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Part 1: Preparing Entry-Level Occupational Therapy and Physical Therapy Students to Promote Health and Wellbeing with Individuals with Disabilities

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Abstract

To address accreditation standards for health and wellbeing within entry-level occupational therapy (OT) and physical therapy (PT) programs, the OT, PT, and Human Studies Departments at the University of Alabama at Birmingham (UAB) collaborated with community partners to conduct an interdisciplinary service learning activity based on the I Can Do It, You Can Do It Program (ICDI). This program is a structured community health program where individuals without disabilities are partnered with individuals with disabilities to enhance physical activity, healthy eating, and community participation. The purpose of this paper is to describe a formative evaluation of ICDI at UAB, and to discuss revisions to the program made as a result of the evaluation. Faculty used a qualitative design to collect feedback on perceived benefits and challenges of the program. Focus groups were conducted with students who completed the program, and key informant interviews were conducted with site coordinators from each of the three partnering community sites. Two themes emerged from student focus groups: (1) Program benefits, with sub-themes of hands-on application and interaction, and (2) Challenges with suggestions for change, with sub-themes of preparation, communication, and expectations. Four themes emerged from key informant interviews: (1) Students, (2) Logistics, (3) Program benefits, and (4) Transference. Results of this evaluation led to a number of revisions for the 2016 cohort. Future evaluations will include objective measures of change in student knowledge over time, as well as health and behavioral outcomes of community members who participated in the ICDI program at UAB.

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Part 1: Preparing Entry-Level Occupational Therapy and Physical Therapy Students to Promote Health and Wellbeing with Individuals with Disabilities

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ABSTRACT
To address accreditation standards for health and wellbeing within entry-level occupational therapy (OT) and physical therapy (PT) programs, the OT, PT, and Human Studies Departments at the University of Alabama at Birmingham (UAB) collaborated with community partners to conduct an interdisciplinary service learning activity based on the I Can Do It, You Can Do It Program (ICDI). This program is a structured community health program where individuals without disabilities are partnered with individuals with disabilities to enhance physical activity, healthy eating, and community participation. The purpose of this paper is to describe a formative evaluation of ICDI at UAB, and to discuss revisions to the program made as a result of the evaluation. Faculty used a qualitative design to collect feedback on perceived benefits and challenges of the program. Focus groups were conducted with students who completed the program, and key informant interviews were conducted with site coordinators from each of the three partnering community sites. Two themes emerged from student focus groups: (1) Program benefits, with sub-themes of hands-on application and interaction, and (2) Challenges with suggestions for change, with sub-themes of preparation, communication, and expectations. Four themes emerged from key informant interviews: (1) Students, (2) Logistics, (3) Program benefits, and (4) Transference. Results of this evaluation led to a number of revisions for the 2016 cohort. Future evaluations will include objective measures of change in student knowledge over time, as well as health and behavioral outcomes of community members who participated in the ICDI program at UAB.

INTRODUCTION

Noncommunicable diseases (NCDs) including cancer, diabetes, and heart disease account for 88% of all deaths in the United States (US) and 70% of all deaths globally (World Health Organization [WHO], 2017b, 2017c). These conditions are now the leading cause of preventable illness and disability in the world and cause lost productivity, decreased years of work, and early death (Johnson, Hayes, Brown, Hoo, & Ethier, 2014; WHO, 2017b). According to WHO, NCDs are largely preventable by addressing modifiable risk factors such as unhealthy eating, tobacco use, physical inactivity, and alcohol use (WHO, 2017c). Many populations frequently treated by occupational therapists (OTs) and physical therapists (PTs), including people with physical and cognitive disabilities, are at increased risk of NCDs compared to people without disabilities, and this may be due, in part, to the high rates of modifiable risk factors including obesity and physical inactivity among these groups (Liou, Pi-Sunyer, & Laferrere, 2005; Centers for Disease Control and Prevention [CDC], 2002; Weil et al., 2002).

