JOTE Journal of Occupational Therapy Education

Volume 8 | Issue 1 Article 14

2024

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Recommended Citation

Canter, B. E., Loitz, Z. M., Richardson, V. E., Pontes, T. B., Katz, L., Berner, K., & Almeida, P. H. (2024). A Pilot Sexual Device Adaptation Project for Occupational Therapy Students: A Skills-Based Approach to Teaching Sexual Activity as an ADL Through Assistive Technology. *Journal of Occupational Therapy Education, 8* (1). https://doi.org/10.26681/jote.2024.080114

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Abstract

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Keywords

Sexual activity, assistive technology, ACOTE standards, education, skills-based teaching

Acknowledgements

Thank you to the Boston University Department of Occupational Therapy for their support of this innovative project.

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JOTE
Journal of Occupational Therapy Education

Volume 8, Issue 1

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ABSTRACT

Despite being categorized as an activity of daily living since the first edition of the Occupational Therapy Practice Framework, no Accreditation Council for Occupational Therapy Education (ACOTE) standards exist to provide guidance on teaching occupational therapy students about sexual activity as an activity of daily living (ADL). When discussed, sexual activity is usually taught via didactic lecture, but is a subject that would benefit from a skills-based approach to teaching. This pilot pedagogical exercise in a two-credit assistive technology class taught occupational therapy students to address the ADL of sexual activity with clients by having students adapt a sexual toy using basic soldering techniques and adaptive switches for a mock client. By providing a hands-on adaptive project for students, students practiced applying occupational analysis to the adaptation of assistive technology, which can generalize to other assistive technologies (such as those for adaptive gaming) and occupations, while also providing students with experience discussing sexual activity as an ADL in practice. This project is an option for occupational therapy programs looking to integrate more education on sexual activity into their current curricula, while also satisfying the requirements of assistive technology ACOTE standards.

Introduction

Sexual activities are an integral part of the concept of sexuality - a fundamental aspect of human identity, essential to health and quality of life (Edwards & Coleman, 2004). Although occupational therapy practitioners believe that sexuality should be part of clinical practice, sex remains unaddressed in most occupational therapy settings (Young et al., 2020). This is often due to a lack of confidence in knowledge or ability to effectively discuss the topic with clients, which stems partly from a lack of evidence-based sexual activity clinical recommendations in the literature (Areskoug-Josefsson & Fristedt, 2019; McGrath & Sakellariou, 2015).

Sexual activity is a highly complex occupation, requiring a specialized, client-centered approach that considers the physical, emotional, and environmental aspects involved in its performance (Ellis & Sakellariou, 2020). In the United States, sexual activities have been considered an activity of daily living (ADL) by the American Occupational Therapy Association (AOTA) since the publication of the first edition of the Occupational Therapy Practice Framework (OTPF; AOTA, 2002). The definition of sexual activities adopted by AOTA has changed with every new edition of the OTPF, which is demonstrative of the complexity of the occupation. From considering sexual activities solely as means to achieving sexual satisfaction (AOTA, 2002, 2008), the definition incorporated reproductive and relational needs (AOTA, 2014) and was further expanded to include other aspects of intimacy and sexual expression, as well as the concept of engagement in such activities with self or others (AOTA, 2020).

Nevertheless, twenty years after its original classification as an ADL and recent modifications to its formal definition (AOTA, 2020), there are still no educational requirements or measurements pertaining to sexual activity by the Accreditation Council for Occupational Therapy Education (ACOTE) in the United States (ACOTE, 2018). As a result, little guidance exists on the effectiveness of non-didactic methods to teach future occupational therapists to address sexual health with clients.

This lack of guidance has resulted in many instructors relying on lecture-style teaching methods when educating occupational therapy students on sexual activity. One study of 51 occupational therapy educators found that 86.3% of instructors relied on didactic methods to teach about sexual activity as an ADL, with only an average of 3.5 hours of entire curricula devoted to the topic (Lohman et al., 2017). When group activities and other non-didactic methods were used, they only lasted an average of 38 minutes. This is markedly low compared to the amount of time devoted to other occupations and is identified as an urgent need in occupational therapy education (Areskoug-Josefsson & Fristedt, 2019).

DOI: 10.26681/jote.2024.080114

Due to the complexity and the critical thinking involved in assisting with the occupation of sexual activity, it can be argued that training future occupational therapists in enabling sexual activity as an ADL requires just as much time devoted to it as other ADLs. Formal occupational therapy education on the topic is believed to increase the chance that students will think about sexual activity in practice when they become clinicians (Jones et al., 2005). Education related to addressing sexual health may be ideal for a skills-based learning approach (Coleman et al., 2013).

