Student Perceptions of Reading Preparation and Textbook Use in Professional Allied Health Programs

Laura Stimler
Spalding University, lstimler@spalding.edu

Camille Skubik-Peplaski
Eastern Kentucky University, camille.skubik-peplaski@eku.edu

Melba G. Custer
Spalding University, Mcuster@spalding.edu

Shirley P. O'Brien
Eastern Kentucky University, shirley.obrien@eku.edu

This Manuscript has supplementary content. View the full record on NSUWorks here:
https://nsuworks.nova.edu/ijahsp/vol21/iss4/24

Recommended Citation

Stimler L, Skubik-Peplaski C, Custer MG, O'Brien SP. Student Perceptions of Reading Preparation and Textbook Use in Professional Allied Health Programs. The Internet Journal of Allied Health Sciences and Practice. 2023 Sep 21;21(4), Article 24.

Student Perceptions of Reading Preparation and Textbook Use in Professional Allied Health Programs

Abstract

Purpose: In professional allied health education, textbooks are central to developing course content, student learning and certification exams, but little is known about the graduate student's perspective. This study was intended to describe current trends in graduate students' point of view, habits and opinions related to buying and using textbooks and other resources in allied health education. **Methods:** This was a multi-site collaborative research project. An electronic survey was developed to gather data on student habits and perspectives regarding textbook preferences including digital texts, academic reading, exam preparation, and obtaining course materials. The survey was distributed across four academic institutions. Of the 247 total surveys distributed, 222 participants completed the survey resulting in a 90% usable response rate. Students were in occupational therapy (n=186), physical therapy (n=24), and speech-language pathology (n=12) programs. The investigators used descriptive statistics to analyze quantitative items and concept coding for three open-ended items. **Results:** The majority of students (74.2%) reported that they purchased required textbooks and a similar 73.9% reported owning their text books; most of these students also kept the textbooks after the class completed. Funding for textbooks came from personal or family funds 88.4% of the time with few students having scholarship or other funds to pay for books. However, students were inconsistent in using textbooks to complete required reading with only 13.6% consistently completing readings before class and only 33.3% completed readings before an exam; 14.9% rarely completed the readings before an exam. Financial concerns, time constraints, and faculty support of textbook use were cited by students as influencing their buying and using textbook decisions. Despite evidence that digital textbooks may be less expensive, the majority of the students (76.0%) reported they would prefer to permanently own required textbooks and 86.9% preferred printed over digital textbooks. **Conclusions:** Allied health educators are encouraged to consider evidence-based pedagogical practices to reinforce textbook use and the use of technology to foster successful engagement in the classroom and in preparation for professional certification examinations.

Author Bio(s)

Laura Stimler, EdD, OTD, OTR/L, BCP, C/NDT is an Associate Professor in the Auerbach School of Occupational Therapy at Spalding University. Dr. Stimler teaches, researches, publishes and presents on topics including rehabilitation oncology, pediatric practice, acute care, and the scholarship of teaching and learning.

Camille Skubik-Peplaski PhD, OTR/L FAOTA is a Professor in the Department of Occupational Science and Occupational Therapy at Eastern Kentucky University. Dr. Skubik-Peplaski is recognized for her leadership roles at state and national levels and has research interests in occupation-based interventions, client-centered care and motor recovery.

Melba Custer, PhD, OT/L is a Professor and Capstone Coordinator in the Auerbach School of Occupational Therapy at Spalding University. Dr. Custer is an experienced educator who with a background in research and upper extremity rehabilitation. Her research interests are survey development, program evaluation, and outcomes research.

Shirley Peganoff O'Brien, PhD, OTR/L, FAOTA is a University Foundation Professor at Eastern Kentucky University, a Fellow of the American Occupational Therapy Association and serves as the EKU Post Professional OTD Coordinator. Dr. O'Brien publishes and presents on various topics in the scholarship of teaching and learning and policy analysis.

Acknowledgements

Student Perceptions of Reading Preparation and Textbook Use in Professional Allied Health Programs

Laura Stimler[1]
Camille Skubik-Peplaski[2]
Melba G. Custer[1]
Shirley P. O'Brien[2]

1. Spalding University
2. Eastern Kentucky University

United States

ABSTRACT

In higher education, academic reading assignments remain a primary pedagogical approach to promote the acquisition of new knowledge.[1] As such, textbooks are frequently considered essential tools, and central to setting course objectives and preparing course content; textbooks may provide faculty with a sense of authoritative direction and guidance for students.[2] Faculty in allied health are likely to have had their own educational experience primarily based on traditional textbook use. This experience may create nostalgic assumptions on how textbooks should be used,[3] limited skills for incorporating a wide range of technology into the learning environment,[4] and concerns about maintaining high quality and peer reviewed learning materials.[5] In contrast, the current generation of students, referred to as "digital natives",[2] are accustomed to having access to multiple information sources from digital platforms and expect technology to be integrated into courses.[6] These trends support the notion that cultural influences and generational differences heavily drive decisions made among faculty and students regarding the use of course materials.[1,7] In some higher education classroom environments, a culture clash exists between students and faculty regarding how each value and prioritize essential course materials.[8]