The CDC and WHO have called on health professionals to address lifestyle behaviors with their clients/patients, and many professional organizations have echoed these calls for their colleagues to screen for and address unhealthy eating patterns and physical inactivity when working with clients/patients (WHO, 2017a; CDC, 2009). The American Occupational Therapy Association (AOTA) stated in a position paper that OTs should provide, "education and training regarding eating habits, activity levels and prevention of secondary disability subsequent to obesity" (Scaffa, Van Slyke, & Brownson, 2008, p. 696). AOTA has also urged OTs to help patients with obesity through analysis and understanding of performance patterns of daily activities, and designing interventions that modify daily life habits and patterns that contribute to obesity (AOTA, 2013). Similarly, the American Physical Therapy Association (APTA) and the World Confederation for Physical Therapy have released documents that urge PTs to screen for and address physical inactivity, unhealthy eating patterns, and obesity (APTA, 2014, 2015a, 2015b, 2015c; Dean et al., 2011; Dean et al., 2014). Other health fields including physical education, kinesiology, and health education are also urged by their professional organizations to promote healthy behaviors when working with clients (Society of Health and Physical Educators, 2013; American College of Sports Medicine, 2018).

To ensure new professionals are able to meet these recommendations, accreditation standards for both OT and PT entry-level professional education programs mandate that students have entry-level knowledge and skills to promote healthy behavior, including nutrition optimization and physical activity, as part of their usual care (Accreditation Council for Occupational Therapy Education, 2012; Commission on Accreditation in Physical Therapy Education, 2016). However, there is a dearth of published literature describing effective curricular activities to address these standards, resulting in a need to develop and disseminate results of innovative educational experiences in this area.

To address these standards, faculty members in the University of Alabama at Birmingham (UAB) Departments of Occupational Therapy, Physical Therapy, and Human Studies (kinesiology and community health) collaborated with community partners to conduct an interdisciplinary service learning activity (SLA) based on the *I Can Do It, You Can Do It Program* (ICDI). Developed by the President's Council on Fitness, Sports, and Nutrition, ICDI is a structured community health program where individuals without disabilities (mentors) are partnered with individuals with disabilities (mentees) to enhance physical activity, promote healthy eating, and encourage community participation (US Department of Health and Human Services, 2013). Within the context of the ICDI program at UAB, the primary purpose of this SLA was for students to work in interprofessional teams of mentors to: 1) apply effective assessment and intervention principles to promote physical activity and healthy eating with mentees with physical, cognitive and/or sensory disabilities; 2) utilize skills for successful interprofessional teamwork; 3) apply communication skills that promote adherence to lifestyle behavior change; and 4) advocate for a healthier community.

Faculty at UAB decided to adopt this program as a means of teaching health promotion due to the evidence that service learning coupled with interprofessional education is beneficial (Buff et al., 2015; Furze, Lohman, & Mu, 2008; McCaffrey, Tappen, Lichtstein, & Friedland, 2013; Street et al., 2007). Specifically, the majority of the students completing an interprofessional SLA reported that this format was beneficial to learning, resulted in improved teamwork skills, promoted understanding of other health professional roles, and helped professional development (Buff et al., 2015). The ICDI program offered a unique way to utilize the benefits of an interprofessional SLA to meet accreditation standards related to health promotion for entry-level OT and PT students.

The purpose of this paper is to describe the 2015 ICDI program, the formative evaluation process of the initial program implementation, and the resulting changes to the 2016 ICDI program.

METHODOLOGY
The UAB Departments of Occupational Therapy, Physical Therapy, and Human Studies partnered with three community agencies: the Alabama Institute for the Deaf and Blind (AIDB), United Ability (UA; formerly United Cerebral Palsy of Greater Birmingham), and the Horizons School (HS) to implement the ICDI program (see Table 1). The program is conducted as part of larger health promotion classes that are required coursework for second-year students in the entry-level Master of Science in Occupational Therapy (MSOT) programs and Doctor of Physical Therapy (DPT), and as a part of an elective course on adaptive physical activity for undergraduate students in Human Studies (see Table 2). The ICDI program activities account for 60% of the grade for all three courses. In total, the 2015 ICDI interprofessional SLA program included six faculty coordinators, 131 UAB students, and 68 mentees with disabilities (see Table 1 and Table 2). Additionally, staff at each community site was available to help as needed.