Assistive technology (AT) can often play a vital role in supporting sexual activity, as with many other ADLs. However, individuals with disabilities often do not have equitable access to sexual activity assistive devices. Sexual activity assistive devices are assistive technologies that aid individuals in the completion of or enhance the experience of sexual activity, including classic sexual toys and assistive technology aimed to assist individuals with disabilities with the ADL, in part due to the lack of clinician expertise and skills (McGrath & Sakellariou, 2015; World Health Organization [WHO], 2022). Numerous barriers for accessing AT have been identified globally, including the range and supply of products, availability of qualified personnel and providers, and appropriate policy (WHO, 2022). These often-reported barriers are further heightened by limited resources and information regarding the ways that AT can facilitate sexual pleasure and intimacy (Fielder, 2013). A rights-based approach to sexual expression assumes that all individuals deserve equitable access to an outlet for sexual activity as an ADL (McGrath & Sakellariou, 2015).

Universally designed devices are created to be usable by as diverse a group of people as possible without the need for further adaptation to achieve this usability (Sanford, 2012). Sexual devices developed with adherence to the principles of universal design may be most usable without adaptation or modification (Iwarsson & Ståhl, 2003; Persson et al., 2015). When universally designed products are not available, AT may be necessary to promote access, as operating sexual devices may be physically and cognitively challenging, due to button size and location, as well as complex functions and control sets.

Despite its importance, accessible sexual devices, suitable to client needs, are difficult to acquire due to a lack of products following universal design principles. While a few universally designed products do exist, they are often significantly more expensive than similar non-adaptive devices. It is also difficult to acquire adapted devices due to inadequate clinician knowledge (McGrath & Sakellariou, 2015). As the use of low-tech AT to support sexual functioning has demonstrated positive psychosocial outcomes including confidence and self-esteem (Jiménez & Ordóñez, 2021), this project aimed to highlight an approachable way occupational therapy practitioners can adapt high-tech AT to support similar goals. A secondary aim of this project was to provide students with experiential opportunities facilitating students' engagement in destigmatized clinical discussions about sexual activities as an ADL.

In this paper, we outline the objectives and rationale for the adaption of sexual activity assistive devices, as a skills-based pedagogical activity for occupational therapy students. We describe the development and execution of a piloted skill-based project in an AT course to capacitate students to address sexual activity challenges with future clients. Lastly, we emphasize the importance of clearer professional educational standards around teaching about the ADL of sexual activity going forward.

Methodology

Description

This skills-based educational activity was embedded in a two-credit course on AT offered to first-year occupational therapy doctoral students at a University in the Northeast United States.

Traditionally, occupational therapy students receive training in AT through lectures and practical activities covering several topics – from seating and mobility resources to devices and processes that enable participation in meaningful activities and occupations. Among those topics, environmental modifications are one of the top AT categories in which occupational therapy students are trained (Dishman et al., 2021). Usually, in our program, students' proficiency in AT is partially demonstrated by adapting an electronic toy – changing its activation and control to external capability switches – based on hypothetical demands from a case study describing children with different movement control issues. This educational activity aligns with the current accreditation standards (see Table 1) and is considered a common practice among entry-level occupational therapy curricula in the United States (Dishman et al., 2021).

However, for the scope of this project, instructors provided a simulated scenario of an adult with fine motor deficits, abnormal muscle tone with spasticity, and limited mobility who was interested in using a sexual toy to achieve self-pleasure through masturbation (see Table 2). After analyzing the case, students worked on three different tasks: (1) analyzing the individual and environmental needs presented by this scenario, (2) analyzing commercially available devices for their accessibility, physical and cognitive performance requirements, and (3) adapting a sexual toy to match the client’s goals.

DOI: 10.26681/jote.2024.080114

Table 1

Learning Outcomes, Accreditation Standards and Pedagogical Activities

Learning Outcome	ACOTE Accreditation Standards (ACOTE, 2018)	Planned Activity
Describe the personal, occupational and contextual factors that should be considered for an AT user.	**B.4.3. Occupation-Based Interventions:** Utilize clinical reasoning to facilitate occupation-based interventions that address client factors. This must include interventions focused on promotion, compensation, adaptation, and prevention.	Activity analysis: individual and environmental aspects involved in the use of a sexual toy for masturbation by a client with limited physical function
Identify adaptations to AT to enhance clients' occupational performance.	**B.4.11. Assistive Technologies and Devices:** Assess the need for and demonstrate the ability to design, fabricate, apply, fit, and train in assistive technologies and devices (e.g., electronic aids to daily living, seating and positioning systems) used to enhance occupational performance and foster participation and well-being.	Market analysis: Availability and suitability of off-the-shelf sexual toys for clients with disabilities
Apply principles of universal design to consider mainstream technology for meeting the needs of an individual with a disability.	**B.4.18. Grade and Adapt Processes or Environments:** Assess, grade, and modify the way persons, groups, and populations perform occupations and activities by adapting processes, modifying environments, and applying ergonomic principles to reflect the changing needs of the client, sociocultural context, and technological advances.	Adapting a sexual toy for a client with limited physical function

