JOTE Journal of Occupational Therapy Education

Volume 4 | Issue 1 Article 12

2020

Student Perceptions of Research in an Occupational Therapy Doctoral Program: A Cross-Sectional Survey

Kristin A. Valdes
Gannon University

Stephanie Dalton
Gannon University

Deandra Modeste
Gannon University

Jacqueline J. Moskalczyk
Gannon University

Troy Olmo
Gannon University

See next page for additional authors

Recommended Citation

Valdes, K. A., Dalton, S., Modeste, D., Moskalczyk, J. J., Olmo, T., & Smith, J. M. (2020). Student Perceptions of Research in an Occupational Therapy Doctoral Program: A Cross-Sectional Survey. *Journal of Occupational Therapy Education, 4* (1). https://doi.org/10.26681/jote.2020.040112

Student Perceptions of Research in an Occupational Therapy Doctoral Program: A Cross-Sectional Survey

Abstract

Student perceptions of research in graduate programs play a role within the Occupational Therapy Doctorate (OTD) curriculum and how future clinicians value Evidence Based Practice and research. The Student Perception of Research Integration Questionnaire (SPRIQ) was utilized to examine students' perceptions of research in their graduate coursework. Participants included in this study were all students enrolled in an occupational therapy doctorate program. All items were scored on a 5-point Likert scale. Mean scores were calculated for each item on the respondents' submissions. The items were further categorized into subscales. The mean score of all items of the SPRIQ was 4.44 out of 5. Findings included the highest mean score value of 4.67 in the subcategory of reflection and lowest mean score of 4.25 in the subcategory of beliefs. Based on the results of the survey, it is suggested that OTD students believe research plays an integral role in their learning. Faculty mentors are critical players in students' learning throughout the research process, which the majority felt was a crucial part in their overall learning experience.

Keywords

Research, curriculum, evidence based practice

Authors

Kristin A. Valdes, Stephanie Dalton, Deandra Modeste, Jacqueline J. Moskalczyk, Troy Olmo, and Jacklynn M. Smith

JOTE
Journal of Occupational Therapy Education

Volume 4, Issue 1

Student Perceptions of Research in an Occupational Therapy Doctoral Program: A Cross-Sectional Survey

Kristin A. Valdes, OTD, OT, CHT

Stephanie Dalton, OTDS, DeAndra Modeste, OTDS,

Jacqueline J. Moskalczyk, OTDS, Troy Olmo, OTDS,

and Jacklynn M. Smith, OTDS

Gannon University

United States

ABSTRACT

Student perceptions of research in graduate programs play a role within the Occupational Therapy Doctorate (OTD) curriculum and how future clinicians value Evidence Based Practice and research. The Student Perception of Research Integration Questionnaire (SPRIQ) was utilized to examine students' perceptions of research in their graduate coursework. Participants included in this study were all students enrolled in an occupational therapy doctorate program. All items were scored on a 5-point Likert scale. Mean scores were calculated for each item on the respondents' submissions. The items were further categorized into subscales. The mean score of all items of the SPRIQ was 4.44 out of 5. Findings included the highest mean score value of 4.67 in the subcategory of reflection and lowest mean score of 4.25 in the subcategory of beliefs. Based on the results of the survey, it is suggested that OTD students believe research plays an integral role in their learning. Faculty mentors are critical players in students' learning throughout the research process, which the majority felt was a crucial part in their overall learning experience.

