



October 2022

## Arts-Based Training Program Effectiveness: A Teaching Methodology in an Occupational Therapy Doctorate Program

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### Recommended Citation

Napier, H., Kovalevsky, N., Stanhope, C., Wasko, A., Williams, K., & Ozelie, R. (2022). Arts-Based Training Program Effectiveness: A Teaching Methodology in an Occupational Therapy Doctorate Program. *The Open Journal of Occupational Therapy*, 10(4), 1-11. <https://doi.org/10.15453/2168-6408.1936>

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# Arts-Based Training Program Effectiveness: A Teaching Methodology in an Occupational Therapy Doctorate Program

## Abstract

Arts-based training programs can aid in building observational skills, communication, team building, and leadership through targeted analysis of works of art. Furthermore, arts-based training programs are unique in that they highlight non-technical skills (NTS). The goal of this study was to investigate the extent to which NTS were developed through an arts-based training program among entry-level occupational therapy doctorate (OTD) students. This study used a mixed methodological approach to analyze retrospective data. Quantitative analysis of the Kentucky Inventory of Mindfulness Skills (KIMS) assessment was conducted. Qualitative analysis was completed through analysis of the participants' reflection papers. Quantitative results ( $n = 69$ ) from the KIMS show significance ( $p = 0.011; 0.013$ ), and qualitative analysis ( $n = 32$ ) resulted in five central themes: *evolution of thinking, holistic approach, diverse perspective, lived reality of context, and development of NTS (collaboration, self-awareness, mindful of others, creativity, and effective communication)*. Quantitative and qualitative findings suggest arts-based training programs can improve students' ability to reduce their bias through implementation of a mindfulness lens. Results and recommendations from this study can be used as an example for occupational therapy academic programs to implement an evidence-based teaching methodology.

## Comments

The authors declare that they have no competing financial, professional, or personal interest that might have influenced the performance or presentation of the work described in this manuscript.

## Keywords

non-technical skills, occupational therapy, teaching methodology

## Cover Page Footnote

This research project and paper would not have been possible without the exceptional support of the OT faculty at Rush University. We would like to thank Linda Olson, Laura VanPuymbrouck, and Lauren Little for their support, mentorship, and expertise. The collaboration with the Art Institute of Chicago and skillful direction of Sam Ramos is valued and essential in providing the formal arts-based training program. The first author is deeply grateful for the post-professional OTD faculty at the University of Wisconsin-Madison for the guidance and expertise provided by the OTD capstone committee members: Kristen Pickett, Sharon Gartland, and Craig Klugman.

## Credentials Display

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DOI: 10.15453/2168-6408.1936

It has been established that health care programs and effective health care providers require certain attributes. These attributes are in addition to technical and skills-based knowledge and are equally important for the training of entry-level clinicians. Such attributes can be identified as non-technical skills (NTS) and have been summarized to include observation and communication skills, empathy, clinical reasoning, and self and situational awareness (Patey, 2015). More specifically, discrete skills, such as empathy, mindfulness, professional behavior, appropriate behavior and reactions, emotional engagement in personal experiences, cross-generational and cultural awareness, personal awareness, and teamwork, have all been identified as important “soft” skills for effective health care practice (Bell & Evans, 2014; Byars et al., 2015; Edmonds & Hammond, 2012; Elder et al., 2006; Haidet et al., 2016; Jasani & Saks, 2013; Schaff et al., 2011; Taylor et al., 2009; Zazulak et al., 2017). NTS have been found to decrease adverse events related to patient care, increase patient adherence to treatment recommendations, and improve patient experience and satisfaction (Leape et al., 2009).

### **Literature Review**

Given the heightened attention of NTS in practice, it is critical to address these in health care curricula, including occupational therapy (OT). Substantial NTS help to strengthen the clinician-patient relationship and foster more holistic attributes that are often overlooked in classical medically focused health care curriculums (Elder et al., 2006; Gurwin et al., 2018; Jasani & Saks, 2013; Naghshineh et al., 2008; Nicolaides et al., 2018; Zazulak et al., 2015). NTS are necessary for an OT academic curriculum to develop clinicians who are client-centered and occupation-based. Arts-based training programs are a teaching methodology that can address these NTS in an OT curriculum in a hands-on, dynamic manner.