Note: ACOTE: Accreditation Council for Occupational Therapy Education; AT: Assistive Technology

Table 2

Clinical Scenario

- M. is a 39 year-old adult with limited fine motor skills, abnormal muscle tone and spasticity.
- M. uses a power wheelchair with adapted seating for mobility tasks. M. controls the wheelchair and several other equipment through capability switches installed on the wheelchair.
- M. lives with their partner, J. in a two-bedroom apartment.
- During assessment, M. expresses the desire to use a sexual toy for masturbation. M. plans to use the toy with J. and for self-pleasure. M. wants to be able to control the device during sexual activities.
- M. has searched for potential sexual toys on the internet but is unsure on how to activate and control the device.
- For this project, M. has a budget of $100.00 (US).

Step 1: Analyzing the Activity

Using the Person-Environment-Occupation (PEO) model (Law et al., 1996), students considered relevant client needs within the categories of personal factors, environmental context, and occupational demands. Students prioritized choosing a device that could additionally be used during partnered sex, although the activity analysis was performed considering the activity of masturbation. As neither the sex nor gender of the client had been specified, students used clinical reasoning skills to look for a device with a wide range of potential uses for all bodies.

Considering the limited motor function in the simulated scenarios, in addition to prioritizing the client's safety, a remote-controlled device was selected. This feature would allow for adaptation to switch control while preserving the body-safe design of the toy and preventing the risk of fluids damaging the electrical components.

Step 2: Market Analysis

Students searched online to compare various remote-controlled sexual activity assistive devices and researched a wide range of device styles through internet retailers. Examples of internet retailers included stores known for selling sexual devices direct to consumers (e.g. www.Shevibe.com, www.lovehoney.com, etc.) as well as general merchandise retailers (e.g. Amazon.com, Target.com, etc.). Such device styles included those with specific features to support accessibility such as suction cup bases, molding to fit securely inside underwear, and hands-free vibrators designed to be sat or laid on.

After comparing devices online, students visited a sex device retail store for assistance from vendor employees to compare the various types of remote controls. A vendor representative showed an array of remotes and described their construction (screws, locking mechanisms) and the features of the accompanying devices. With vendor assistance, students compared device remotes to determine which would be easiest to accommodate switch adaptations. Students ultimately decided on the Svakom Primo

DOI: 10.26681/jote.2024.080114

device (see Figure 1), a $74.99 vibrator with a 3-button remote. This remote had two halves that clicked together, making it feasible to take apart and adapt to a switch design. Two buttons controlled the vibration pattern and intensity, and the third button activated the warming feature of the device, which heated the body of the device to 100.4° F. Other devices considered are listed in Appendix A.

Figure 1

Svakom Primo Vibrator and its Remote Control Before Adaptation

Step 3: Adaptation Phase

Students prepared for the adaptation process by acquiring the necessary capability switches and receiving hands-on teaching and guidance in soldering and basic circuitry. Materials included three capability switches, three 1/8” mono jacks for panel mounting, as well as a plastic project box for the final packaging of the prototype. Students practiced identifying components and understanding electronic circuit boards’ function beforehand, then practiced these technical skills over the course of two, two-hour application sessions.

The plastic case of the device remote was opened to expose the circuit board. For each button, two wires were soldered and attached to a universal 1/8” mono jack, which would allow various types of capability switches to be connected depending on client access needs and preferences. Students determined that the best way to package the final device for consumer use would be to place the entire remote within a small plastic project box with three universal 1/8” switch ports or “jacks”. Each jack can be accessed from outside the project box, allowing the client to attach and exchange capability switches without damaging the circuitry. The final prototype has three jacks for power, intensity, and warming. For pictures and detailed descriptions of each step of the adaptation process, see Appendix B (Figures 1 - 5).