INTRODUCTION

Student perceptions of research integration in graduate programs has the potential to affect the discipline's progression in achieving effective evidence-based practice (EBP). Evidence based practice is the "conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individuals" (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 71). In order for occupational therapy (OT) students

and practitioners to be effective in EBP, all must be proficient in appraising, interpreting, and implementing research, and translating these findings to optimize practice across all practice settings. A scoping review reported that some OTs have a perceived lack of skill in critically appraising evidence and integrating evidence into practice (Thomas & Law, 2013). They also found that participation in research projects was associated with greater use of research in practice (Thomas & Law, 2013). Academic preparation in EBP appears to distinguish high-level users of research and increases self-efficacy and performance of three EBP behaviors: (1) online searching, (2) reading of the research literature, and (3) use of research evidence in clinical decision making (Thomas & Law, 2013). In a Swedish study examining the perceptions and attitudes of graduate level OT and physical therapy (PT) students, Kamwendo and Tornquist (2001) reported that "there appears to be overwhelming consensus by both OTs and PTs that research is critical for the professions... and failure to recognize this constitutes a threat to the very existence of the professions" (p. 16).

There is minimal research available regarding OT students' views about the integration of research into their coursework. Kamwendo and Tornquist (2001) demonstrated that students have a positive attitude towards research, particularly directed at the activities of reading research literature. This expands their knowledge and application of research findings to improve practice in the field of OT.

Although there is a paucity of research exploring OT students' views regarding research, other professions have studied student perceptions of research. Physical therapy students' self-reported knowledge and behavior toward research increased over a one-year period (Connolly, Lipinnaci, & Bush, 2001). The students expressed a level of confidence in their ability to critically appraise research and keep current in the research literature by reporting that they regularly read peer-reviewed professional journals (Connolly et al., 2001). In a study by Steele and Rawls (2015), the authors found that master's level counseling students did not believe research played an integral role for their clinical proficiency. The authors found that students in this study feared the use of statistics, not only in learning, but also in analyzing data (Steele & Rawls, 2015). However, there was moderate agreement that their programs prepared them to understand statistical methods and various aspects of needs assessment, program evaluation, and the use of findings (Steele & Rawls, 2015). Their students understood, to a slightly greater extent, that research was important to the counseling profession (Steele & Rawls, 2015). Royalty, Gelso, Mallinckrodt, and Garrett (1986) studied 358 counseling psychology graduate students concerning their attitudes about research. Their findings suggested that some programs can have a positive impact on their students' attitudes toward research, whereas most have a modest positive impact, and a few appear to inhibit interest (Royalty et al., 1986). Royalty and Reising (1986) found the most substantial positive influences concerning the interest in research for students were the interactions with research advisors or role models.

The OT profession strives to establish a strong foundation of research proficiency in graduate students as they progress through their research curriculum (Accreditation Council for Occupational Therapy Education [ACOTE], 2018; Van Lew & Singh,

DOI: 10.26681/jote.2020.040112

2009). Due to the paucity of research exploring OT students' views regarding research and the importance of OT being an evidence-based profession, this study hoped to ascertain OT doctorate (OTD) student perceptions regarding participation in research as part of their program curriculum to see if they value their participation in the research process.

METHODS

Study Design

This study used a non-experimental, cross sectional design. The data was collected at one time point. The university Institutional Review Board (IRB) approved the study.

Study Participants

Participants included in this study were all students enrolled in an OTD program. Data was collected from two cohorts during the 2016 and 2017 graduate research seminar course that occurs during the second year of the three-year program. All students had completed one semester of a research process course before taking the survey. Each participant completed a written informed consent prior to administration of the survey. The students were recruited using a convenience sample and they were told that they could refuse to participate in the study.

The Survey Instrument

The Student Perception of Research Integration Questionnaire (SPRIQ) contains 40 items to assess three constructs: research integration, quality of the course, and beliefs about research integration (Visser-Wijnveen, van der Rijst, & van Driel, 2016). The internal consistency, or reliability, of each scale was measured by Cronbach's alpha and all alphas were above .80, and therefore, the internal consistency of each (sub) scale can be considered good (Visser-Wijnveen et al., 2016). Each survey item is scored on a Likert scale, with a response of strongly disagree receiving a score of 1 and a response of strongly agree receiving a score of 5. Four questions of the belief scale are scored on an agreement scale which ranges from strongly disagree to strongly agree. The questions are further categorized into six subscales: motivation, reflection, participation, current research, quality, and beliefs.