Keywords: occupational therapy, physical therapy, speech-language pathology, study habits, digital and print resources

INTRODUCTION

Previous research identified the cost of learning resources like textbooks as a major barrier to student's purchasing these texts.[5] Currently, the average full-time, in-state undergraduate student at a four-year public university pays $1,226 for books and supplies in one academic year.[9] These high costs often result in students not purchasing textbooks, taking fewer courses, or dropping/withdrawing from a course to avoid the financial burden.[5,10] Students may try to cope without necessary resources, use outdated versions of texts, share textbooks with others, or rely on audio books, On the other hand, digital alternatives such as e-textbooks can reduce costs of textbooks by 31.9%.[9] The concern over the high cost of textbooks spurred Senator Dick Durbin to introduce the Affordable College Textbook Act[11] that has not passed into legislation, but illustrates the visibility of this barrier and its nationally recognized importance.

Publishers, recognizing the rapid growth and high demand for digital technology including both hardware and software, have been making significant advances in the production of digital textbooks (e-textbooks).[12,13] Types of e-textbooks include page fidelity (a scanned version of the print text) and reflowable (flexible design including interactive tools and dynamic media). These publisher-produced digital resources have evolved into a dramatic shift in academic literature, currently known as open educational resources (OERs) that include course materials ranging from textbooks, videos, lectures, and additional required and recommended course medium.[10] The current transition to the increased use of OERs offers users access to open-licensed materials with the flexibility to use as needed at lower cost.

While the rapid growth and utilization of digital resources is evident in academia, the evidence documenting the efficacy when using digital textbooks is only emerging.[14-16] Overall, some evaluation studies have found no systematic differences in learning outcomes or metacognitive experiences using digital or non-digital resources.[17] In addition to equal learning, students were grateful for the cost saving.[14] Bloom's taxonomy is a seminal resource for guiding and measuring student learning outcomes. Lau et al.[16] explored associations between current digital resources and low-order, mid-order, and high-order learning as depicted in Bloom's revised taxonomy. These more nuanced findings support the use of digital resources as flexible mobile media for low-order and mid-order learning; however, they may be less suited for high-order learning.[16] Similarly, in a comprehensive review of research findings comparing digital and printed materials, Singer and Alexander[18] found when the text involved more than 500 words or took up more than a page of the book or screen, reading comprehension scores were significantly better for print rather than for digital text. The need to scrolling multiple pages when using digital text was cited as one reason for poorer high-order learning; scrolling tended to distract the reader and encourage skimming rather than immersive reading. Although the opportunities for new ways of learning through digital media are exciting, Bennett & Corrin[19] summarized some of the challenges to retention and learning when working across multiple formats, disconnected materials, or using a variety of technology platforms.

Transition to OER and other digital materials in a process that will take time and innovation.[20] Brown et al[4] found that 69% of athletic training students often preferred traditional textbooks; however, more than 43% were unaware of e-textbooks for their profession. Similarly, first-year medical students almost never accessed available online text book chapters or recommended reading, but often accessed online lecture notes.[21] Among faculty, 91% would be willing to use OER resources if available and most would welcome assistance in identifying and using digital resources.[5]

In professional programs such as occupational therapy, physical therapy, and speech language pathology, textbooks and electronic resources may be used to prepare national certification examinations after didactic coursework. Students are expected to retain these texts to prepare for these exams and use as resources in clinical practice. Because of the expectation for specific knowledge mastery to obtain certification, the choice of course resources are often narrow or limited to expensive options. Yet a void exists for understanding the acquisition and use of traditional textbooks, e-texts and online supports for graduate students in allied health professions. Such information about student preferences for classroom learning materials, for exam preparation and clinical practice might guide allied health professionals and faculty in designing course content, in modeling and facilitating the use of digital technology, and in expanding access to high quality online reading materials and resources.

PURPOSE

The purpose of this research project was to explore current trends in allied-health graduate-student satisfaction and preferences for print and digital media. Two primary objectives guided this research:

Objective #1: Describe current habits for obtaining and utilizing required and recommended textbooks in graduate allied health education.
Objective #2: Contrast participants' preferences for obtaining access and using printed or digital materials.

METHODS
An electronic survey, with both structured responses and open-ended items, was administered to allied health graduate students at four universities to understand their perceptions, using research guidelines of Creswell and Creswell.[22] Institutional Review Board approval for this collaborative study was obtained from the first and second authors' institutions, with an authorization agreement completed with the third and fourth authors' institution. All participants provided electronic informed consent, which explicitly stated that participation was voluntary and would in no way be linked to grades, extra credit, or evaluation of classroom performance.