After the adaptation was completed, instructors organized a debrief session. The debrief session occurred in the context of an hour-long virtual meeting with all individuals involved in the project. Instructors requested student feedback regarding the structure of the project to assess the viability of repeating it in the future. Students expressed during the debrief session they felt the project helped them work on a variety of skills including communication and problem-solving as a group. They also shared they valued the experience the project gave them in addressing their own misconceptions about sexual activity (see Table 3). Students and instructors agreed on changes that could be made for future projects of a similar nature. Subjective assessment by both students and instructors during the post-adaptation debrief session indicate that all learning objectives were met.

Table 3

Examples of Misconceptions Around Sexual Activity Individuals Discussed During the Debrief Focus Group Session

Misconception originally held by students	**How students explained the misconception was addressed by project**
Engaging in sexual activities is not a problem for individuals with disabilities.	By navigating the activity analysis process for sexual activity, students were exposed to the challenges that individuals with physical disabilities can face when trying to engage in sexual activity.
Sexual activity is not something individuals with disabilities are capable of.	By navigating the activity analysis process for sexual activity, students brainstormed how individuals with disabilities can overcome challenges and adapt sexual activity to successfully engage in the occupation.
Sexual activity is not something individuals with disabilities are interested in.	The case study, based on a real case, demonstrated an example of an individual with a disability who may be interested in sexual activity.
Adaptive sexual toys are easily accessible online for people with disabilities.	Through the market analysis, it became clear to students that finding adaptive toys for sexual activity that were appropriate for individual clients' needs within a reasonable price (or a price similar to the prices of sexual toys not intended for someone with a disability) was quite difficult.
Individuals with money to spend on sexual activity can easily find a sexual device that will work for them.	Through the market analysis, it became clear to students that while there were some adaptive devices that could be bought, they did not exist for all types of bodies and functional challenges, and many clients with physical conditions likely would struggle to find devices that worked for them at any price.

DOI: 10.26681/jote.2024.080114

Assessment

Student learning was assessed in a post-project debrief session with the course instructors, where the learning objectives of the course were discussed. Students were asked to describe their experience conducting the activity analysis of sexual activity, market analysis, and adapting the sexual toy. The primary topics of this discussion during this focus group centered on how individuals were able to use the Person-Environment-Occupation (PEO) Model (Law et al., 1996) to analyze sexual activity, that finding sexual toys that meet all a client's needs can be difficult, and that many of the same skills required to adapt a sexual toy are transferrable to other assistive devices. These three learning objectives are described in more depth below.

Learning Objective 1: Clients' Occupational Demands Regarding Sexual Activity

The areas of person, environment, and occupation are complex and require a nuanced approach. For this reason, students ultimately decided on utilizing the Person-Environment-Occupation (PEO) Model (Law et al., 1996), because it is effective in providing clear steps to analyze how the three elements of person, environment, and occupation culminate in one's occupational performance (Law et al., 1996). As a result of the utilization of the Person-Environment-Occupation (PEO) Model, students were able to gain a better understanding of how broad theories—defined as a theory that provides a framework for organizing thoughts and categorizing phenomena and observations, rather than referring to specific causal relationships (Cohn & Coster, 2013)—are used to break down the occupational demands of tasks in sexual activities (in this case, masturbation). Activity analysis can enhance the ability to empower the client to perform an occupation (e.g., sexual activity as an ADL).

Examination of Client Factors: Person

The decision by instructors to purposefully specify the client's disability only in terms of functional limitations, as opposed to a specific diagnosis, taught students to treat the person holistically, and not treat a specific diagnosis. No specific race, ethnicity, nationality, or culture was specified. Students learned how to weigh the importance of multiple client factors so that they could be prioritized when choosing devices for actual clients in their future practice. For instance, after discussing the impact of clients' body structures on their ability to fulfill occupational demands, students chose a sexual device that had a warming function based on the client's sensory function. Students agreed that this feature could be beneficial for a client with spasticity or tight pelvic floor muscle tone, as the warmth could help with muscle relaxation and reduce spasticity.

Body structures also impacted market analysis decisions around what type of shape would be best for the client; the flared base of the toy chosen allows for internal anal stimulation, as well as vaginal or external stimulation of the clitoris, penis, testicles, or perineum. The ergonomic shape of the toy would also allow for easier manipulation by a client with limited fine motor skills, as the flared base could be held with a gross grasp for external stimulation. Navigating these decision processes as a team promoted problem-solving and critical thinking skills regarding activity analysis.