The SPRIQ has been used previously to gather information regarding the way students enrolled in medical, science, and humanities courses at a research-intensive university perceived research integration into their coursework (Visser-Wijnveen et al., 2016). Veriijken, van der Rijst, van Driel, and Dekke (2018) also used the SPRIQ to research perceptions of first year medical students.

Data Analysis

The mean score of each item and the standard deviation of each item were gathered, as was done by Visser-Wijnveen et al. (2016). The mode and the frequency responses were also gathered. There was no difference between the two student cohort groups, so student data was pooled.

RESULTS

Participants

The SPRIQ was administered to 53 OTD students. All students were between the ages 21-29, and 46 (86%) were female and seven (13%) were male. Forty-five (85%) of the students were Caucasian and eight (15%) were African American. A total of 50 students completed the entire survey which resulted in a 94% response rate. The remaining three students (5.6%) did not submit any response to the survey. No student filled out the survey with the same response provided for all 40 questions. The paper survey was administered during class time, and students were told it was not required. The survey was anonymous.

Responses

Mean scores were calculated for each item on the respondents' submissions. The means and standard deviations for each question are displayed in Table 1. The mean for all items of the scale was 4.44. The highest mean of 4.72 was for questions 23 and 26, which were regarding research in the specific field of study the student was enrolled in. The lowest calculated mean was 4.02, which was regarding question 31 asking about involvement in faculty research. The highest mean out of six subscales of the SPRIQ was 4.67 for the subscale reflection. The lowest calculated mean was for the beliefs subscale and was 4.25 (see Table 2). The median and the mode for all questions was 5 with the exception of a median of 4 for questions 15 and 12, and a median of 4.5 for question 39. The response frequency table is provided (see Table 3).

Table 1

Means and Standard Deviations of SPRIQ Responses

Question #	Question	Mean	SD
1	… I assimilated knowledge about research findings.	4.66	0.47
2	I learned to pay attention to the way research is carried out.	4.7	0.5
3	I developed an academic disposition.	4.36	.87
4	There were opportunities to talk with researchers about scientific research.	4.30	.96
5	Attention was paid to recent developments in the field.	4.46	1.00
6	The scientific research process was an essential part of the curriculum.	4.64	0.89

DOI: 10.26681/jote.2020.040112

7	I was inspired to learn more about this discipline.	4.44	0.98
8	My understanding of the most important concepts in the domain have increased.	4.50	0.61
9	Attention was paid to research methodology.	4.68	0.47
10	I felt part of the institute's academic community.	4.34	0.86
11	I became familiar with the research carried out by my teachers.	4.50	0.70
12	My teachers encouraged me not to be satisfied with an explanation too quickly.	4.40	0.80
13	We searched for answers to the unanswered research questions together with the teachers.	4.44	0.70
14	I became enthusiastic about my scientific domain.	4.44	0.80
15	My contribution to the research was valued.	4.24	0.97
16	I came in contact with my teacher's research.	4.48	0.75
17	My participation in research was important.	4.52	0.70
18	I got the opportunity to hear about current scientific research.	4.66	0.59
19	I became familiar with the results of scientific research.	4.6	0.60
20	I was stimulated to critically access literature.	4.66	0.55
21	I felt involved in the institutes' research culture.	4.30	0.83
22	My awareness of the research issues that scientific researchers are currently contributing to was increased.	4.24	0.97
23	I learned what kind of studies have been carried out in my field.	4.72	0.45