Participant Recruitment and Survey Dissemination
Graduate students currently enrolled in allied health programs (occupational therapy, physical therapy, and speech language pathology) at four universities in one mid-southern state were invited to participate in the online survey. All graduate students currently enrolled in one of these professional programs were provided a link to the survey by the primary investigators or the representatives at each university. Investigator representatives at each institution had access to the online informed consent and the research questionnaire to distribute to students who fit the inclusion criteria. The investigators' contact information was included on the informed consent form, and participants were encouraged to communicate with the investigators in the event of any questions or concerns related to the research project. Survey results were obtained using a university sanctioned online survey account; site-specific data collection occurred at different times over a six-month span.

Instrument Development and Data Analysis
The authors developed an anonymous online questionnaire based upon literature and current educational practice (see Appendix A for full survey). The survey titled *Student Perceptions of Reading Preparation and Textbook Use in Professional Programs* included 2 demographic questions, 5 items with a 4-point response option scale, 6 items with unique response options, and 3 open-ended questions. Items asked respondents about textbook preferences for digital or printed copies, student habits regarding completing assigned reading and class preparation, whether they purchased or rented textbooks, and habit for selling or maintain their textbooks. One item queried about their knowledge of preparation for the certification exam in professional programs. A panel of allied health faculty with survey development expertise reviewed the draft survey for content and face validity. After their suggested modifications, the survey was pilot tested. Based on pilot-test participants' feedback, the survey instrument was revised to clarify wording. The investigators used descriptive statistics to analyze items with defined response options. One author concept coded and synthesized the responses to open-ended items; the concept coding and synthesized version was then reviewed and refined by a second author and a consultant researcher.

RESULTS
Participants
Of the 247 total surveys links distributed, 222 participants completed the survey resulting in an 89.9% usable response rate. The majority of the participants were occupational therapy (OT) students (n=186; 83.8%), physical therapy (PT) students (n=24; 10.8%) and speech language pathology (SLP) students (n=12; 5.4%). Two universities had only OT students, one had only PT students, and one had both OT and SLP students. Because of small sample sizes in each cell, the responses of all graduate students were collapsed as allied health professional students without analysis by profession or university.

**Data Completion and Reliability**
Data were complete with only a total of 5 missing responses on 4 of the 11 quantitative items. On the open-ended items, 186 (83.7%) offered additional reasons why they would sell/give away textbooks ,164 students (73.8%) identified barriers to purchasing textbooks, and 73 (32.7%) added comments or questions that they perceived as helpful to understanding textbook usage. As shown in Table 1, the respondents utilized all the response options without any consistent patterns of skewed data. The Cronbach alpha for the 5 items with a consistent 4-point scale was 0.67, just below an acceptable alpha level of 0.70.

Results for Objective #1
The first research objective was to describe current habits for obtaining and utilizing required and recommended textbook materials in graduate allied health education. Table 1 includes the entire descriptive statistics related to Objective 1. In Figure 1, we also displayed the results in a graph formatted to assist the reader in understanding the contrast between the responses rated as the least frequent and most frequent habits.

Table 1: Student Responses for Habits on Obtaining and Utilizing Textbooks

Item	0%-25% of the time	26%-50% of the time	51%-75% of the time	76-100% of the time
I purchase required textbooks for EACH class (n=221).	6.8%	8.1%	10.9%	74.2%
I purchase recommended textbooks for EACH class (n=222).	36.9%	18.5%	17.1%	27.5%
I sell/give away textbooks when the class ends (n=222).	68.0%	14.0%	9.9%	8.1%
How do you pay for your textbooks (n=222)?	Personal funds: (69.4%)	Family Funds (19.4%)	Scholarship or Other Funds (11.2%)	
Do you _____required textbooks (n=222)?	Borrow or Share with other Students: 4.6%.		Rent: 21.6%	Own: 73.9%
How frequently do you complete the assigned readings required before class (n=221)?	32.1%	30.3%	24.0%	13.6%
How frequently do you complete the assigned readings required before an exam (n=222)?	14.9%	26.1%	25.7%	33.3%
Are you aware that books are selected to support the NBCOT/NPTE/Speech-Language Pathology CCC-SLP national board certification exam preparation?	No: 23.9%		Yes: 76.1%	
I keep textbooks in preparation for the certification/board exam in my profession (n=220).	Never - I sell or give them away: 3.6%	Less than 50% of the time: 20.0%	More than 50% of the time: 35.0%	Always: 41.4%