Table 1

Community Partner Characteristics

Partner Characteristics/ Details	Alabama Institute of the Deaf and Blind (AIDB)	United Abilities of Birmingham (UA)	Horizons School (HS)
Agency location	Talladega, AL	Birmingham, AL	Birmingham, AL
Distance from UAB	~ 60 miles	~8 miles	~ 1 mile
Location of mentoring visits	AIDB Campus	UA Campus	UAB Recreation Center
Types of disabilities served	Physical, sensory, and cognitive	Physical and cognitive	Cognitive
Number of mentees participating at the site	42	22	20
Number of mentors/ mentor groups assigned to the site	21	11	11
Number of UAB faculty members assigned to supervise activities at the site	2	2	2
Site website	www.aidb.org	www.unitedability.org	www.horizonsschool.org

Table 2

Student Mentor Characteristics for 2015 Cohort

Characteristic	Physical Therapy	Occupational Therapy	Human Studies (Community Health and Kinesiology)
Degree sought	Clinical Doctorate (DPT)	Masters of Science (MSOT)	Bachelor of Science (BS)
Term in the program	6th semester of a 9 semester program	4th semester of a 7 semester program	Varied
Total number participating	49	53	23
Male	15	6	11
Female	34	47	12

Service Learning Project Description
The ICDI program at UAB consisted of six principle components, representing a multi-modal instructional approach that included classroom lecture, hands-on experience, and team-based written and oral assignments. A full description of each instructional element is presented in Table 3.

The six faculty members collaboratively designed all instructional elements and materials used in the SLA. All faculty members participated in orientation to the SLA and delivery of the instructional materials. One to two faculty members were assigned as the primary contact for each community partner site and those faculty members were responsible for supervising mentoring activities at that site. Faculty members were also assigned mentor groups to monitor, grade, and provide feedback on assignments. Of note, each faculty member was assigned to monitor/grade mentor groups participating at all three sites. The mentor groups submitted SLA assignments through the Canvas on-line learning platform (Instructure, Inc., 2018) and faculty monitored, graded, and provided feedback on the assignments on the platform as well.

Table 3

Instructional Elements Used in the ICDI Program

Instructional Element	Description	Time Frame	Points Awarded (Possible Total Points = 60)
Collaborative Educational Sessions (CES)	Five sessions held to prepare mentors to effectively engage in the ICDI program. All sessions utilized a combination of lectures, discussions, and small group work. Topics included: Orientation to ICDI Adapted physical activity Sensory/cognitive impairments Communication and goal setting promoting healthy eating Students had an option of attending in-person or watching video of session.	Weeks 1-3 (prior to meeting mentee)	10
Structured Assessment Plan (SAP)	Each mentor group completed a plan for assessing their mentee in each of the following areas: Participation challenges Activity limitations Body structure and function issues Motivators and barriers to improve physical and nutritional health Current support system for mentee. Students submitted the SAP and faculty provided feedback prior to completing assessments to enable faculty to help students refine	Week 4 (after first mentee meeting)	10

	assessment plan prior to collecting data.		
Continued Engagement Plan (CEP)	Each mentor group developed a CEP focused on building sustainability and continued engagement in physical activity and healthy eating after the mentoring visits end. The CEP addressed the following factors: Motivators and barriers to physical activity and healthy eating faced by the mentee Resources available to support continued engagement Activities to be used during the final two mentoring sessions to highlight motivators and overcome the barriers and facilitate continued engagement.	Week 9	5
Weekly Posts	Each group posted a written reflection concerning their mentoring visits each week. Reflections included: A description of activities conducted An impression of those activities that worked well and those that did not, including a brief description of the outcomes Plans for the next mentor visit	Weeks 5-11	15
Case Study	Each group presented a comprehensive case study at the end of the program. The case study included: Brief description of the mentee (i.e., age, gender, disability, living situation, baseline level of activity/participation Description of the Structured Assessment Plan including findings from the assessment	Week 14	15

	Description of mentor visits (e.g. including activities used, progression principles followed, successes and challenges) Description of the Continued Engagement Plan, including anticipated results A reflection from each mentor group member concerning what they learned from doing the project and how it will influence their future career		
Self and Peer Teamwork Review	Students completed self and peer evaluations using tools developed as part of the Comprehensive Assessment of Team Member Effectiveness (CATME) Program (https://info.catme.org). Evaluations were conducted at midterm and at the end of the course.	Weeks 8, 11	5

DATA COLLECTION AND ANALYSIS

Following the 2015 implementation, the teaching team identified a need to evaluate the perceived value and efficacy of the ICDI program. Faculty sought to elicit feedback from the students who had matriculated through the program, as well as program coordinators from each of the three community partners. To decrease potential bias, a faculty member and PhD student (research assistant) within UAB with expertise in qualitative methodology and no involvement in the ICDI program were recruited to conduct focus groups and key informant interviews. Faculty obtained approval for all procedures from the University's Institutional Review Board (IRB). Students provided written informed consent prior to participating in focus groups, while the IRB waived consent of key informant interview participants.