24	My interest in research in this area was increased.	4.28	1.07
25	I made a contribution to a development in my field.	4.38	0.85
26	I learned the ways in which research can be conducted in this field.	4.72	0.45
27	The teachers encouraged us to ask critical questions about our work.	4.7	0.54
28	As a student, I felt involved in the research.	4.62	0.60
29	I had opportunities to socially interact with researchers within the institute.	4.48	0.83
30	Links to current research practices were made.	4.26	1.11
31	I became involved in my teacher's research.	4.02	1.31
32	My teachers encouraged personal interest and enthusiasm for research in this field.	4.49	1.11
33	The teachers had sufficient time to support me in my learning process.	4.22	1.30
34	My teachers carried out their instruction adequately.	4.4	1.15
35	My teachers were able to explain the subject matter effectively.	4.46	1.09
36	I developed an accurate picture of what was expected of me.	4.26	1.22
37	My learning is stimulated when education is grounded in research.	4.24	1.14
38	It is important to me that my teachers conduct research.	4.40	1.07
39	Education in which scientific research is central stimulates my learning.	4.16	1.13
40	The research culture at this institute stimulates my learning process.	4.36	1.14

DOI: 10.26681/jote.2020.040112

Table 2

Means and Standard Deviations of SPRIQ Subscales

Subscale	Mean	SD
Reflection (Questions: 1,2,6,9)	4.67	0.61
Motivation (Questions: 7,14, 24, 32)	4.41	1.01
Current Research (Questions: 11, 16, 22, 23, 30)	4.44	0.85
Participation (Questions: 15, 23, 25, 28,31)	4.36	0.95
Quality (Questions: 34,35, 36)	4.37	1.16
Beliefs (Questions: 37, 39, 40)	4.25	1.14

Table 3

Response Frequency Table SPRIQ Subscales

Likert Scale Value	Category						Total
	Reflection	Motivation	Current Research	Participation	Quality	Beliefs	
Strongly Disagree	-	-	-	0.36% (1)	0.69% (1)	-	0.17% (2)
Disagree	-	3.57% (7)	1.62% (4)	3.24% (8)	2.78% (4)	2.78% (4)	2.30% (27)
Neutral	2.51% (5)	8.16% (16)	6.88% (17)	9.31% (23)	4.17% (6)	8.33% (12)	6.72% (79)
Agree	25.63% (51)	22.96% (45)	31.98% (79)	29.15% (72)	25.00% (36)	31.94% (46)	28.00% (329)
Strongly Agree	71.86% (143)	65.31% (126)	59.51% (147)	57.89% (143)	67.36% (97)	56.94% (82)	62.81% (738)

DISCUSSION

The purpose of this study was to examine OTD students' perceptions and attitudes towards research within their curriculum. The high mean scores in this study suggest that OTD students believe research plays an integral role in their learning. This indicates that the OTD students' beliefs fell between agreed and strongly agreed with the statements on the SPRIQ.

When the mean scores reported in the current study are compared to the scores reported by Visser-Wijnveen et al. (2016), all of the mean scores from the OTD students were higher. This difference in means may be because the Visser-Wijnveen et al. (2016) study was conducted with undergraduate students and the current study was conducted with graduate level students who may value research more. Also the Visser-Wijnveen et al. (2016) study was conducted at a research intensive university and this study was not. The SPRIQ scores of the current study were also higher than the mean scores reported by Veriijken et al. (2018) who studied research perceptions of first year medical students. Within this study, several questions included the involvement and

contribution that professors had on the OTD students. For example, most of the participants either agreed or strongly agreed with questions regarding the quality of the courses within the program and current research done by their professors. An example of a statement that is within this subgroup includes: “I became familiar with the research carried out by my teachers” and “we searched for answers to unanswered research questions together with the teachers.”

Part of the research integration scale is the *reflection* subscale that includes items that reflect on the way research results are produced (Visser-Wijnveen et al., 2016). The current study’s reflection subscale mean was 4.67. The OTD students in this study were engaged in a research project in the class and understood the process through their participation. This agrees with the findings of Kamwendo and Tornquist (2001) who reported that students that engaged in research had a more positive attitude toward research compared with students with no previous experience.