Activity Analysis: Environment

Students learned about the impact of the environment on sexual activity. To ensure the client is physically comfortable and relaxed, the environment needs to be private and safe (Hajjar & Kamel, 2003). Students gained an understanding of how various environments require different adaptation needs. For instance, students explained during the debrief that they felt they had learned how in a medicalized environment, the client may benefit from adaptations such as dimming lights and a private patient bedroom, while a client living in a private residence may require a personal care attendant to be in the vicinity (e.g. living room) in case of emergency, concepts the literature suggests is important when helping individuals with disabilities navigate safe sexual activity (Hajjar & Kamel, 2003). The size of the space also plays a role in success for many individuals. Individuals engaging in sexual activity need space to be able to move around without bumping into walls or each other in ways inconducive to sexual activity. Thus, engaging in sexual activity in too small a space or too small a bed can increase risk of injury. Further, students noticed the impact that size has on the ability to utilize certain devices. As individuals have different bodies and body types, certain sexual devices may be a better fit for some individuals' bodies more than others. Because individuals also live in different environments, certain sexual devices may be too large for smaller spaces. For instance, the Bump'n Joystick was ruled out as an option for the mock client due to its large size and need for storage space (see Appendix A).

Activity Analysis: Occupation

Students learned how to take occupational demands of sexual activity into account when analyzing the activity of masturbation. By looking at demands such as the relevance and importance of the activity to the client, space demands, and required objects and their properties, the students were able to receive hands-on experience practicing activity analysis. "Relevance and importance" can be defined as the overall meaning the client believes the activity has in their life, within the context of larger cultural norms, and how this meaning translates to the client's goals and values (AOTA, 2020). For instance, a motivating factor for the client to engage in sexual activity may be a desire to achieve or help a partner achieve sexual pleasure and satisfaction, to procreate, for emotional connection, curiosity and exploration, stress relief, or other reasons. Meaning found in occupations such as sexual activity vary highly based on the client, their personality, life experiences, and culture (AOTA, 2020).

However, because sexual activity is often stigmatized within American (and many other) cultures (Agu et al., 2016; Chilinda et al., 2014; Respress et al., 2018; Watson & Downe, 2017), students learned the importance of considering the client's potential feelings of shame or discomfort surrounding the topic. This connects to the space demand of a quiet and private environment, which not all individuals with disabilities may have access to. While this project did not focus on space demands specifically, it came up in conversations when discussing its connection to relevance and importance.

DOI: 10.26681/jote.2024.080114

An additional occupational demand for most sexual activity is the presence of another person. Masturbation is unique in that this occupation does not require another person but can be enhanced by the usage of a vibrator or other object to stimulate genitalia or other body structures of sexual pleasure. By comparing these occupational demands to the client factors and environmental factors expressed above, students independently completed complex activity analysis on sexual activity that can be generalized to their clinical practice in the future.

Learning Objective 2: Market Analysis

Students found that universally designed sexual devices are scant. Thus, students found it difficult to find a device that suited all the needs of their mock client. Given the mock client demonstrated fine motor difficulties and low grip strength in their upper extremities, it was difficult to find a toy that satisfied all occupational demands. The opportunity to search for devices that fit their mock client's needs provided students with an opportunity to practice critical thinking and problem-solving skills when trying to find items that would assist the client in the ADL of sexual activity. This made students aware of the importance of mass-produced and widely available universally designed products. Streamlined manufactured products that do not meet the client factors and occupational demands of individuals with physical limitations severely inhibit sexual performance and satisfaction.

Learning Objective 3: Adapting a Sexual Toy

Students used technical skills to adapt the sexual toy that could be generalized to various AT devices. Through hands-on learning, students discovered pre-adaptation skills including how to disassemble a remote and determine what part of the circuit board needs to be soldered. During the adaptation phase, students learned how to solder, adapt the remote with 1/8” switch ports, and encase the remote for ease of client use. These skills will allow these students to find confidence as emerging clinicians in the adaptation of AT to support future clients in occupational performance and participation. Steps of the adaptation process are outlined in Appendix B (Figures 1-5).

Discussion

In this pilot pedagogical program, students completed a project focused on adapting a sexual toy to enable a hypothetical client to engage in sexual activities. The primary purpose of this project aimed to teach students how to adapt a sexual device to fit the individual needs of the client. Secondarily, this project aimed to teach students how to engage in destigmatized discussions of sexual activities as an ADL.