Figure 1. Contrasting Respondents Least Frequent and Most Frequent Habits
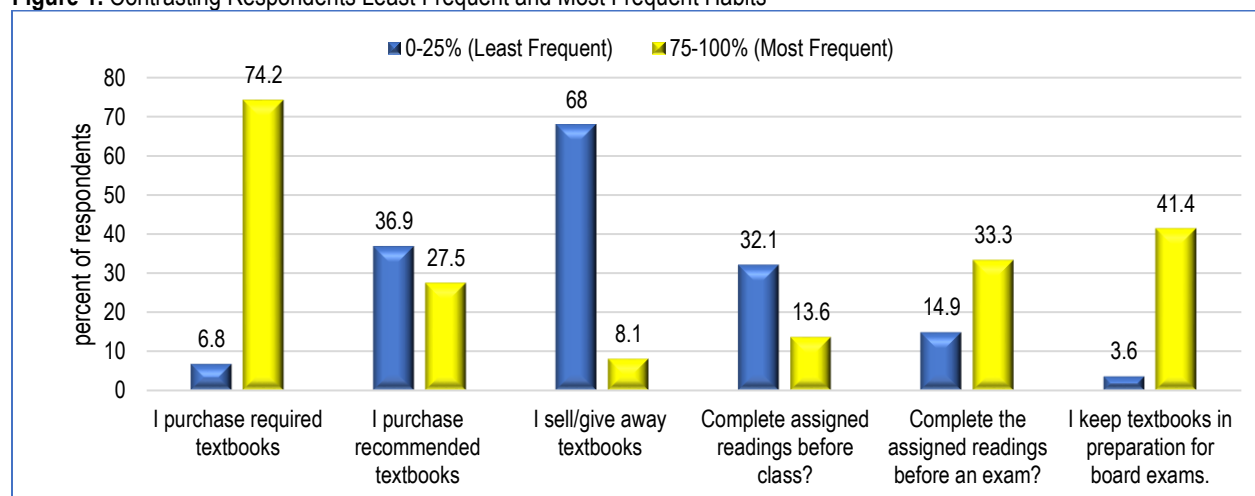
The majority of students (74.2%) reported that they purchased required textbooks and a similar 73.9% reported owning their textbooks; most of these students also kept the textbooks after the class completed. Funding for textbooks came from personal or family funds 88.4% of the time with few students having scholarship or other funds to pay for textbooks. When it comes to recommended textbooks, only 27.5% consistently purchased these while 36.9% consistently declined to purchase recommended textbooks. Students were inconsistent in using textbooks to complete required reading with only 13.6% consistently completing these readings before class; only 33.3% completed readings before an exam and 14.9% rarely completed the readings even before an exam. When asked about their awareness of the role of textbooks in preparing certification exams, 76.1% were aware that textbooks are selected in part to support preparation for certification exams, but only 41.4% consistently kept textbooks for preparing for these exams.

Responses to open-ended questions provided additional insight into obtaining materials. Participants stated that they make purchasing decisions based on course topic, information in the syllabus, content from faculty early on in class, with input from former students, or from their learning habits or personal life challenges. One student offered that much of the course information was available online, thus purchasing an expensive textbook was not considered. Another student felt that they did not learn from textbooks because they were an auditory learner; another mentioning that if she was told by faculty that information in a book was important then she would keep it to use in the future. Thus, course content impacted student decision-making about purchasing textbooks. Participants shared:

> "Based on what professors say/how much the books will be used during the semester. I usually rent them, so I just return them to save money."

> "I keep and frequently reference new and old textbooks because, 100% I prefer physical texts to digital. "

> "If a past student states the lecture is word-for-word from the textbook, I would not get the textbook at all. If the student states you need the textbook to complete assignments, I rent the book. If the student states you will use the information all the time (especially for different classes), I will buy it."

> "Personally, it's hard for me to schedule times to complete reading when there's nothing due for it. I agree that we are in a professional program and "busy work" is not widely used. When we have various papers/research to do each week (plus our own personal lives with work) it's hard to do the little things, like reading, that don't have an impact on our grade. I personally think the reading checks we had in undergrad were helpful because we all knew that reading would help us excel in a specific/concrete area of the class. I might be the only one who feels this way but personally, not everything is going to get done in a week and reading is the first thing to not get done."

Cost considerations were a consistent theme cited as a barrier to purchasing textbooks. Of the 164 comments about barriers, 131 comments (79.9%) expressed concerns about the very high costs of textbooks and even frustration or anger over these costs. When books are only recommended, then cost and time to read considerations were also important. They shared:

> "The outrageous price .... requiring you to …get a personal loan at a higher interest to cover the … book prices and other …fees … when you already are in massive amount of debt and are trying to survive on a part time job with no support."

> "Sometimes professors say they are required and then we never use them and that is frustrating when they are a couple hundred dollars."