The subscale *participation* corresponds with the professor’s aim to introduce students to research analysis. This study’s mean participation subscale score was 4.36 indicating that the students valued research analysis. In a study that compared the perception of research of nursing students that were engaged in the research process or traditional lecture found students in the experiential course exhibited significantly more positive attitudes toward nursing research than students in the traditional lecture course (Pugsley & Clayton, 2003).

The subscale *current research* is a combination of items concentrating on getting to know the current research from the students’ professors and in general (Visser-Wijnveen et al., 2016). This study’s current research mean score was 4.44 indicating that the students believed that understanding research was a valuable activity.

Motivation consists of items regarding a student’s enthusiasm and interest for the research in their domain of study (Visser-Wijnveen et al., 2016). This study’s mean of 4.41 for the motivation subscale indicated the students were highly interested in research in OT. In a study of Swedish OTs, it was reported that the surveyed therapists believed that reading research literature to update knowledge was the most important research activity and the second most important activity was applying research findings to improve OT practice (Karlsson & Tornquist, 2007).

The subscale *beliefs* captures students’ beliefs about the importance of research integration for their learning (Visser-Wijnveen et al., 2016). This study’s mean of 4.25 for the *beliefs* subscale indicated the OTD students perceived research was an important part of the curriculum. This differed from the findings of Hodgetts, Hollis, Dennis, and Taylor (2007), who reported that many OT students indicated that they did not understand the importance of their research courses and wanted to spend their time learning more practical skills. Pearson, Crandall, Dispennette, and Maples (2017) reported that 85.7% of exercise science students agreed an applied research experience should be continued, 84.7% of students perceived the experience as educationally enriching, while 92.8% reported the experience was academically

DOI: 10.26681/jote.2020.040112

challenging. Even if research experience as a student does not lead to a career as a researcher, the experience can help improve a student's skills in searching and critically appraising the medical literature and independent learning (Houlden, Raja, Collier, Clark, & Waugh, 2004). Medical students reported a relationship between the perceptions of research and approaches to learning (Imafuku, Saiki, Kawakami, & Suzuki, 2015). Imafuku et al. (2015) found five themes regarding the deeper approach to learning that emerged from the analysis of interview data: inquiring mind, synthesis of knowledge, active participation, collaborative learning and reflective learning.

Quality deals with items related to elements deemed important for good quality teaching (Visser-Wijnveen et al., 2016). This study's mean for the quality subscale was 4.37. In summary, the OTD student scores were approximately 20% higher than the undergraduate students in the Visser-Wijnveen et al. (2016) study. This suggests that the OTD students believed research plays an important role in their education. Similarly, in a study of exercise science students in an applied research class 46.4% of respondents "strongly agreed" that their instructor was effective, compared to only 10.7% that "disagreed" (Pearson et al., 2017)

Impact on Occupational Therapy Education

In order to establish OT as an evidence-based profession, ACOTE requires both master's and doctoral level OT students to demonstrate the ability to use quantitative statistics and qualitative analysis to interpret tests and measurements for the purpose of establishing and delivering evidence-based practice. This is met through a challenging, yet attainable, research curriculum. According to Goulding and Hadley (2010), research curricula should help students acquire skills that will enable them to be reflective practitioners and generators of knowledge.

Ravid (1997) proposed that it is important for professors to engage in the research process themselves and have the necessary skills required in order to support active involvement of their students. Professors should be able to demonstrate proper skills to utilize evidence-based literature in databases (Ravid, 1997). Professors play an active role in how students perceive research based on their relationships, mutual understanding, and working together as a team when applying research concepts to school work. Other disciplines have found that students learn research through engagement in the research process and that they value the experiential learning (AlGhamdi, Moussa, AlEssa, AlOthimeen, & Al-Saud, 2014; Pearson et al., 2017; Pugsley & Clayton, 2003). When students participated in a research project, their approaches to learning became qualitatively deeper (e.g. an inquiring mind, synthesis of knowledge, active participation, collaborative learning and reflective learning; Imafuku, et al., 2015).