Art has a meaningful place in OT’s roots, as the profession was created under the Arts and Crafts and Moral Treatment Movement of the late 19th and early 20th centuries (Bathje, 2012). Recently, arts and crafts have reentered OT practice because of the “re-focusing on the role of occupations as core to the practice of OT, along with society’s increased participation in arts and crafts activities” (Bathje, 2012, p. 3). Art has been successful in a variety of populations in improving spatial awareness, attention, sequencing, planning, and providing a sense of pride and purpose for stroke, breast cancer, and veteran clients (Hasio, 2011; Reynolds et al., 2008). Leenerts et al. (2016) argue that occupational therapists can access arts and crafts like never before with social media to help their patients reach their goals in a meaningful and occupation-based manner. By facilitating an arts-based training program in OT education, future therapists can foster NTS while also developing an awareness of art’s impacts on patients and the profession of OT.

Building patient rapport and therapeutic relationships have also been foundational in OT education and clinical practice for many years. Taylor et al. (2009) described building therapeutic relationships using NTS, such as communication, emotional exchange, collaboration, empathy, and partnership, between the client and therapist. This is often termed “therapeutic use of self.” The concept of the therapeutic use of self is deemed an essential attribute of OT, although it has been debated how therapeutic use of self is taught and/or learned by occupational therapists (Davidson, 2011; Solman & Clouston, 2016; Taylor et al., 2009).

Concepts of mindfulness are also included as NTS. It is crucial for health care professionals to embrace mindfulness, which allows them to be fully present, build connections, and provide client-centered care. Holtschneider and Park (2018) described mindfulness strategies as before a dialogue: one should pause, breathe, identify the emotion, recognize space, choose how to respond, and then respond. The development of mindfulness skills has also been supported through arts-based training programs

(Zazulak et al., 2017).

Observation skills are considered essential for teaching the occupational therapy process. A study by Jasani and Saks (2013) suggested that observation skills can be taught, although the actual teaching of observation skills is minimal. A descriptive cohort study by Bell and Evans (2014) investigated students' perceptions of the strength of the association between art and medicine. The results of a qualitative survey described the benefits of building observation skills and how the use of art can contribute to being one of the most important aspects learned during an art observation program (Bell & Evans, 2014). It is imperative for health care workers to possess good observation skills to support client relationships, and these skills can be learned through visual art observations, reflections, and discussions.

Arts-based training programs have been delivered in various forms and formats. Some programs use formal experiences with a trained museum professional in a museum setting; others use informal programs developed by faculty or universities outside of a museum (Elder et al., 2006; Naghshineh et al., 2008). Regardless of the delivery method, little research has been done to examine the effectiveness of and support for the use of arts-based training programs across health professions. The objective of this study was to determine if an arts-based training program was effective at improving NTS in entry-level occupational therapy doctorate (OTD) students.

### **Method**

This study was a mixed methods design approved by the institutional review boards at the affiliated institutions.

#### **Participants**

This study included two individual cohorts of 36 entry-level OTD students. The students were in the first semester of the first year from the fall of 2017 and 2018. The 2017 and 2018 curriculum sequences were identical, and both cohorts of students experienced the same educational offerings. The students attended a health sciences university in an urban setting in the Midwest region of the United States. Inclusion criteria were being a first-year entry-level OTD student at the time of data collection and enrolled in an Introduction to Clinical Practice course. Participants were excluded from this study if less than 50% of either the pre- and post- Kentucky Inventory of Mindfulness Skills (KIMS) assessment was completed and if only one of the pre- or post- KIMS assessments was completed.

