical fieldwork experience for third- and fourth-year students. The interview guide related to, for example, the ability to explain the concept of OBP from their perspective, to describe an understanding of OBP in application towards a situation's example, and the procedure in using assessment tools or designing a therapeutic intervention. The researcher used probing questions to deepen the exploration of their insight into the clinical implementation, client groups, and practice settings. In addition to pre-clinical experience, the researcher used the semi-structured interview guide to first- and second-year students to reflect an understanding of OBP's meaning and relevance to professional philosophy and the occupational therapy process. The interview guide related to, for example, their thoughts on OBP and its importance and value in occupational therapy, the applicable OBP in the occupational therapy process during class learning activities, and giving their reasons related to the principle.

The recruitment and data collection process occurred for both groups between September and October 2022. Focus group interviews were conducted at Chiang Mai University, with each session involving three to five participants per group and lasting 40-60 minutes. Each participant attended only one focus group session. The clinical and pre-clinical sessions were separately collected. Nine focus group interviews were conducted. The participants completed a consent form. They were briefed about the interview process and allowed to take notes and audio recordings before group interviews.

Data analysis

Quantitative data from the questionnaires were analyzed using descriptive statistics. The item interpretation followed the yes or no approach to understanding specific question items, while the percentage of mean score indicated understanding each level of the cognitive domains. This study applied Bloom's cut-off point to use in the data interpretation by categorizing into three categories with readjusted cut-off point consideration: the percentage of 76 and above shows a high self-assessment understanding of OBP at that level.[16,17] A medium self-assessment understanding of OBP is the percentage between 50 and 75, while a low self-assessment understanding of OBP is the percentage below 50.

Qualitative data from interviews were analyzed by content and thematic analyses.[18-20] The research team members, including a supervisor, double-checked the findings and interpretations to enhance the qualitative analytic rigor.

Results

Demographic data

The demographic characteristics of 75 respondents from the quantitative study are shown in Table 1. The results showed that the fourth-year occupational therapy students were 53.3%, and the third-year students were 46.7%. Most respondents were female, and almost all respondents were aged 20 years or older, with 98.7%.

Twenty-two participants with clinical experience participated in a total of five group interviews. All were the fourth-year students, aged 20 years or older, and most participants were female. They respond frequently to their clinical service experience for the client group with physical dysfunction and mental health. Likewise, their clinical fieldwork settings were in institutes or hospitals more than in community settings, except for a few who mentioned other settings.

Sixteen participants in the pre-clinical experience participated in a total of four focus group interviews. Four participants were first-year occupational therapy students, and the other twelve participants were second-year occupational therapy students, all aged 18 years or older.

Quantitative results

The quantitative results presented the frequency and percentage of six levels in understanding OBP based on Bloom's revised Taxonomy (Table 2).

Overall, six levels revealed a high self-assessment understanding of OBP: remembering (90.67%), understanding (81.33%), applying (86.40%), analyzing (78.94%), evaluating (85.33%), and creating (83.47%). The remembering level showed the highest percentage among the six levels, with the highest 96% of the "Participants were able to recall the meaning of OBP" item. Applying and evaluating levels were included in the top three levels, with "Participants were able to provide occupational therapy service with the belief that clients have the ability and potential to take action for their own health transformation" item was 98.7% the highest rate underlying the applying level, and "Participants were able to validate the organized information from the Occupational Profiles to understand the client's background, service needs and context" showed the highest percentage of the respondents. Afterwards, creating, understanding, and analyzing levels were exhibited from the fourth to the sixth. Questionnaire items with the highest percentage among such three levels were as follow: creating; "participants were able to design therapeutic activities aligned with the established goals" (94.70%), understanding; "participants were able to describe how occupational therapy views humans as active beings in creating health through occupational engagement" (82.70%) and "participant able to name an occupational therapy model and detail its key components" (82.70%), and analyzing; "participants were able to analyze how occupational therapy enables clients to learn through experiencing, thinking, and feeling by doing" (88%).