Practicing hands-on therapeutic skills in occupational therapy is among the least frequent requirements for occupational therapy programs compared to discussing theoretical concepts such as the OTPF (Krishnagiri et al., 2019). The lack of hands-on pedagogy occupational therapy students receive in general is compounded in the case of the knowledge and confidence of clinicians in addressing sexual activity as an ADL, due to the stigma and discomfort that is associated with the occupation (Areskoug-Josefsson & Fristedt, 2019; Lohman et al., 2017). This training activity allows students to address the occupation of sexual activity more comfortably with their future clients

and other clinical professionals (Areskoug-Josefsson & Fristedt, 2019). Students also adapted a sexual device in a professional and clinical setting, preparing them as future clinicians when the need arises in a real clinical case – an essential aspect currently lacking in many occupational therapy curricula (Dishman et al., 2021).

In the past, repeated exposure to content and knowledge through didactic teaching styles was the primary means of instruction in higher education (Jackson & Lapinski, 2019). Providing opportunities to explore and practice skills outside of a lecture hall embraces universal design principles for learning, enhancing the opportunities for diverse learners (Jackson & Lapinski, 2019). Current approaches in AT education for occupational therapists teach students how to adapt devices and environments to enable clients to engage in all sorts of meaningful occupations (Dishman et al., 2021) – and yet, the use of AT principles to enable participation in sexual activities is scarce (Jiménez & Ordóñez, 2021). This dichotomy may derive from persistent views of disability and sexuality, with a consistent depiction of people living with physical disabilities as asexual (Buljevac et al., 2012; Esmail et al., 2010; Holland-Hall & Quint, 2017).

Sexuality is essential to an individual's identity and daily life (Compeán-Villegas et al., 2022). Despite recognizing sexual activities as an indispensable, meaningful ADL, occupational therapists are constantly confronted with the lack of training on addressing occupational performance issues affecting clients' sexual activities (McGrath & Sakellariou, 2015). The literature shows that sexuality is taught in such reduced quantities because the topic is seen as quite broad, and instructors often lack knowledge and experience in assisting clients with such demands (Lohman et al., 2017). Lohman et al. (2017) also emphasized how scant information in textbooks on sexual activities plays into its absence in curricula. This pedagogical exercise addresses these concerns since the skills of adapting other devices, such as gaming devices and battery-operated toys—which many AT professors do have experience in—are transferable to vibrators and other sexual toys. This class activity allowed instructors to feel more confident in teaching about sexual activities, as they could utilize their prior knowledge in AT adaptation.

Furthermore, studies found that similarly to healthcare professionals in their clinical settings, students find it uncomfortable to discuss sexual activity in the classroom (Areskoug-Josefsson & Fristedt, 2019; Compeán-Villegas et al., 2022; Hattjar et al., 2008; Hunter et al., 2017; Lohman et al., 2017). Despite sexuality being a crucial topic for occupational therapy practitioners, at least 34% of OT students felt less than competent when presenting information related to sex and sexuality to clients (Duran & Valdes, 2021). While it may be true that not all students are comfortable discussing sexual activity in a classroom context (Areskoug-Josefsson & Fristedt, 2019), it is a reality that sexual activity is essential for many clients (AOTA, 2020) and that clients deserve assistance in ensuring they can perform and enjoy this occupation safely and without stigma (Rose & Hughes, 2018). Thus, it is crucial to provide students with the

DOI: 10.26681/jote.2024.080114

opportunity to practice the skills required to enable clients to participate fully in sexual activity so that they may become more comfortable discussing the topic with clients and colleagues (McGrath & Sakellariou, 2015; Rose & Hughes, 2018).

Western cultural and societal norms assume sexuality is based on a desire for heterosexual monogamy between two non-disabled individuals (McGrath & Sakellariou, 2015). Through talking to peers about sex in a clinical and academic environment, students learned to view the sexuality of individuals with disabilities more inclusively. By holding a discussion surrounding a societally stigmatized topic, students gained the ability to reconsider their own biases and assumptions about sex and sexuality, specifically among individuals with disabilities (Esmail et al., 2010). They could question their potential misconceptions and those of their peers, as discussed during the focus group.

Implications for Occupational Therapy Education

This exercise allowed students to combine theoretical pedagogy with hands-on skills training, culminating in a more holistic and complete readiness to matriculate into the workforce as occupational therapy clinicians. The device hack allowed students to collaborate on determining a solution to a real-world problem, which may strengthen knowledge development. While there are multiple barriers to teaching sexual activity, this in-class exercise overcame many, enabling learners to gain experience assisting clients with the performance of sexual activities. This skills-based activity provides educators with an evidence-based way to equip occupational therapy students with the knowledge and training they need to address sexual activity with clients when they become entry-level practitioners.