Focus Groups

Faculty applied purposeful sampling to recruit students to participate in one of two focus groups. Using a criterion sampling strategy, faculty specifically sent recruitment emails to all students who had participated in the ICDI program in the 2015 academic year. The aim was to recruit representation from each degree program. Faculty worked with the focus group facilitator to develop an interview script with semi-structured questions to explore student perspectives of the ICDI program. To allow students the opportunity to think deeply about their responses, the facilitator provided the questions a week prior to the focus group. The focus group facilitator scheduled two 60-minute focus groups on campus outside of scheduled class times. Two students expressed a desire to participate but were unable to attend either focus group. These students submitted

responses via email. These responses were considered individual transcripts for data analysis procedures.

Each focus group was audio recorded and transcribed verbatim for data analysis. Faculty used thematic analysis to code transcripts and applied analyst triangulation to enhance credibility of the results. The focus group facilitators who collected the data first coded the transcripts independently and then met to compare and contrast results and identify emerging themes. To ensure rigor, we applied Braun and Clarke's stages of thematic analysis (Braun & Clarke, 2006). Using this process, we first organized question responses, immersing ourselves in the data reading each transcript multiple times. Next, we generated preliminary codes by chunking together meaningful data ascertaining the key concepts which would later be formed into themes. We then arranged, combined and split our preliminary key concepts to develop overarching themes.

Key Informant Interviews

Faculty approached the three community partners to identify ICDI on-site program coordinators. Once each partner identified its coordinator(s), the interview facilitator contacted these individuals via email with an invitation to participate in interviews. Faculty worked with the facilitator to develop an interview script containing semi-structured questions to learn the coordinators' perspectives of the ICDI program. The interviewer provided these scripts to each key informant prior to the scheduled interview date. Interviews were scheduled for 60-minutes at a time and place convenient to the participants. For community partners with multiple coordinators, interviews were conducted in a small group. Each key informant interview was audio recorded and transcribed verbatim for data analysis. The interviewers applied thematic analysis to code the transcripts with analyst triangulation to enhance credibility.

RESULTS

Focus Groups

Two 60-minute focus groups were conducted. Six students participated in focus group one (three OT and three PT students). Three students participated in focus group two (one OT and two PT students). One OT and one Human Studies student provided responses via email correspondence. Two themes emerged from the data: *program benefits,* and *program challenges with suggestions for change.*

Program benefits. All participants reported *program benefits,* defined as perceived value of program participation. Two sub-themes emerged: (1) Hands-on application and (2) Interactions.

Hands-on application. All participants described a benefit as the ability to apply content and skills learned in a classroom setting to a "real life" community setting. One participant articulated this benefit by stating, "I feel that you can only learn so much from class, and the knowledge gained from working directly with others is on a completely

different level." Other students reinforced this benefit, moving beyond the classroom, reporting that application of academic knowledge was "rewarding."

Interactions. A second reported *program benefit* was the ability to interact and work with others, specifically mentees, their caregivers and other professionals. Students reported that they enjoyed interactions with mentees and caregivers providing instances of contributions to professional growth. Students described instances of critical reasoning to determine who and how best to communicate with mentees and off-site caregivers. Many described creative methods such as placing letters and educational materials in lunch boxes to reach mentee caregivers and use of pictures for communication with mentees with reduced cognitive ability. All participants expressed the benefit of interaction in an interdisciplinary team. Participants reported that they learned from working with students from other disciplines. One participant, a PT student, assigned a mentee with vision loss, expressed the benefit of working with OT students stating, "The OTs started to work in low vision and I wasn't familiar with that. So that was enjoyable and I learned." Participants also reported learning from others through online course assignments. Specifically, the weekly posts, which required students to document mentor session activities on assigned discussion boards, allowed students to review what other student groups were doing with their mentees at other community sites.