Table 1: Demographic data of quantitative study (N=75)

Demographic characteristic	Frequency (N)	Percentage (%)
Year of study		
3rd Year	35	46.70
4th Year	40	53.30
Gender		
Male	12	16.00
Female	63	84.00
Age		
Below 20 years	1	1.30
20 years and older	74	98.70
Clinical fieldwork experience in service groups (More than one response possible)		
Physical dysfunction	55	73.33
Mental health and psychiatry	54	72.00
Geriatrics	51	68.00
Pediatrics	49	65.33
Clinical fieldwork settings (More than one response possible)		
Institute/ hospital	71	94.67
Community settings	51	68.00
Other	7	9.33

Table 2: Frequency and percentage of OBP understanding levels based on Bloom's revised taxonomy.

Bloom's Taxonomy Level	Items *(Participants were able to …)*	3rd (N=35)	4th (N=40)	Total (N=75)	
		Yes N (%)	Yes N (%)	Yes N (%)	Yes N (%)
Remembering	- recall the meaning of occupation-based practice.	33 (94.30)	39 (97.50)	72 (96.00)	3 (4.00)
	- identify that occupational therapy services are based on the holistic approach.	31 (88.60)	33 (82.50)	64 (85.30)	11 (14.70)
	Average	32.00 (91.43)	36.00 (90.00)	68.00 (90.67)	7.00 (9.33)
Understanding	- explain how OBP helps in understanding clients' occupational demands.	27 (77.10)	33 (82.50)	60 (80.00)	15 (20.00)
	- describe how occupational therapy views humans as active beings in creating health through occupational engagement	31 (88.60)	31 (77.50)	62 (82.70)	13 (17.30)
	- provide examples to explain the term 'engagement in occupation.	28 (80.00)	32 (80.00)	60 (80.00)	15 (20.00)
	- name an occupational therapy model and detail its key components.	24 (68.60)	38 (95.00)	62 (82.70)	13 (17.30)
	Average	27.50 (78.57)	33.50 (83.75)	61.00 (81.33)	14.00 (18.67)
Applying	- provide occupational therapy services with the belief that clients have the ability and potential to take action for their own health transformation.	34 (97.10)	40 (100)	74 (98.70)	1 (1.30)
	- apply the client-centered approach in occupational therapy services.	32 (91.40)	39 (97.50)	71 (94.70)	4 (5.30)

Table 2: Frequency and percentage of OBP understanding levels based on Bloom's revised taxonomy. (Continue)

Bloom's Taxonomy Level	Items *(Participants were able to …)*	3rd (N=35)	4th (N=40)	Total (N=75)	
		Yes N (%)	Yes N (%)	Yes N (%)	Yes N (%)
	- summarize assessment results in alignment with theoretical concepts.	21 (60)	29 (72.50)	50 (66.70)	25 (33.30)
	- design occupational goals with client participation, focusing on meaningful occupations valued by the client.	28 (80.00)	31 (77.50)	59 (78.70)	16 (21.30)
	- review outcomes for further client-centered intervention by following up occupational therapy process and emphasizing occupational performance	26 (74.30)	39 (97.50)	65 (86.70)	10 (13.30)
	- recognize the use of occupation-based practice in evaluation, intervention, and outcome measurement during clinical training.	33 (94.30)	35 (87.50)	68 (90.70)	7 (9.30)
	- demonstrate an understanding OBP reflects the professional identity and roles.	32 (91.40)	35 (87.50)	67 (89.30)	8 (10.70)
	Average	29.40 (84.00)	35.40 (88.50)	64.80 (86.40)	10.20 (13.60)
Analyzing	- analyze how occupational therapy enables clients to learn through experiencing, thinking, and feeling by doing.	30 (85.70)	36 (90.00)	66 (88.00)	9 (12.00)
	- analyze the similarities, differences, and relationships of the models you use during clinical practice.	21 (60.00)	30 (75.00)	51 (68.00)	24 (32.00)
	- differentiate the tools, assessment methods, or approaches to determine whether they are based on measuring occupational performance as the target outcome.	21 (60.00)	29 (72.50)	50 (66.70)	25 (33.30)
	- set occupational goals that highlight occupational performance as a primary focus.	28 (80.00)	37 (92.50)	65 (86.70)	10 (13.30)
	- analyze the differences in types of occupational therapy intervention, such as differentiating between picking and shaping high-viscosity putty, molding clay, or preparing a sandwich for breakfast.	27 (77.10)	37 (92.50)	64 (85.30)	11 (14.70)
	Average	25.40 (72.57)	33.80 (84.50)	59.20 (78.93)	15.80 (21.07)
Evaluating	- determine the explanation of the concepts, theories, and/or rationale that support your decision in selecting an occupational therapy model.	24 (68.60)	33 (82.50)	57 (76.00)	18 (24.00)
	- validate the organized information from the Occupational Profile to understand the client's background, service needs, and context.	34 (97.10)	40 (100)	74 (98.70)	1 (1.30)
	- elect interviews, observations, and tests for assessments aimed at understanding the client's occupations and their impact on health.	33 (94.30)	39 (97.50)	72 (96.00)	3 (4.00)
	- accurately choose occupational performance assessment tools.	20 (57.10)	31 (77.50)	51 (68.00)	24 (32.00)