An increase in research funding provided to faculty may be an effective strategy for increasing empirical research projects. The first step of this process is raising awareness and engaging faculty members. According to Hu et al., (2009) there is a need for more funding, faculty research orientation, and an increase of focus on research. Teaching students the proper steps of research and using the correct

resources is of utmost importance to allow future OTs to effectively use research-based knowledge within their clinical decision-making (Welch & Dawson, 2006). Overall, the profession of OT is in high demand for dedicated and qualified individuals willing to expand their expertise on the research process.

In order for graduate students to obtain a better understanding of the research process, research indicates an experiential approach is favored by students (AlGhamdi et al., 2014; Pearson et al., 2017; Pugsley & Clayton, 2003). Paradise and Dufrene (2010) discussed the possible benefits of using group training as a method to help students successfully and confidently develop research topics. Groups would include faculty mentors in which students learn from an assigned advisor and other classmates. Within this group model, students reviewed the available literature, worked both independently and as a whole, and participated in data collection and analysis (Paradise & Dufrene, 2010). Graduate students may feel more prepared and self-assured with research techniques when applying it to a collective group setting with both mentors and classmates.

Limitations

One of the limitations of this study was a small sample size. There was a total of 50 students from two cohorts. Furthermore, the survey could have been strengthened by administering it to several different OTD programs to get additional participants and increase the generalizability of the findings.

Future Research

Future studies may want to include students in master's programs as well as OTD, to see if there are any differences in research perceptions between the two groups. It would also be valuable to ascertain the influence that the research classes had on the integration of evidence-based practice once students become practitioners.

This study suggests that the majority of OTD students who participated had an understanding of the research process and what it entails. This means that the students comprehend the basic concepts involved in finding, obtaining, and implementing research within their academic career. This process ensures that doctoral students utilize research to efficiently supplement their academic experience as well as further evidence-based practice in our global community.

References

ACOTE. (2018). Accreditation Council for Occupational Therapy Education (ACOTE®) Standards and Interpretive Guide. Retrieved from https://www.aota.org/~/media/Corporate/Files/EducationCareers/Accredit/StandardsReview/2018-ACOTE-Standards-Interpretive-Guide.pdf

AlGhamdi, K. M., Moussa, N. A., AlEssa, D. S., AlOthimeen, N., & Al-Saud, A. S. (2014). Perceptions, attitudes, and practices towards research among senior medical students. *Saudi Pharmaceutical Journal, 22,* 113-117. https://doi.org/10.1016/j.jsps.2013.02.006

DOI: 10.26681/jote.2020.040112

Connolly, B.H., Lipinnaci, N.S., & Bush, A.J. (2001). Changes in attitudes and perceptions about research in physical therapy among professional physical therapy students and new graduates. *Physical Therapy, 81*(5), 1127-1134.

Goulding, L. R., & Hadley, K. M. (2010). Graduate students' understanding of educational research in a master of education program. *New Horizons in Education*, *58*(1), 43-52.

Hodgetts, S., Hollis, V., Dennis, S., & Taylor, E. (2007). Occupational therapy students' and graduates' satisfaction with professional education and preparedness for practice. *Canadian Journal of Occupational Therapy, 74*(3), 148-160. https://doi.org/10.1177/000841740707400303

Houlden, R.L., Raja, J.B., Collier, C.P., Clark, A. P., & Waugh, J. M. (2004) Medical students' perceptions of an undergraduate research elective, *Medical Teacher, 26*(7), 659–661. https://doi.org/10.1080/01421590400019542

Hu, S., Scheuch, K., & Gayles, J. G. (2009). The influences of faculty on undergraduate student participation in research and creative activities. *Innovative Higher Education*, *34*(3), 173-183. https://doi.org/10.1007/s10755-009-9105-4

Imafuku, R., Saiki, T., Kawakami, C., & Suzuki, Y. (2015) How do student's perceptions of research and approaches to learning change in undergraduate research? *International Journal of Medical Education, 6,* 47-55.