Participants commented that they decided to purchase and keep a textbook if they were used in future classes and were considered fundamental to a professional program or a reference book for essays in other classes. If the student thought subjects would not be covered heavily on their certification exam, then they would not keep that book. When asked about selling or giving away texts, financial constraints were also frequently cited. They needed to rely on saving money or getting money back in order to purchase books for the following semester. Students mentioned that if they felt that the information became out of date, they would consider selling their books, stating:

> "I prefer to keep them but it's so much money to purchase that I feel I need to sell back to make extra money"

> "I would sell books just for the sole purpose of getting some money back, in return."

> "Most of the time the textbooks aren't necessary. I typically only keep the manual hands-on books that I may need to review."
> "Don't really need them anymore. Especially if it is a specialty, I am not interested in. I usually can make 50% back (selling)."

"Books in general are going to fade out. Just link readings to the course website if you want me to read it or look at it. I very rarely will keep a book, besides a manual that I think can be used later and generalize to other studies (ex: APA 7 manual)".

The students who kept their books reported that sometimes they use books to help others in their program by selling or giving them away after their class, knowing that books were expensive and that they could lighten someone else's burden by sharing. Several commented that they passed their books on or they let students borrow their books. Students shared:

"I would sell/give away textbooks for students that may not be able to afford their own, or if it is a book that I do not think I would use very often outside of class."

"I share my books in order to help someone else financially and also allow them to have access to the book."

"I would sell/giveaway textbooks after finishing the program and taking the NBCOT [certification exam] as a way to make some money back and help other students not pay full price for books."

On the other hand, despite the cost, most students valued their textbooks and wanted to keep their textbooks to prepare for their certification exam and for future practice. They valued the learning that could be gained through these sources. Currency of information was a driving force in their decision-making as students mentioned that if they felt that the information became out of date, they would consider selling their books. as well as they preferred physical textbooks. Certification/ Board examinations did play into the student decision making process (35 comments). Statements included:

"At the moment, I do not believe selling books is appropriate due to being in a serious grad program."

"After I take a course, I decide whether or not this textbook can be something I use in the future during practice as a reference or guide. There have been a handful of books that I decide to keep because they offer good information regarding my future practice. I noticed these textbooks are more practice-based."

"Keep most of the books for my bigger classes that are relevant to different practice areas to review in the future, whether in fieldwork or practice. I think I have kept all of my books since beginning the graduate program, though. I know I have considered selling some that are theoretical."

Results for Objective #2
The second research objective was to contrast participants' preferences in obtaining access and using printed or digital materials. Table 2 includes the results of questions related to Objective 2.

Table 2. Responses Contrasting Digital and Printed Materials

Item				
If given a choice regarding how to access required textbooks, which of the following would you MOST prefer (*n*=221)?	Permanently own printed textbooks: 67.0%	Temporarily rent printed textbooks: 19.9%	Permanently own digital textbooks: 9.0%	Temporarily rent digital textbooks: 4.1%
If digital textbooks were available for each course at low cost, how much more likely would you be to read assigned course material (*n*=222)?	Definitely yes: 14.0%	Much more likely: 13.1%	Somewhat more likely: 28.8%	No more likely: 44.1%

The majority of the students (76.0%) reported they would prefer to permanently own required textbooks; specifically, 67.0% preferred printed textbooks, whereas only 9.0% preferred digital textbooks. Alternatively, if given the choice, 24.0% of the students prefer to temporarily rent required materials. A full 86.9% preferred printed textbooks (either owning or renting) over digital textbooks. Although 14.0% felt that they would read digital textbooks more often, 44.1% reported that they were unlikely to read assigned course material in digital format and another 41.9% were tentative about reading digital materials even with a reduced cost.

In response to an open-ended opportunity to add questions or comments regarding book usage in your professional program, students included ideas about digital formats. Students indicated they would be more likely to read assigned readings for class on time if electronic versions of textbooks had audio options along with the printed word. Other students mentioned that their program transitioned to a digital platform causing more difficulty to cite online work after reading. They preferred a hard copy book; to be able to mark it up, to decrease eye strain, to improve concentration; reading from a screen was reported to be inferior.

DISCUSSION

This study provides information about student perspectives and habits for utilizing textbooks and printed materials within graduate allied health professional programs, such as OT, PT, and SLP. The majority of graduate students reported that they purchased required textbooks, owned their textbooks, and paid for textbooks with personal or family funds. The majority of students kept their textbooks after the class completion in contrast to previous studies.[4,23,2] Recommended textbooks, however, were rarely purchased by 37% of respondents. Students cited the cost of textbooks as an overarching concern and barrier. These findings are similar to findings in previous studies where cost considerations were found to be a major barrier to textbook purchase.[14,5] However, preparation for professional certification using assigned textbooks, as acknowledged by 76% of respondents, is likely to influence the decision to own required textbooks.