Table 2: Frequency and percentage of OBP understanding levels based on Bloom's revised taxonomy. (Continue)

Bloom's Taxonomy Level	Items *(Participants were able to …)*	3rd (N=35)	4th (N=40)	Total (N=75)	
		Yes N (%)	Yes N (%)	Yes N (%)	Yes N (%)
	- correctly conclude whether the selected assessments or methods align with evaluating the client's occupational performance.	22 (62.90)	36 (90.00)	58 (77.30)	17 (22.70)
	- recommend therapeutic activities in relation to the client's needs and context.	32 (91.40)	39 (97.50)	71 (94.70)	4 (5.30)
	- evaluate target outcomes as levels of occupational performance based on established goals.	29 (82.90)	36 (90.00)	65 (86.70)	10 (13.30)
	Average	27.70 (79.14)	36.30 (90.75)	64.00 (85.33)	11.00 (14.67)
Creating	- design assessment activities to identify the client's abilities, strengths, and assets required for performing their occupational needs.	19 (54.30)	38 (95.00)	57 (76.00)	18 (24.00)
	- design assessment activities that match the client's experiences and are close to their occupational context.	23 (65.70)	34 (85.00)	57 (76.00)	18 (24.00)
	- design assessment activities aligned with the occupation-based model you used as a reference.	22 (62.90)	37 (92.50)	59 (78.70)	16 (21.30)
	- design assessment activities that allow the client to express their abilities, such as in speaking, thinking, decision-making, behavioral expression, or other aspects.	24 (68.60)	38 (95.00)	62 (82.70)	13 (17.30)
	- design therapeutic activities that connect to the rehabilitation of client's daily living activities or work.	30 (85.70)	38 (95.00)	68 (90.70)	7 (9.30)
	- design therapeutic activities by integrating the foundation of medical knowledge and professional practice.	29 (82.90)	36 (90.00)	65 (86.70)	10 (13.30)
	- design therapeutic activities aligned with the established goals.	31 (88.60)	40 (100)	71 (94.70)	4 (3.30)
	- design therapeutic activities that are consistent with the theories being referenced.	25 (71.40)	36 (90.00)	61 (81.30)	14 (18.70)
	- create therapeutic activities that are interesting, challenging, or motivating for the client to engage in.	28 (80.00)	34 (85.00)	62 (82.70)	13 (17.30)
	- design therapeutic activities aimed at helping the clients divert their attention from distressing emotions to occupy them with the current task.	27 (77.10)	32 (80.00)	59 (78.70)	16 (21.30)
	- arrange the activity environment to be suitable for the therapeutic purposes (e.g., relaxation, stimulation, or focus enhancement).	28 (80.00)	34 (85.00)	62 (82.70)	13 (17.30)
	- modify or improve the design of therapeutic activities to facilitate achieving the therapeutic goals.	26 (74.30)	39 (97.50)	65 (86.70)	10 (13.30)

Table 2: Frequency and percentage of OBP understanding levels based on Bloom's revised taxonomy. (Continue)