Program challenges with suggestions for change. All participants reported *program challenges,* defined as aspects of the ICDI program that were confusing or required refinement. For all challenges, participants provided constructive ideas for program enhancement. Three sub-themes emerged: (1) Preparation (2) Communication and (3) Expectations.

Preparation. All participants reported a feeling of preparedness to address physical activity engagement, however the majority reported that they did not feel adequately prepared to address nutrition. Some stated discipline-specific curriculum content did not cover this topic and that addressing nutrition was "out of their scope of practice." One participant explained feeling unprepared to address mentee nutrition stating, "I was kind of frustrated, I felt like, you know, we were not ready to address nutritional education, because like, we were treating someone with diabetes and that is very specific stuff." Participants also reported feeling unsure about how to intervene when their mentees did not directly make dietary choices but instead decisions were made by an off-site caregiver. Participants provided a variety of ideas to enhance the program to better address nutrition. These included focusing on nutrition during the ICDI program orientation, provision of additional online resources in the course shell and the addition of nutrition science students to the interdisciplinary team.

Participants also reported that they did not always feel adequately prepared to address cognitive, behavioral or language-based deficits displayed by mentees. This was especially true when faculty paired students with multiple mentees and one had these identified deficits while the other did not. Participants expressed a desire to learn how to address these deficits in the ICDI orientation. One student stated, "I feel like it would be

helpful to have some instruction on how to communicate with those that are non-verbal, specifically with low cognitive function".

Communication. In addition to feeling unprepared to address communication issues with mentees, the majority of participants reported that they experienced additional communication obstacles with community partners, mentee caregivers and other group members. Upon pairing students with mentees, participants reported that they did not receive enough baseline information about mentees. Participants suggested that community sites provide students with information about each mentee's health status, and contextual factors related to physical activity and nutrition behaviors. One participant expressed why sharing of contextual factors regarding physical activity for her mentee was important stating, "I was telling, you know, our mentee to go find a new park, go outside, run around, do stuff outside and then we found out that he lives in a very dangerous part of downtown, you know? You can put your mentee in danger if you don't have that information." In addition to communication about mentee specific information, participants also expressed a desire to enhance communication about site-specific operations. Students felt that enhanced communication with the sites would increase understanding of the organizational culture related to healthy behaviors and facilitate scheduling of visits at times ideal for both mentee and student group.

Although participants reported creative ways they attempted to communicate with mentee caregivers, all reported that an inability to communicate directly was a barrier to adoption of healthy behaviors. Because caregivers, family or others, were often responsible for providing food and providing assistance with follow through of physical activity engagement, participants recommended a "parent day." Participants articulated that this day could be devoted to caregiver education about the benefits of healthy behaviors and how best to facilitate these with each mentee.

A final communication issue shared by participants was between group members. Faculty developed interdisciplinary teams, including graduate and undergraduate students. As stated earlier, participants reported benefits of learning from others however, also expressed difficulty with the logistics of this assignment. Each student had a different schedule and because OT students were not required to attend all face-to-face orientation sessions, many reported not meeting their group members until the initial mentee visit. Additionally, participants reported difficulty identifying mutually available time to complete course assignments. Suggestions for change included, having at least one orientation session required of all disciplines with structured time to meet in assigned groups and "streamlining" course assignments.

Expectations. The final *program challenge* was expectations of the ICDI program. Participants reported that the course expectations were "confusing and inconsistent." Participants reported that multiple faculty advisors created varying expectations for assignment completion and grading. Participants varied in their description of how they completed assignments and many still voiced confusion. One participant stated in relation to assignment/program requirements, "Nobody knew that we were supposed to have goals, we just thought that we should keep them active." Participants suggested

consistency and clear expectations of course assignments, grading and advisement for future offerings.