Unique to this study, with surprising findings, was that students are inconsistent in reading assigned textbooks before class with 32.1% rarely reading materials before class and 14.9% rarely reading assigned materials even before exams. These findings may be in contrast to a traditional faculty perspective where the assumption that students read the textbook and value the textbook may highlight a generational source of mismatched perspectives.[1,7] However, in a study with medical students by Alzahrani, Park, and Tekian[24] found that 80% of students read, repeat-read, and then studied the lecture handouts; however, less than 20% reporting reading textbooks. The students in this current study shared that they were in the habit of deciding to purchase, read, or sell a textbook based on the professor's input and use, syllabus and content at the start of each class, and/or opinion of upper-class members. Walck-Shannon, Rowell, and Frey[25] found similar results that most students read notes, self-quizzed, explained concepts, synthesized notes, made diagrams or used active learning strategies, rather than reading the textbook.

Even if they purchase required textbooks, nearly 80% of students expressed concerns about the high cost of textbooks. They worried about their peers who may have fewer financial resources, wanted the faculty to use and reinforce textbook use, and struggled to prioritize reading required textbook materials. Faculty need to be aware that most students purchase only required textbooks. It will be important for faculty to go over the rationale for a required textbook choice early in the course and develop ways to incorporate the textbook in classroom or laboratory activities. Faculty could demonstrate their reasoning and model how to read critically not only for comprehension, but higher ordered thinking. Singer and Alexander[18] discuss higher order learning as reading text and linking it to previous ideas, analyzing implications, and identifying directions for the future. The studying strategy with "the greatest power," involves deeply questioning the text, asking yourself if you agree with the author, and why or why not.[18] For example, faculty may have students come to class with the textbook and help summarize the findings in their lecture. But to encourage higher level learning based on textbooks, they might embed questions about patient needs, professional practices, or collaborative work with other professionals for small or large group discussion to spur higher order learning.

Education is one of many occupations in which technology has become deeply embedded.[6] The recent pandemic forced most universities to rapidly transition to online coursework. But students in this study resisted the transition to digital formats for textbooks even though cost might be reduced. The majority of the students (76%) reported they would prefer to permanently own required textbooks. A full 86.9% preferred printed textbooks (either owning or renting) over digital textbooks. Students expressed a desire to have audiobooks perhaps to listen to when driving; they were all somewhat ambivalent about the impact of digital textbooks on their likelihood of reading assigned materials. Thus, both current students and perhaps faculty are struggling to adjust to a more digital-driven learning environment and students struggle with debt and high costs.

In light of these findings, it is recommended that faculty consider the cost factor and renting options for students in professional allied health programs. Singer and Alexander[18] refer to reading digitally as having textbook content available online, and this is a first step. Making required textbooks available online may reduce cost but may not support use of specific textbooks recommended by professional organizations for certification examination preparation. On the other hand, the real future of digital education is called digital reading by Singer and Alexander.[18] Digital reading involves interactive online textbooks with embedded links to additional resources, worksheets, study guides, and more. This requires a new way of thinking about content for coursework that will require years to fully develop because of hardware considerations, developing compatible formats, and changing in how faculty and students conceptualize content and learning. In addition to the hyperlinks, video and audio enhancements to digital texts and innovations such as multiple types of hyperlinks, perhaps in a rainbow of colors that denote specific purposes (annotation, elaboration, contrary views, media, etc.) may be

future opportunities.[3] To begin, faculty might partner with librarians who have a wealth of information about online materials[14] and information technology staff on hardware and software options. This might begin the process of helping faculty guide student use of online technology[4,15] and transition allied health education to new ways of learning. Student/faculty committees might reinforce shared values, reconcile concerns about costs, and incorporate student preferences and needs into textbook selection.

As Cohn[20] suggests, faculty need to challenge themselves and shift to using digital reading and/or make textbook reading a more active learning style to reinforce higher order thinking strategies. Understanding how textbooks are used by students provides an opportunity for faculty to create value in securing books, reading as well as incorporating assigned readings into more active learning activities so that students know why it is important to engage with their textbooks for entry-level learning, certification exam preparation, and future learning to become competent evidence-based practitioner.

Limitations
The present study provides helpful insight into student preferences and practices for textbook use; however, there are some limitations. First, representation was limited to a single state. Although respondents represented three distinct allied health disciplines, interdisciplinary comparisons were not conducted due to small sample sizes. The survey itself, although close to acceptable reliability, contained several "double barrel options" that may have compromised reliability. Keeping the survey short to encourage student's completion was an effective strategy, but generated many more questions about their habits, perceptions, and needs.

Despite these limitations, this is an important topic for allied health professionals. This survey is the first to begin understanding student habits, perspectives, and needs. As we move toward the future, and strive for rigor in our respective fields, it is critical that we question our choices as faculty and utilize technology advances as these emerge.