Bloom's Taxonomy Level	Items *(Participants were able to …)*	3rd (N=35)	4th (N=40)	Total (N=75)	
		Yes N (%)	Yes N (%)	Yes N (%)	Yes N (%)
	- adapt activities to help the client return to meaningful and valued occupations or discover new occupations aligned with their interests.	29 (82.90)	39 (97.50)	68 (90.70)	7 (9.30)
	- improve clinical reasoning throughout clinical training by applying occupation-based practices.	20 (57.10)	40 (100)	60 (80.00)	15 (20.00)
	- integrate activity adaptations to make them both challenging and satisfying for the client, promoting personal health and well-being.	26 (74.30)	37 (92.50)	63 (84.00)	12 (16.00)
	Average	25.80 (73.71)	36.80 (92.00)	62.60 (83.47)	12.40 (16.53)

In each academic year, Year 3 students prioritized remembering (91.43%), applying (84%), evaluating (79.14%), understanding (78.57%), creating (73.71%), and analyzing (72.57%), respectively. They revealed a medium to high self-assessment understanding of OBP. While Year 4 students ranked all levels of understanding of OBP in high self-assessment, which consisted of creating (92%), evaluating (90.75%), remembering (90%), applying (88.5%), analyzing (84.5%), and understanding (83.75%) levels, respectively.

This study found an increase of 18.29% in the creating level in Year 4 compared to Year 3 students. Similarly, there was an 11.93% increase on the analyzing level and 11.61% on the evaluating level. These levels represented the results of their accumulating confidence of the self-assessment on the top tier Bloom's level, which demands the analysis performance: deconstruct information, identify underlying relationships, and differentiate between components; the evaluation performance: make informed judgments, critique arguments, or assess materials based on established criteria: and the creation performance: emphasizes the synthesis of information from multiple sources to formulate new ideas, designs, or products.

Qualitative results

The qualitative results presented an understanding of OBP in relation to the occupational therapy students' clinical and classroom experiences in two themes.

Theme 1

Occupation as the central focus of practice. The first theme emphasized the role of occupation at the core of both the conceptual framework and practical experiences in occupational therapy clinical experience. This theme included four subthemes. 1.1) Screening client data. The participants began the occupational therapy process by collecting clients' occupational performance history through observations and interviews. Screening data collection assists them in visualizing clients' occupational profiles and needs. 1.2) Selecting assessment tools focused on occupation. The participants learned to choose appropriate assessment tools in the measurement of the client's occupational performance based on the occupation-based model, particularly the Model of Human Occupation (MOHO) and the Canadian Occupational Performance Measure (COPM), to reinforce the importance of assessment tools focusing on occupation. 1.3) Determining occupational focus. The participants identified their integral knowledge in developing therapeutic activities by focusing on the client's occupation for their practice. Several clinical fieldwork settings are limited to hospitals, so an occupation-focused approach could be the closest to representing OBP. 1.4) Intrapersonal and interpersonal factors influencing OBP implementation. The participants acknowledged self-confidence, clinical instruction and supervision, and collaboration with peers and instructors in the classroom, influencing confidence in the implementation of OBP.

"We use screening data to better understand our clients before starting occupational therapy. By observing and conversing with clients, we develop a clear picture of their needs, which is essential as we begin our interventions."

"…Being occupation-based means working towards achieving occupational outcomes. …Ultimately, they must return to doing their own occupations".

"…I used MOHO with a client-centered approach-asking about their job, their future, and helping them explore occupations that matched their needs. Some might use COPM. … It is about focusing on occupation-based issues or assessing only what impacts their activities in their real context, clients' homes, and social situations, which helped us understand OBP better."