Limitations

This project provided many benefits to occupational therapy students and faculty in terms of its ability to increase knowledge and confidence regarding AT adaptation and activity analysis related to sexual activity. However, one limitation of this project was cost, as finding a substantial number of affordable devices may be difficult. However, this activity may still be possible on a more limited budget, assuming one purchases a lower-quality vibrator and materials. In some ways, this may be beneficial, as a finite budget stimulates students to consider situations frequently faced by practitioners.

To properly guide students in this project, instructors should have expertise not only with AT but switchboards and electronic adaptations. If an occupational therapy department does not have an instructor with this experience, this may be an opportunity for interprofessional education collaboration with other departments such as engineering departments, that can assist in supplementing the occupational therapy instructor’s knowledge.

Another limitation of this project was the exclusion of the sexuality and gender of the client depicted in the case study, limiting the students’ ability to consider all varieties of sexual and gender identifications. In future implementations of this project, case studies (or mock clients) are highly encouraged to provide specific sexual and gender identities,

so students may practice talking about and analyzing sex as it applies to these various diverse identities. Of note, the case studies of mock clients should include a diverse range of sexualities and gender identities, as to avoid the marginalization of any groups or people.

A final limitation of this study is that while a debrief session was conducted, no formal post-assessment was performed. Future research may want to conduct a similar pedagogical project of a sexual device adaptation with OT students and conduct a qualitative or quantitative assessment at the end.

Conclusion

Sexual activities are not adequately discussed in occupational therapy curricula and, as a result, are inconsistently addressed with clients in clinical practice. This pilot project consisted of students using activity analysis and basic technical skills of soldering and switch adaptation to adapt a sexual toy to meet a client's needs. This educational activity aimed to teach students about the limited availability of universally designed products, provide clients with hands-on activity analysis experience, and teach the process of adapting remotely operated devices. In addition to meeting these aims, students discussed the stigmatization of sexual activity in individuals with disabilities and how to provide interventions to sexual activities inclusively and professionally. This project provides a unique hands-on opportunity for OT students to practice conducting activity analysis regarding the occupation of sexual activity.

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Appendix A

Other Devices Considered for Mock Client

Device:	Cost:	Features:	Relevance to client:
SheVibe 3Some Wall Banger Deluxe	$79.99	- Internal or external use - Remote control - Rechargeable - Positioning strap - Optional suction cup base	- Positioning strap and optional suction cup base add to accessibility options, especially with fine motor and mobility limitations
LoveHoney Mantric Panty Vibrator	$69.99	- External use only - Remote control - Rechargeable - Ergonomic design to fit snugly in pair of underwear or boxers	- Could be placed in underwear by someone else (caregiver or personal care attendant), allowing client to operate in private once device is placed - Originally designed to fit against the clitoris, but also could be placed to provide vibrations to the penis, testicles, perineum, or anus
Bang! Ultra Powerful Remote Control Bullet	$29.95	- External use only - Remote control - Rechargeable	- Small size could make it more difficult to hold in place with fine motor challenges - Could easily slip out of position if placed in a pair of underwear or boxers - Could be adapted with a harness or other positioning supports to keep it in place during use
VibePad Ride On Hands-Free Humping Vibrator	$119.00	- External use only - Specifically made for individuals with mobility challenges or anyone who wants hands-free external stimulation - Designed to be sat or laid on, with two ridges to stimulate the clitoris,	- Over budget

DOI: 10.26681/jote.2024.080114

		vagina, testicles, perineum, or anus	
Bump'n Joystick	$249.00	- Assist in utilizing vibrator	- Over budget - Large size discussed as potential barrier to client

Appendix B

Detailed Descriptions of Each Step of the Adaptation Process

Figure 1a

The Remote Unadapted

Figure 1b

The Remote Opened

Step 1: Remove the remote from the packaging (Figure 1a) and open the remote to reveal the circuit board (Figure 1b).