Future Implications:
Teachers teach using their own style of learning. We need to blend both faculty and students' style of learning to address the broader perspective. According to the Library of Congress,[26] millennials are now the largest generational cohort. As such, it is recommended that future studies should explore how faculty select and perceive the use of textbooks, e-books, OERs, and online learning supports. The current authors recommend strategically using technology in a broader approach to intentionally strengthen learning outcomes related to first, second, and third order learning in allied health programs. Addressing how students use these materials for preparation and success in the course and on certification exams is needed.

As allied health professions education evolves to meet the needs and opportunities of the current student generations, we will need continued evaluation of pedagogical methods and their effect on higher level learning and success in practice. This research suggests that more must be done to effectively emphasize the importance of critical reading to enhance learning. For example, focused program evaluation efforts that explore how institutions guide reading on various platforms at each level of the student experienc may provide insight on potential gaps in learning. More research is needed to explore the scholarship of teaching and learning as it relates to adequate preparation for allied health certification exams, generational influences and learning styles, evidence-based strategies to teach using technology, as well as research to gain deeper insight on how students value pedagogy and learning. There is a need for both expanded descriptive statistics on aspects of student habits and preferences, comparative studies of the impact of different learning styles and demographic indicators such as gender or race, and predictive studies on, for example, the effects of reading textbooks on grades, certification exams and practice indicators.

CONCLUSION
Faculty must explore evidence-based practices in selecting and structuring courses. We must demonstrate intentionality in our transparent teaching practices including rationale for assigning a textbook and how it will be used in the future. We must build the "why" first to reinforce value in selection and how this material will ultimately link to certification examinations. In addition, reflection on the influence of generational similarities and differences, and their impact on allied health student outcomes is recommended. Bridging the available text options and resources, along with learning and comprehension needs, the findings reinforce generational considerations within academic selection promoting higher-order thinking through literacy skills.

REFERENCES

1. Davidovitch N, Yavich R, Druckman E. Don't throw out the paper and pens yet: on the reading habits of students. *Journal of International Education Research - Fourth Quarter*. 2016; 12(4). https://files.eric.ed.gov/fulltext/EJ1117659.pdf. https://doi.org/10.19030/jier.v12i4.9799

2. Knight BA, Wang S. Teachers' use of textbooks in the digital age, *Cogent Education*. 2015; 2(1). https://doi.org/10.1080/2331186X.2015.1015812

3. Wallis C. *A textbook dilemma: Digital or paper? The Hechinger Report: Covering Innovation and Inequity in Education*. 2017. Accessed July 21, 2023. https://hechingerreport.org/textbook-dilemma-digital-paper/\

4. Brown CD, David S, Monaco M. Athletic training students' perceptions of electronic textbooks and computer use in the classroom. *The Internet Journal of Allied Health Sciences and Practice*. 2016; Jan 01; 14(1), Article 10. https://nsuworks.nova.edu/ijahsp/vol14/iss1/10/

5. Martin MT, Belikov OM, Hilton J, Wiley D, Fischer L. Analysis of student and faculty perception of textbook costs in higher education. *Open Praxis.* 2017; 9(1): 79-91. https://search.informit.org/doi/10.3316/informit.760521798634627

6. Harrison J, Chapleau A, Schell M, Vaughn V, Colzin C. Leveraging technology in field education for digital natives: Using goal attainment scaling. *Social Work Education*. 2020; 39(1): 60-70. https://doi.org/10.1080/02615479.2019.1642318

7. Geeraerts K, Tynjälä P, Heikkinen HLT. Intergenerational learning of teachers: What and how do teachers learn from older and younger colleagues? *European Journal of Teacher Education*. 2018; 41(4): 479-495. https://doi.org/10.1080/02619768.2018.1448781

8. Cuttler C. Students use and perceptions of the relevance and quality of traditional textbooks in online and traditional environments. *Psychology Learning & Teaching*. 2019; 18(1): 65-83. https://doi.org/10.1177/1475725718811300

9. Hanson M. Average cost of college textbooks. *EducationData.org*. 2022. Accessed on July 21, 2023. https://educationdata.org/average-cost-of-college-textbooks

10. Raible J, deNoyelles A. *Exploring the Use of E-Textbooks in Higher Education: A Multiyear Study*. 2017. Accessed on July 21, 2023. https://er.educause.edu/articles/2017/10/exploring-the-use-of-e-textbooks-in-higher-education-a-multiyear-study

11. Affordable College Textbook Act (Introduced 2015). S.2176. Access on July 21, 2023.https://www.congress.gov/bill/114th-congress/senate-bill/2176/text.