#### **Study Procedures**

The 120-min formal arts-based training program was completed during the first semester of the first year of the OTD program as part of the Introduction to Clinical Practice course curricula. The formal arts-based training program was an existing curriculum provided to other health care professionals and members of the community. Modifications were made in collaboration with an occupational therapy faculty to ensure the applicability for OTD students. The arts-based training program was guided by skilled professional facilitators at an urban art museum who led guided observations of specific works of art (see Figure 1). The students observed and discussed predetermined artwork throughout the museum with a facilitator and OTD faculty to promote observational skills, leadership, and communication. Emphasis was placed on productive exchanges with each other, awareness of different viewpoints emerging, and the complex interrelatedness of experience, perspectives, and emotional responses being revealed (Art Institute of Chicago, n.d.). The students were guided to listen actively to each other's varying observations, comments, thoughts, and feelings. In addition, the students were informed of the following guidelines to remain objective during the 120-min arts-based training program: avoid pointing during the program, avoid using the words "clearly" and "obviously" during the program, and avoid reading the artwork labels.

By following guided prompts from the facilitator, the students had the opportunity to collaborate and communicate with their classmates while also addressing NTS and therapeutic use of self.

One example of an exercise was to observe a piece of artwork and then share the first thing you noticed, listen to each other's initial observations, and learn how they can vary. Then the students were guided to tell the story of what is happening in a piece of artwork. In addition to the training provided onsite at the museum, during a class period prior to the arts-based training program, both cohorts of students were provided an overview of the program, performance objectives, and associated references and assigned the KIMS to complete before and at the conclusion of the experience. A reflection assignment was due 1 week after the program. The individual reflection assignment was completed after a partner experience at the conclusion of the arts-based training program. The questions in the reflection assignment focused on comparing each other's initial impressions and emotions, how the lessons from an arts-based training program can be applied to OT practice, what professional behaviors may have been gained, and how the overall experience could relate to developing critical thinking skills.

### Figure 1

#### *OT Students Participate in Arts-Based Training Program*



*Note.* Students observe a painting and begin to communicate each individual's initial observations and impressions. The facilitator standing in front of the painting guides the discussion and experience of understanding others' perspectives. Snyders, 1614. Image courtesy of the Art Institute of Chicago, photo by Aidan Fitzpatrick, Art Resource, NY.

The completion of the KIMS and guided reflection assignment were part of the classroom assignments, and data were retrospectively analyzed. All data were de-identified and extracted from both assignments prior to analysis. The KIMS and guided individual reflection assignment data were not matched in any way.

### **The KIMS**

The KIMS assessment was used as the quantitative measurement tool. The concept of mindfulness has been greatly debated because of a variety of definitions and individualized contexts, which makes the assessment of mindfulness skills challenging. The KIMS measures mindfulness and observation skills on a 5-point Likert scale that ranges from 1 - *never or very rarely true*, 2 - *rarely true*, 3 - *sometimes true*, 4 - *often true*, and 5 - *very often or always true*. The KIMS contains four subsets: observing, describing, acting with awareness, and accepting without judgement (Baer et al., 2006). Baer et al. (2004) examined

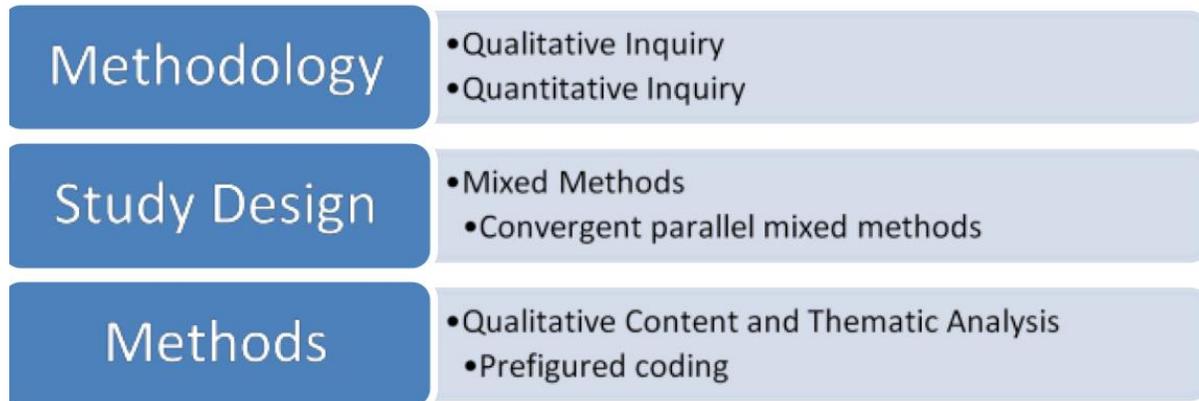
the KIMS as a valid assessment of mindfulness by self-report. The KIMS has good internal consistency and expected associations with other related variables (Baer et al., 2006).