Theme 2

Importance of theoretical knowledge and experience. The second theme highlighted theoretical knowledge and preclinical experiences in bridging the transition from lower-order thinking (remembering, understanding, and applying) to higher-order thinking (analyzing, evaluating,

and creating) towards clinical scenarios. This theme consisted of five subthemes: 2.1) Client-centered practice and professional identity. The participants in both clinical and pre-clinical experience emphasized that an understanding of clients' meaningful occupations in OBP highlights client-centered practice and professional identity. 2.2) Understanding occupational profiles and assessment tools. This subtheme focuses on recognizing clients' occupational problems or needs to develop the occupational profiles. The participants learned that selecting appropriate assessment tools is crucial for evaluating occupational performance. However, those with limited clinical experience often struggled with data analysis and synthesizing information to create comprehensive occupational profiles. 2.3) Connecting theory to practice. The participants expressed that bridging classroom learning and real-world applications in fieldwork is essential to continuous clinical fieldwork. Instructor supervision and feedback are necessary to reinforce these connections and to engage them in understanding clients' occupations underlying the concept of OBP. 2.4) Distinguishing between OBP and occupation-focused approaches. The participants recognized the differences between OBP and occupation-focused interventions. Through discussions and simulations, they were able to explore how meaningful occupations evolve to enhance occupational performance alongside the occupational therapy process with professional reasoning, and further with clinical reasoning in fourth-year students, as well as improving confidence in the explanation and implementation of OBP. 2.5) Deepening understanding of OBP. This subtheme emphasized the role of critical reflection in enhancing participants' grasp of OBP. The participants know that clear theoretical concepts and technical terms can be learned through communication with instructors, which is essential. Collaborative lab activities and hands-on experience were valuable in promoting understanding of OBP concepts.

"During labs, we discuss and exchange ideas on case studies. This helps because our cases and approaches vary, providing multiple perspectives. I understood the meaning of technical terms more clearly when I combined theory from lectures with practical tasks."

"In a case scenario, I focus on what the client wants to do, like growing vegetables. I ask them what they want to plant and help them in the process. It highlights the client's willingness and occupation in a client-centered manner."

Discussion

The developmental progress of understanding OBP is explicitly reflected in the quantitative data, particularly fourth-year students' improvements in analyzing and creating levels of higher-order skills. Longer clinical fieldwork of practice results in advanced ability to analyze and create within OBP. The qualitative themes support quantitative results by suggesting clinical supervision, peer collaboration, and diverse practical settings as critical enablers of the cognitive growth.[21,22] The research results challenge the need to increase psychological confidence in the clinical implementation of OBP, while the need for this psychosocial development is similarly found in the literature,[22-24] which encourages skills improvement of OBP as occupational therapy students. Evidence-based practice (EBP) and writing the reflexive journal on the client's improvement in occupational goals and reflecting their own progression in OBP of both concept and clinical practice, are recommended.[22,25] Additionally, their comprehension would encourage work readiness amidst the barriers of OBP implementation in realistic contexts in the position of being occupational therapy practitioners soon or longer. Impairment-based medical service, work burden under related policies, and a dearth of assets and budgets are other examples of OBP confrontation in Thai occupational therapy service in Thailand;[13] however, the academic preparation would develop the work readiness of OBP application, like other countries.[6-12]

Among the clinical fieldwork experience group, the results reveal differences between the third-year and fourth-year students in their performance across Bloom's revised taxonomy levels, particularly in advanced cognitive processes. The fourth-year students showed markedly higher proficiency in the creating, analyzing, and evaluating levels, while third-year students confidently performed better only in the remembering level. Although Bloom's revised taxonomy is designed as a linear progression from basic to complex cognitive skills, the results of this study suggest that the learning process does not always occur sequentially; rather, it can progress non-linearly and may involve overlapping stages of cognitive development, as supported by qualitative results.

Additionally, the clinical fieldwork experience group demonstrated a theoretical understanding of applying occupation-based models, such as the Model of Human Occupation (MOHO) and the Canadian Model of Occupational Performance (CMOP). Their explanations logically linked core concepts to practical examples, addressing occupational problems derived from applying knowledge of occupational performance skills, performance patterns, and personal and environmental factors.[4] This ability reflects an integration of theoretical principles with practical reasoning, indicating a strong basic cognitive process. However, qualitative findings reveal implicit gaps in their ability to differentiate between nuanced occupational principles, particularly the distinctions among occupation-based (OB), occupation-centered (OC), and occupation-focused (OF) approaches.[2] These subtle differences remain challenging for the participants to fully understand.