12. Barrett B. *The radical transformation of the textbook.* 2019. Access on July 21, 2023. https://www.wired.com/story/digital-textbooks-radical-transformation/

13. Lang JM. Why we need to rethink digital reading. *The Chronicle of Higher Education.* 2021. Accessed on July 21, 2023. https://www.chronicle.com/article/why-we-need-to-rethink-digital-reading

14. Beile P, deNoyelles A, Raible J. Analysis of an open textbook adoption in an American history course: Impact on student academic outcomes and behaviors. *College and Research Libraries*. 2020; 81(4). Access on July 21, 2023. https://crl.acrl.org/index.php/crl/article/view/24437/32266

15. Rockinson-Szapkiw AJ, Courduff J, Carter K, Bennett D. Electronic versus traditional print textbooks: A comparison study on the influence of university students' learning. *Computers & Education*. 2013; 63: 259-266. https://doi.org/10.1016/j.compedu.2012.11.022

16. Lau KH, Booi TL, Nkhoma M, Richardson J, Thomas S. The role of textbook learning resources in e-learning: A taxonomic study. *Computers & Education*. 2018;118: 10-24. https://doi.org/10.1016/j.compedu.2017.11.005

17. Norman E, Furnes B. The relationship between metacognitive experiences and learning: Is there a difference between digital and non-digital study media? *Computers in Human Behavior*. 2016; 54(1):301-309. https://doi.org/10.1016/j.chb.2015.07.043

18. Singer LM, Alexander PA. Reading on paper and digitally: what the past decades of empirical research reveal. *Review of Educational Research*. 2017; 87(6): 1-35. https://doi.org/10.3102%2F0034654317722961

19. Bennett S, Corrin L. From digital natives to student experiences with technology. Advanced Methodologies and Technologies in Modern Education Delivery. *IGI Global*. 2019; 356-366. DOI: 10.4018/978-1-5225-7365-4.ch029

20. Cohn J. Skim, dive, surface: *Teaching digital reading*. West Virginia University Press. 2021.

21. Judd T, Elliott K. Selection and use of online learning resources by first-year medical students: Cross-sectional study. *JMIR Med Educ.* 2017; 3(2):e17. doi: 10.2196/mededu.7382

22. Creswell J, & Creswell J. *Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.).* Sage Publications, Inc. 2018.

23. Jangiani RS, Dastur FN, Le Grand R, Penner K. As good or better than commercial textbooks: Students' perceptions and outcomes from using open digital and open print textbooks. *The Canadian Journal for the Scholarship of Teaching and Learning. 2018;* 9(1). https://doi.org/10.5206/cjsotl-rcacea.2018.1.5

24. Alzahrani SS, Park YS, Tekian A. Study habits and academic achievement among medical students: A comparison between male and female subjects. *Medical Teacher. 2018;* 40(S1): S1-S9. https://doi.org/10.1080/0142159X.2018.1464650

25. Walck-Shannon EM, Rowell SF, Frey RF. To what extent do study habits relate to performance? *CBE—Life Sciences Education*. 2021; 20(1):1–15. https://doi.org/10.1187/cbe.20-05-0091

26. Library of Congress (ND). Doing customer research: A resource guide, *Generations.* Accessed on July 21, 2023. https://guides.loc.gov/consumer-research/market-segments/generations

Appendix A: *Student Perceptions of Reading Preparation and Textbook Use in Professional Programs*

Survey Items	Reponses options
1) Which of the following universities are you currently enrolled?	University "A" University "B" University "C" University "D"
2) Which of the following represents your professional program?	occupational therapy (OT) physical therapy (PT) speech-language pathology (SLP)
3) How frequently do you complete the assigned readings required before class?	0-25% of the time 26-50% of the time 51-75% of the time 76-100% of the time
4) How frequently do you complete the assigned readings required before an exam?	0-25% of the time 26-50% of the time 51-75% of the time 76-100% of the time
5) I purchase required textbooks for EACH class.	0-25% of the time 26-50% of the time 51-75% of the time 76-100% of the time
6) I purchase recommended textbooks for EACH class.	0-25% of the time 26-50% of the time 51-75% of the time 76-100% of the time
7) How do you pay for your textbooks?	personal funds family funds scholarship money other
8) I sell/give away textbooks when the class ends.	0-25% of the time 26-50% of the time 51-75% of the time 76-100% of the time
9) Please share your thoughts about why you would sell/give away textbooks as a professional program student (open-ended).	
10) I keep textbooks in preparation for the certification/board exam in my profession.	Always More than 50% of the time Less than 50% of the time Never, I sell or give them away
11) Do you _____ required textbooks?	own rent borrow share with other students

12)	If given a choice regarding how to access required textbooks, which of the following would you MOST prefer?	permanently own printed textbooks temporarily rent printed textbooks permanently own digital textbooks temporarily rent digital textbooks
13)	If digital textbooks were available for each course at low cost, how much more likely would you be to read assigned course material?	definitely yes much more likely somewhat more likely no more likely
14)	Are you aware that books are selected to support the NBCOT/NPTE/Speech-Language Pathology CCC-SLP national board certification exam preparation?	yes no
15)	Are there any questions or comments regarding book usage in your professional program that you think would be helpful to add? (open-ended item)	
16)	What limits you from purchasing textbooks? (open-ended item)	