### Data Analysis

This study used a mixed methodological approach that was guided by Creswell's convergent parallel design (Creswell, 2014) (see Figure 2). Quantitative data were analyzed using a paired sample *t*-test comparing the mean KIMS score of the pre and post assessment using IBM SPSS 22 Premium. Data were further analyzed by addressing each subset using a paired sample *t*-test.

**Figure 2**

*Mixed Methodology Approach*



The steps involved in the qualitative analysis were based on a grounded theory (Creswell, 2012). The researchers used credibility and confirmability strategies of triangulation as described by Krefting (1991) to support the trustworthiness of this study further. The qualitative data were analyzed by the researchers individually for key themes and concepts, and then the researchers came together and determined the most important key themes that are applied to OT education. The research team conducted credibility triangulation of data methods by comparing themes from the student reflection assignments with one another (Krefting, 1991). In addition, triangulation was addressed through confirmability, as this study used both quantitative and qualitative methods through the data sources (Krefting, 1991). Finally, an expert qualitative researcher in occupational therapy education reviewed the process and coding dictionary to create triangulation among qualitative data, increasing the validity of the study (Guba & Lincoln, 2005).

## Results

### Quantitative Data

Seventy-two entry-level OTD students participated in the arts-based training program: 69 females and three males. The final results excluded three participants ( $n = 3$ ) based on the exclusion criteria of less than 50% of either the pre- and post-KIMS assessment having been completed, resulting in 69 participants. Total KIMS scores increased significantly from baseline ( $M = 122.90$ ,  $SD = 12.769$ ) to posttest ( $M = 125.54$ ,  $SD = 14.667$ ). In addition, the KIMS subset acceptance without judgment increased significantly from baseline ( $M = 27.94$ ,  $SD = 7.145$ ) to posttest ( $M = 29.17$ ,  $SD = 7.334$ ). Results from the remaining three subcomponents of the KIMS showed non-significant changes in observation baseline ( $M = 39.62$ ,  $SD = 7.131$ ) to posttest ( $M = 40.43$ ,  $SD = 7.590$ ); description baseline ( $M = 27.52$ ,  $SD = 5.263$ ) to posttest ( $M = 27.70$ ,  $SD = 5.245$ ); and acting with awareness baseline ( $M = 27.87$ ,  $SD = 5.528$ ) to posttest ( $M =$

28.36,  $SD = 5.044$ ). The KIMS showed significance overall in the total and subsection accept without judgement (see Table 1).

**Table 1**  
*KIMS Results*

<b>KIMS Results</b>	<b>t</b>	<b>df</b>	<b>Sig.</b>
<b>Total</b>	-2.61	68	*0.01
<b>Observe (subset)</b>	-1.59	68	0.11
<b>Describe (subset)</b>	-0.51	68	0.61
<b>Act with Awareness (subset)</b>	-1.44	68	0.15
<b>Accept w/o Judgement (subset)</b>	-2.53	68	*0.01