Key Informant Interviews

Three key informant interviews were conducted, one with each community partner (AIDB, UA, and HS). We conducted the interviews with HS and UA at their facilities with two and one ICDI site coordinators respectively. The AIDB staff requested a telephone interview; four ICDI site coordinators participated. Although much of the feedback was site-specific, four themes emerged from the key informant interviews: (1) *Students,* (2) *Logistics,* (3) *Program benefits,* and (4) *Transference.*

Students. All three partners discussed the value of UAB *student* interaction with their facility. Each community partner reported that the students were at most times "confident" and "enthusiastic." Two of the three community partners expressed the importance of the UAB students providing positive role models for the mentees; one facilitator stated, "Our students loved that positive attention from a person that they saw as a peer, their age, or a person that they were inspired to be like." Coordinators viewed some student-led interventions as creative but reported many interactions that were superficial. Facilitators provided several examples of instances when students did not use resources or attend to the contexts of the activities they were attempting to promote. Students failed to recognize behavior modification as a lifestyle change. One coordinator in discussing student interventions regarding nutrition stated, "They could talk about their hobbies or what they enjoy doing, help them develop new habits and help them realize there is more to do than eat or stare at the TV." Another coordinator suggested that students be creative in their use of resources. He stated, "There are so many tools you can use now, like Google maps. This could help them determine demographics and what the neighborhood they live in is like."

All community partners expressed a desire to assist with *student* training. All coordinators stated they would like to be involved in the ICDI orientation occurring prior to student mentee interactions. Each felt this an opportunity to share information specific to their community site. Each site serves specific client populations and sites described orientation as a chance to provide UAB students with suggestions and resources for successful interactions. For example, AIDB felt that UAB students should be aware of methods to simplify environments and how best to provide non-visual instruction for those with auditory and visual processing disorders. United Ability, because many of their clients live in group homes, felt UAB students required education about living in these environments. Coordinators also expressed a desire for UAB students to visit their organizations prior to the ICDI program to observe programming and understand environmental contexts.

Logistics. The second theme emerging from the key informant interviews was program *logistics* with subthemes of communication and scheduling. We defined *logistics* as anything related to the complex organization of the ICDI program. Key informants shared logistical concerns but also offered solutions.

Scheduling was site specific but an overarching opinion was that coordinators would like session time, frequency and the duration increased. All felt that the benefits of the program far outweighed logistical concerns and that mentees could benefit from additional interactions. Specific-site concerns were related to coordination of UAB visits with other organizational activities and utilization of available facility space such as kitchen areas for nutritional activities.

Like students in the focus groups, key informants reported issues with *communication,* most coinciding with student reports. As reported in focus groups, sites also identified the need to provide UAB students with more information about their mentees. All coordinators reported that they would develop a mentee profile for the next ICDI program. Sites also recognized the difficulty UAB students had communicating with caregivers and other facility personnel essential for application of behavioral strategies. Two of the three sites requested that UAB students communicate mentee interventions with site staff- some requesting electronic notes, others written. The facilitators made suggestions about caregiver education feeling many lacked knowledge in physical activity and nutrition. Instead of sending notes to group homes, one coordinator volunteered to be the gatekeeper for communication between UAB students and staff. This organization also recommended a "family day" stating, "even if we have only one session where they could come in and get some ideas of some new meals to prepare." Another organization expressed a desire for UAB students to develop educational videos about nutrition and physical activity for electronic dissemination to caregivers.

Program benefits. The third theme identified by key informants was *program benefits,* defined as any advantage the program offered. A primary benefit shared by all sites was the collaborative mutually beneficial relationship between UAB and the sites. As stated earlier, sites felt as though their clients benefited from peer modeling the UAB students provided. Sites felt this interaction to be equally beneficial to UAB students for which they witnessed growth from week to week. They also pointed out that the celebration with free t-shirts at the end of the program was a beneficial acknowledgment of mentee participation. One site stated, "A free t-shirt is like the currency of a 16 to 22 year old, the things they will do for a free t-shirt, this is important."

Transference. The final theme shared was *transference.* We defined *transference* as examples, strategies or suggestions enabling mentees' carryover of learned behaviors outside of the ICDI program. Several site coordinators provided examples of mentees engaging in healthy behaviors. One stated that students reported, "I brought some fruit today" or "I am drinking water because it is good for me." Sites that do not offer year round programming expressed a desire for UAB students to address maintenance of behavior in summer months as they witness regression. One coordinator suggested offering contests over summer breaks, holidays and weekends with incentives for winners such as an activity monitor or shoes. Coordinators observed UAB students using themselves therapeutically to encourage *transference.* Another coordinator shared how UAB students conveyed personal experiences stating, "I think it is authentic that students talk to them about their struggles and that they do not always make the best eating decisions or work out." Others observed students transitioning physical

activity programs to personal space and problem solving potential barriers that could hinder behavior maintenance.