Despite these challenges, the participants consistently highlighted occupation as a core focus of their clinical practice, demonstrating alignment with occupation-centered and occupation-focused principles.[2] Although the third- and fourth-year students were not part of the OBE curriculum, the structured clinical fieldwork course and the clinical staffs had successfully fostered the students' understanding of client-centered practice, which is an occupation as a pillar of practice. Students have exhibited enthusiasm, active engagement, and a strong

willingness to delve deeper into understanding OBP. In progressing further curriculum development, the primary academic goal of OBP should be to support the use of occupation and to nurture confidence in using occupation OBP throughout the occupational therapy process within supportive environments, ensuring alignment with the genuine OBP as articulated by Fisher.[2]

The preclinical fieldwork experience group gave the perspective of analyzing and creating skills as their weakest cognitive domains, likely due to their limited clinical experience and reliance on classroom-based learning. Their understanding reflects the critical role of clinical fieldwork in fostering higher levels of cognitive skills, which are essential for advanced problem-solving and clinical reasoning amidst future trends of occupational therapy education.[23,24] To discuss this, it is a necessity for the curriculum to integrate more case studies in the pre-clinical year, allowing students to practice solving clients' occupational problems or concerns through structured and real-world scenarios. Early entrance to clinical fieldwork experience is equally crucial, as it builds confidence, supports learning progression during clinical placements, and deepens understanding of the occupational therapy process. Providing students with greater autonomy to think and practice independently would further enhance their ability to develop the competencies required of occupational therapy clinicians.

Furthermore, gaining real-world experience in workplace settings-through opportunities for occupational therapy clinician observation, collaboration, and active practice-would moderate the stress of occupational therapy students in the professional transition process and work readiness. Embedding opportunities for service delivery development and fostering innovation in OBP within the curriculum are necessary steps for developing the professional identity of Thai occupational therapy amidst the digital technology era in health care promotion.

Limitation

The limitations found in participants from a single institution may limit the generalizability of the research results. The self-assessment questionnaire might limit the results from awareness of self-estimation. Future research should include other institutes to gain an understanding of OBP through various evaluations.

To improve understanding and application of OBP, occupational therapy curricula should integrate more practical and experiential learning activities, such as simulations, role-playing, and case studies. Furthermore, the incorporation of metacognitive reflection activities, such as guided journal reflection, peer discussions, and educator feedback, can enhance critical thinking and adaptability. We recommend a longitudinal study of the first- and second-year students to track the progression and to identify whether mentorship or specialized instruction is needed. Lastly, an evaluation of the graduate outcomes is essential for informing the development of continuing professional education programs, including the postgraduate education programs.

Conclusion

This study explored the understanding of OBP among occupational therapy students at Chiang Mai University by utilizing Bloom's revised taxonomy as an analytical framework. Quantitative and qualitative research results revealed that the occupational therapy students understood OBP with the basic lower-order cognitive domains. At the same time, higher-order skills were shown in third- and fourth-year students through clinical fieldwork experiences. The results, moreover, emphasized the need for tailored instructional strategies, particularly for second- and third-year students, to provide sheltered learning opportunities in the development of higher-level cognitive skills prior to clinical fieldwork as preparation. In conclusion, this research emphasizes the importance of aligning curriculum design and suggesting instructional methods to improve the understanding of OBP among Thai occupational therapy students, underlying the supportive principles of outcome-based education.

Ethical approval

Ethical approval for this study was obtained from the Research Ethics Committees of the Faculty of Associated Medical Sciences at Chiang Mai University (Approval Numbers 330/2565 and 356/2565). Participants provided written informed consent prior to data collection, and the research findings were reported anonymously.

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Conflict of interest

The authors declare no conflict of interest.

CRediT authorship contribution statement

Rapeepat Boonphirom and Tharathep Aoibumrung; Methodology and data collection, Supaluck Phadsri; conceptualization, methodology, data collection, data curation, writing the original draft, review, and editing. All authors read and approved the final draft.

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