### *Qualitative Data*

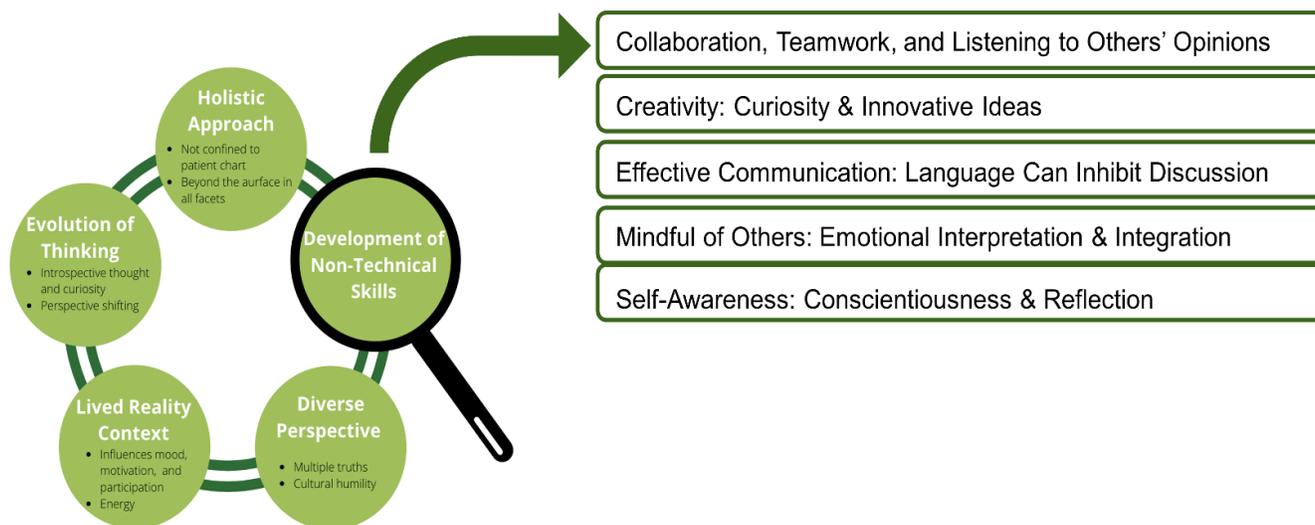
Student reflections ( $n = 32$ ) were coded, and the following themes were identified: evolution of thinking, holistic approach, diverse perspective, lived reality of context, and development of NTS. While the researchers were looking for NTS, based on the literature, evolution of thinking, holistic approach, diverse perspective, and lived reality of context were not named as NTS but are valuable skills for OT students. The development of NTS was further analyzed, and sub themes developed in this group, including collaboration, self-awareness, mindful of others, creativity, and effective communication. This difference in sample size resulted from the researchers only having access to half of the participants' (Fall 2018 cohort) post-intervention reflections from the course learning management system and the removal of surveys completed by the researchers as subjects ( $n = 4$ ). In Figure 3, themes are supported using concepts from the students' reflections on the arts-based training program. Evolution of thinking: what the participants reported pertaining to a shift in their thinking processes after the arts-based training program. Holistic approach: frequently applied by the participants to theoretical clinical scenarios, thus identifying the importance of examining all aspects of a patient. Diverse perspective: the participants reported greater appreciation for perspectives beyond their own. Lived reality of context: the participants frequently reported the impact of the environment on perspective formation and the powerful recognition of the environment related to OT. Development of NTS: this theme further developed as a theme with individual sub-themes consisting of the participants reporting increased NTS of collaboration, creativity, effective communication, mindful of others, and self-awareness.

The theme of evolution of thinking was frequently found in the reflections and defined as a shift in the students' thought processes after completing the arts-based training program. The participants explored their own introspective thoughts, curiosity, and enlightenment and recognized the importance of understanding their own personal biases and how they might detract from their thinking.

This activity illustrated to our cohort the imperativeness of looking and thinking beyond our initial perceptions, as well as how collaboration and open discussion creates a richer, more whole, and productive outcome-skills that will prove critical to providing conscientious and holistic care to our clients in the future.

This embodies how the arts-based training program facilitated understanding of how impactful the initial thought process is and how it can affect the patient care process moving forward. Participants noted how after experiencing the arts-based training program, they understood the importance of allowing their thoughts to evolve as they gather information to support their growth as students and clinicians.

**Figure 3**  
*Qualitative Results*



The theme of holistic approach was identified by the participants learning to look beyond the surface when considering the patient's narrative as a contextual factor in treatment. Holistic approach is defined as focusing on the patient as an individual and not being confined to the patient chart. Further, it is described as going beyond the surface, identifying the patient's emotions, and looking at the bigger picture. It was reported that,

Observing the painting without reading the description made it very difficult to interpret the story and [it] can be equally as hard to treat a client without knowing them as a person and what they value most in life. As therapists, we have to be mindful of our patients and respect their values, opinions, and beliefs about the treatment plan as well.