REVISIONS TO 2016 ICDI PROGRAM

Based on the evaluation results, a number of revisions and additions were made to the ICDI program for the 2016 implementation (see Table 4). For example, the collaborative education sessions (CES) were reformatted in three key ways. First, three of the five sessions (orientation, healthy eating and adaptive physical activity) were made into on-line modules. This reduced the amount of time students had to be in class, and increased the availability of the materials. By making these sessions computer-based, students could review the material throughout the program and faculty encouraged students to refer to these sessions as resources for helping them plan activities and overcome challenges with their mentees. Delivering the healthy eating session on-line also provided the opportunity to expand this CES to directly address concerns about feeling unprepared to discuss healthy eating. In addition to a narrated slide presentation on "healthy eating basics," faculty expanded the resources to include a full "Healthy Eating Toolkit," including resources for assessment, intervention activities and reference materials.

Another key change to the CES's was that all students were required to attend the remaining two CES's which were delivered in-person. The attendance requirement was specifically meant to address focus group feedback in which students noted perceived inequality that OT and Human Studies students were allowed to attend each CES in-person or review a video of the sessions while PT students were required to attend in person. This attendance requirement also ensured that all group members met prior to their first mentoring visit. Third, the final CES was reformatted to facilitate mentor groups getting to know one another and to allow for additional preparation for the potential communication and environmental challenges students would encounter during the ICDI program. To accomplish this, students received their group assignment and completed an icebreaker activity. They were then given a brief introduction to their community partner, followed by a series of case scenarios based on previous ICDI mentees from each partner site. Students worked in their mentor groups to answer a series of questions for each case study. Other changes made to the ICDI program to address concerns discovered during the formative evaluation are outlined in Table 4.

Table 4

Modifications to the ICDI Program for the 2016 Cohort

Concern addressed	2015	2016	Qualitative analysis theme addressed
Preparation to promote healthy eating	One of the five CES sessions focused on nutrition basics.	Faculty developed a Healthy Eating module and toolkit including: Healthy eating CES Resources for healthy eating assessment Resources for activities to promote healthy eating Reference materials for nutritional information	Focus Group Theme: Preparation Key Informant Interviews Theme: NA
Preparation for addressing communication challenges	One of the five CES sessions focused on communication and one focused on sensory and cognitive impairment.	Added content to the CES modules to include: Instruction on specific communication challenges faced with mentees with low verbal skills and cognition impairment. Case studies for practicing effective strategies for these situations. Instruction for communicating with families, caregivers and staff.	Focus Group Theme: Preparation and Communication Key Informant Interview Theme: NA
Collaborative Education Session (CES) format	All CES activities we conducted live (i.e., in-person lecture format).	Three of the CES (Orientation, healthy eating, adapted physical activity) were conducted online for student	Focus Group Theme: Preparation

		convenience and to allow viewing on multiple occasions.	Key Informant Interview Theme: NA
Managing mentor team logistics	Mentor group assignments and contact information were shared with mentors prior to the initial mentee visits	Reformatted CES modules to include structured activities to facilitate mentor groups in getting to know each other. Attendance required at all in-person CES activities. Reformatted weekly mentoring sessions to allow for group "de-briefing" with faculty and to allow mentor groups to discuss the week to come.	Focus Group Theme: Preparation, Communication, and Expectations

Key Informant Interview Theme: NA |
| Community partner orientation | Mentor groups received limited information (e.g., link to facility website) about their assigned facility prior to attending first mentoring visit | The first half of the first mentoring visit was dedicated to orienting mentors to the community partner organizations and the facility where mentoring visits would be taking place. | Focus Group Theme: Preparation and Communication

Key Informant Interview Theme: Students, Logistics |
| Mentor expectations for mentee outcomes | Limited discussion about reasonable mentee outcome expectations between faculty and mentor groups | Added content to communication/goal setting CES on reasonable expectations Added debriefing sessions to mentoring visits to discuss such issues Encouraged multiple strategies within the | Focus Group Theme: Preparation, Communication, and Expectations