Kamwendo, K., & Tornquist, K. (2001). Do occupational therapy and physiotherapy students care about research? A survey of perceptions and attitudes to research. *Scandinavian Journal of Caring Science, 15*(4), 295-302. https://doi.org/10.1046/j.1471-6712.2001.00041.x

Karlsson, U., & Tornquist, K. (2007) What do Swedish occupational therapists feel about research? A survey of perceptions, attitudes, intentions, and engagement. *Scandinavian Journal of Occupational Therapy, 14,* 221-229. https://doi.org/10.1080/11038120601111049

Paradise, L. V., & Dufrene, R. L. (2010). A research group model for graduate training in counselling. *British Journal of Guidance & Counselling*, *38*(1), 101–111. https://doi.org/10.1080/03069880903408638

Pearson, R. C., Crandall, K. J., Dispennette, K., & Maples, J. M. (2017) Students' perception of an applied research experience in an undergraduate exercise science course. *International Journal of Exercise Science, 10*(7), 926-941.

Pugsley, K. E., & Clayton, L. H. (2003). Traditional lecture or experiential learning: Changing student attitudes. *Journal of Nursing Education, 42*(11), 520-523. https://doi.org/10.3928/0148-4834-20031101-11

Ravid, R. (1997). *The Research Component in Graduate Teacher Education Programs: Asking the Stakeholders*. (ERIC Document Reproduction Service No. ED414249)

Royalty, G. M., Gelso, C. J., Mallinckrodt, B., & Garrett, K. D. (1986). The environment and the student in counseling psychology: Does the research training environment influence graduate students' attitudes toward research? *The Counseling Psychologist, 14*(1), 9-30. https://doi.org/10.1177/0011000086141002

Royalty, G. M., & Reising, G.N. (1986). The research training of counseling psychologists: What the professionals say. *Counseling Psychologist, 14*(1), 49-60. https://doi.org/10.1177/0011000086141005

Sackett, D. L., Rosenberg, W. M., Gray, J. A., Haynes, R. B., & Richardson, W. S. (1996). Evidence based medicine: What it is and what it isn't. *British Medical Journal, 312*(7023), 71-72. https://doi.org/10.1136/bmj.312.7023.71

Steele, J. M., & Rawls, G. J. (2015). Quantitative research attitudes and research training perceptions among master's-level students. *Counselor Education and Supervision, 54*(2), 134-146. https://doi.org/10.1002/ceas.12010

Thomas, A., & Law, M. (2013). Research utilized and evidence based practice in occupational therapy: A scoping study. *American Journal of Occupational Therapy*, *67*, e55-e65. https://doi.org/10.5014/ajot.2013.006395

Van Lew, S., & Singh, N. (2009). Integrating the centennial vision into an evidence based fieldwork-learning experience. *Occupational Therapy in Health Care, 24*(1), 68-73. https://doi.org/10.3109/07380570903410852

Veriijken, M. W. C., van der Rijst, R. M., van Driel, J. H., & Dekker, F. W. (2018). Student learning outcomes, perceptions, and beliefs in the context of strengthening research integration into the first year of medical school, *Advances in Health Sciences Education, 23*(2), 371-385. https://doi.org/10.1007/s10459-017-9803-0

Visser-Wijnveen, G. J., van der Rijst, R. M., & van Driel, J. H. (2016). A questionnaire to capture students' perceptions of research integration in their courses. *Higher Education: The International Journal of Higher Education Research*, *71*(4), 473-488. https://doi.org/10.1007/s10734-015-9918-2

Welch, A., & Dawson, P. (2006). Closing the gap: Collaborative learning as a strategy to embed evidence within occupational therapy practice. *Journal of Evaluation in Clinical Practice, 12*(2), 227-238. https://doi.org/10.1111/j.1365-2753.2005.00622.x

DOI: 10.26681/jote.2020.040112