In a reflection, one student noted, "There is much more to patients than their medical record or what they outwardly present to us." The emergence of this theme, holistic approach, exemplifies the growth in observation that the participants experienced through the arts-based training program.

The theme of diverse perspective was prevalent and defined as having diverse opinions when observing and interpreting the same piece of art. Diverse perspective was identified as experiencing multiple truths, a constant presence of diversity, obtaining mutual respect, and cultural humility. One participant commented,

The experience [arts-based training program] taught me to consider that every patient presents differently and has different needs, just as every painting was unique and required a fresh outlook to examine it. The experience allows others' perspectives to shape my own, and I truly believe that having the capability to put others' opinions before my own is an invaluable asset to possess.

After engaging in a paired activity (one participant observed and described a piece of art to their partner who then drew the piece without looking), one participant reflected that “Even if I describe art as best I can, my partner may interpret what I am saying completely differently.” This realization highlights the unique understanding that each individual offers. In clinical application, the participants discovered the importance of acknowledging the multiple perspectives of the health care team as well as validating the experience of the patient.

**Figure 4**

*Paired Activity*



*Note.* One student observes a portrait painting and objectively describes to another student who is listening and sketching the portrait. Ingres, 1823–1826. Image courtesy of the Art Institute of Chicago, photo by Aidan Fitzpatrick, Art Resource, NY.

The theme lived reality of context surfaced and is defined as a powerful recognition of how the environment can influence emotions, mood, and level of motivation. Through the arts-based training program, the participants “established a sense of understanding as to how environments can elicit different feelings and emotions from each and every patient.” They recognized the impact of context on patient cooperation and participation. The students began to appreciate the importance of evaluating external and internal surroundings. As one student noted, “how important our settings and surroundings can be, and the challenges we may face as therapists in regards to environmental factors that we can’t control.”

From the five thematic codes, the development of various NTS emerged as a relevant outcome for most of the participants. The relevance of this theme warranted a separate category from the others. Matched literature and the research question of this study targeted the growth of NTS. Specifically, collaboration, self-awareness, mindful of others, creativity, and effective communication appeared as the strongest outcomes of the arts-based training program. In each category, NTS developed from the training were grouped and analyzed in the qualitative data.

Perceived collaboration increased through the training, as noted by thematics of teamwork and teambuilding, with one participant stating, “It’s like collaborating with other specialists” in reference to developing their collaboration skills.

Perceived self-awareness was another NTS expanded through the arts-based training program, defined as the development of introspection and reflection skills. The participants were encouraged to acknowledge their own thoughts, which impacted their awareness of self. One participant described the process as one that “pointed out to [them] some of [their] own biases.” In a similar way, increased skills of being mindful of others emerged through non-judgement, empathy, emotional integration, and interpretation. The participants’ reflections suggested, “practicing empathy is something [they] will value most.” Mindfulness of others and oneself as a NTS is important for therapists in health care to consider, though rarely taught in the classroom. Through awareness and intuition of the experience and emotions of others, skills of empathy and non-judgement have the opportunity to develop. The participant reflections reinforce this concept.

Perceived development of creativity was noted using terms of curiosity, innovation, and adaptability. One participant described the application of these developed skills as relevant to their future career when they stated, “there are going to be times when we are required to think outside the box.” Though creativity is generally associated with arts-based fields, it has implications for problem-solving and innovation that are applicable to health care professionals.

Lastly, effective communication surfaced as an important skill burgeoning through the arts-based training program. Effective communication is defined as clear communication, open and respectful dialogue, and active listening when interacting both with clients and other professionals. The participants stated that they “learned that language can support or inhibit discussion” and now “understand the importance of openness in communication [and] respecting others’ opinions.”