Key Informant Interview Theme: Transference |

		Continued Engagement Plans	
Grading and assignment expectations	Students were given instructions and rubrics for each assignment	Provided students with a detailed calendar highlighting assignment sequence and due dates. Provided weekly "to do" lists on the Sunday prior to each week of the program. In addition to instructions and rubrics, templates were added for the weekly posts and continuing engagement plan.	Focus Group Theme: Communication, and Expectations Key Informant Interview Theme: NA

DISCUSSION

The ICDI program at UAB was developed as a novel educational approach to introducing students to constructs of health promotion that are increasingly required of rehabilitation and healthcare professionals. Embedding this content in a service-learning course allowed students hands-on experience in encouraging individuals with physical, cognitive, and/or sensory disabilities to adopt increased physical activity and healthy eating. Previous investigators who reported using service learning as an instructional method to teach health and wellness reported that students were more interested, felt more confident, and had greater willingness to participate in community health promotion programs in the future (Brown, & Wise, 2007; Hoppes, Bender, & DeGrace, 2005; Tapley, & Patel, 2016). Incorporating service learning approaches in OT and PT curricula also provides students opportunities to practice leadership roles and challenge their problem-solving skills (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011). Consistent with previous reports, stakeholders in this evaluation reported that intervention strategies employed by the students in the ICDI program were creative and that the program provided good practice in a 'real world' setting.

In addition to the benefits of service-learning, students highlighted the interprofessional nature of this program as a benefit. Interprofessional learning is required by OT and PT accrediting bodies and is recommended by the Institute of Medicine to help develop future interprofessional team members (Bridges et al., 2011; Accredidation Council for Occupational Therapy Education, 2012; Commision on Accreditation in Physical Therapy Education, 2016). The interprofessional mentor teams used in ICDI further increased the ability of students to create novel solutions to help their mentees adopt

healthy behaviors and increased their understanding of other health professionals' roles.

The ICDI SLA is a complex program, which requires faculty dedication to plan, revise, and continually evaluate. It should be noted that the current evaluation only addressed student and community partner perceptions of the program as a first step in refining a newly-developed learning activity. Gaining the perspective of multiple stakeholder groups is a strength of this evaluation, however additional measures of objective outcomes will further strengthen our understanding of how students benefit from participation in this program. Specifically, future evaluation will seek to objectively measure changes in student knowledge of health behaviors, understanding of health promotion concepts taught within the ICDI program, as well as health and wellness improvements experienced by mentees participating in the program. Additionally, a limitation to the evaluation is the small number of students included in the focus groups. While all students were invited to participate in focus groups, only 11 chose to do so. It is possible that the responses of these individuals do not reflect the perspectives of all students, and no assumptions can be made that all opinions, challenges and successes were addressed by the groups. Future evaluations will attempt to offer students multiple ways to offer feedback for those who were not able/willing to participant in the focus groups. All community sites did participate in the key informant interviews, which is a strength of this evaluation.

IMPLICATIONS FOR OCCUPATIONAL THERAPY EDUCATION

Published descriptions and evaluation reports of educational activities targeting the health and wellbeing standards in entry-level OT curricula are limited. The ICDI interprofessional SLA may serve as an innovative model for addressing the standards. While evaluation of curricula and course content is required by ACOTE, many professional programs perform only summative evaluation of their courses such as teacher evaluations and student examinations (Accreditation Council for Occupational Therapy Education, 2012; Goldfarb, & Morrison, 2014). Programs often do not evaluate the course material or content prior to or during course implementation. This evaluation included formative techniques that allowed development of course materials based on previous assessments, evaluation of the content created, and feedback on content and delivery post-implementation. Other educators recommend that curricular evaluation should not occur just at the end of a course but should be on-going to adjust instructional methods and content to better suit students' needs (Peterson, Wittstrom, & Smith, 2011; Ried, 2011). Furthermore, multiple stakeholders should be involved to improve quality of instruction and content as we did in this program. We believe that implementing multiple evaluation strategies including all stakeholders, and continuing to evaluate the revisions made to the program in 2016 will improve student learning and lead to an evidence-based model for addressing the ACOTE standards for health and wellbeing in entry-level programs.

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