### **Discussion**

The focus of this study was to determine if an arts-based training program effectively enhanced NTS, including clinical observation and communication skills among OTD students. Further, it sought to analyze the extent to which an arts-based training program addresses NTS for OTD students. Through this mixed methods analysis, the participants’ overall mindfulness and observation skills significantly increased after completing the arts-based training program. These findings suggest that the participants improved their ability to reduce their bias in their interpretive skills as well as identify their evolving perspectives through the implementation of a mindfulness lens. This study and prior ones support the relationship that art observation has in decreasing student’s bias and improving self-awareness and communication (Klugman et al., 2011; Klugman & Beckmann-Mendez, 2015; Mitzova-Vladinov & Torrents, 2020). While there were no statistically significant differences from the observation, description, and acting with awareness subsets, the qualitative analysis supported the presence of these trends as increased development of these skills was specifically noted. The literature supports the value of addressing clients as a whole, going beyond a quick observation, and finding meaning in the observations that can be learned from viewing art forms (Bramstedt, 2016). In a similar study, Coppola et al. (2017) found that during an arts-based program, students demonstrated going beyond their initial observation and recognizing a deeper meaning, supplying evidence that appears to support the overall findings of this study.

The quantitative results of the KIMS demonstrates the arts-based training program could prove to be a useful intervention for improving mindfulness. The KIMS results provide evidence that an arts-based

training program is a beneficial addition to health care curricula. However, the KIMS as a stand-alone tool is not sufficient to measure the full impact of an arts-based training; the qualitative data from this study resulted in a more in-depth understanding of the program.

Wellbery and McAteer (2015) describe an arts observation curriculum that results in positive impacts on physicians and their colleagues and patients. This arts-based training program implemented in this study also proved to be beneficial to the development of NTS. These skills may not be specifically addressed in other areas of didactic and clinical learning, and arts-based training programs can be an effective methodology to address NTS. The participants in this study said through the experience that they “were compelled to understand different mindsets other than [their own] and ultimately engage in both active listening and introspective thoughts of which enhanced [their] clinical skills of comprehension, empathy, and creativity.” The participants in this study felt that the arts-based training program cultivated beneficial skills for application to their future health care practice as OTs.

Now more than ever, as our world is living through the impact of COVID-19 on health care and higher education, we need to maintain our focus on humanity. Klugman (2017) emphasizes the importance of being aware of how health, illness, and society are intertwined and that everyone will face issues of impairment and death. In the wake of this pandemic, a new normal will arise in health care academic programs and clinical practice. This provides an opportunity for health care academic programs to purposefully teach NTS to students and ensure those students become clinicians who attend to the patient experience and satisfaction. An arts-based training program can provide an experiential learning opportunity using visual art in teaching students NTS and how to be mindful and build rapport and therapeutic relationships with other individuals that then transform into their daily lives and future clinical practice.

### **Implications for Occupational Therapy Education**

This study supports the need for guidelines for teaching NTS in an OT academic program. This particular arts-based training program supports one way of teaching OT students NTS. Including an arts-based training program in OT curriculum is a worthy consideration. The creation of guidelines and examples for implementing an arts-based program in an OT curriculum would be of great benefit.

### **Limitations**

This study had a limitation, as the sample was limited to one university. Bias may have been present, as the researchers knew the KIMS themes during analysis and re-analysis of the qualitative data. In addition, the participants may have had bias because of prior formal art training or familiarity with art or mindfulness through the associated course and other courses in the curriculum.

### **Future Research**

As there is a lack of NTS training particularly in the guidelines of how to implement NTS learning strategies (Nicolaidis et al., 2018), this study provides an example to other academic programs. This study can be used as guide for future research design and opportunities related to NTS and arts-based training programs. Future research should investigate the translation of learned NTS to clinical settings and the implications on quality of care and integration of interprofessional education.

### **Conclusion**

This study evaluated the use of an arts-based training program curriculum at one university. It explored the effectiveness of an arts-based training program as a teaching methodology and provided an example for implementation in other OT and health sciences education programs. This study supports the benefit of an arts-based training program in OTD curricula as a methodology to develop NTS that can be

challenging to teach in an academic setting. A connection between OT and arts-based training programs can be influential in bringing awareness to the arts. Further, the use of art and arts-based training programs in an OT academic program will provide a unique experiential learning opportunity for students and faculty alike.

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