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Figure 2a

Circuit Board with One Insulated Wire Soldered

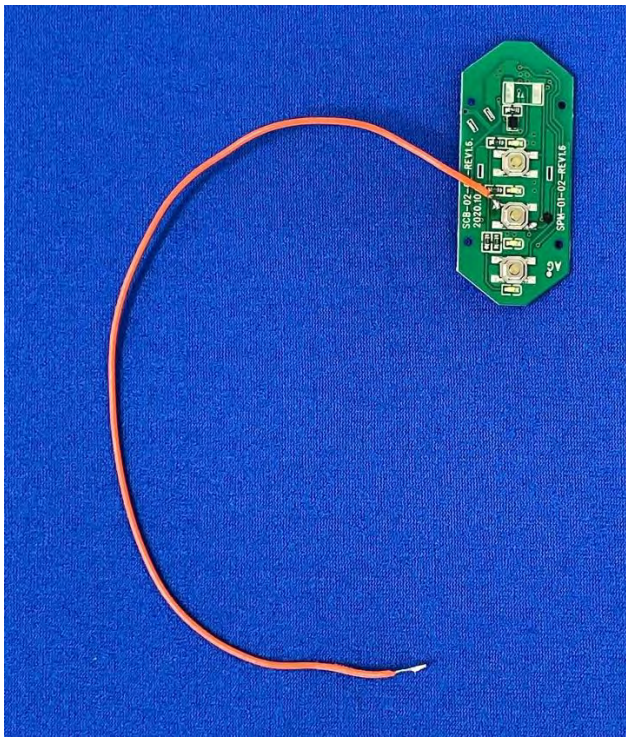
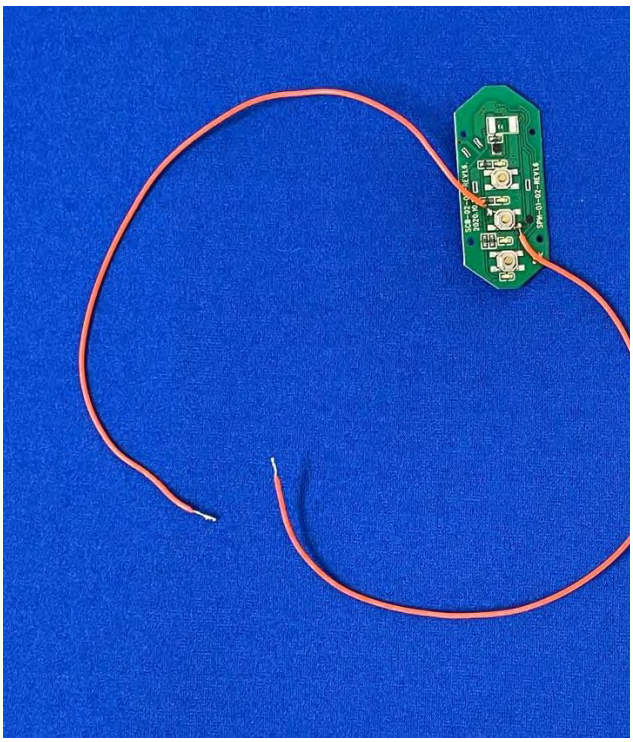


Figure 2b

Circuit Board with One Insulated Wire Soldered



Step 2: Remove the circuit board and solder the metallic end of an insulated wire on the via hole of the circuit board on the button that is to be adapted (Figure 2a). Repeat this step so there is another wire soldered of the via hole diagonally across the button to be adapted from the first wire (Figure 2b).

Figure 3a

Circuit Board with One Mono 1/8” Jack Attached

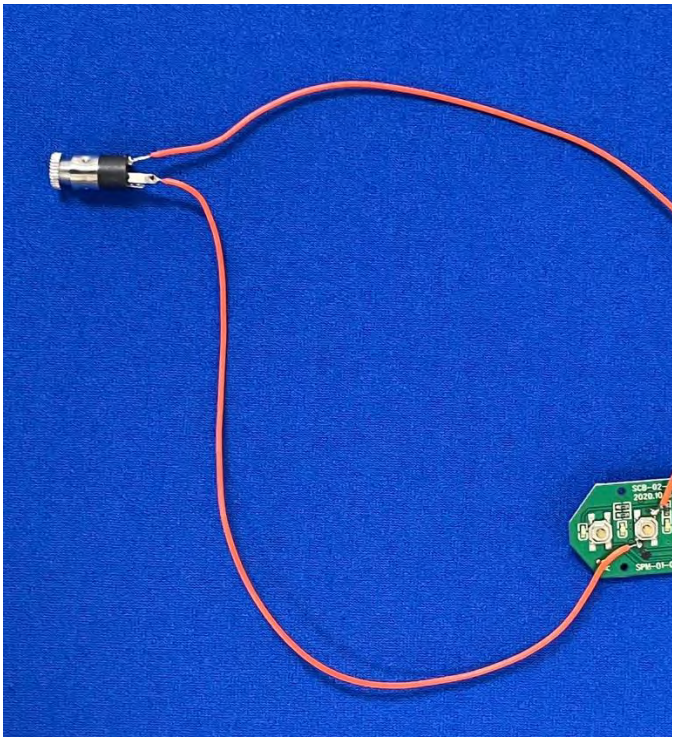
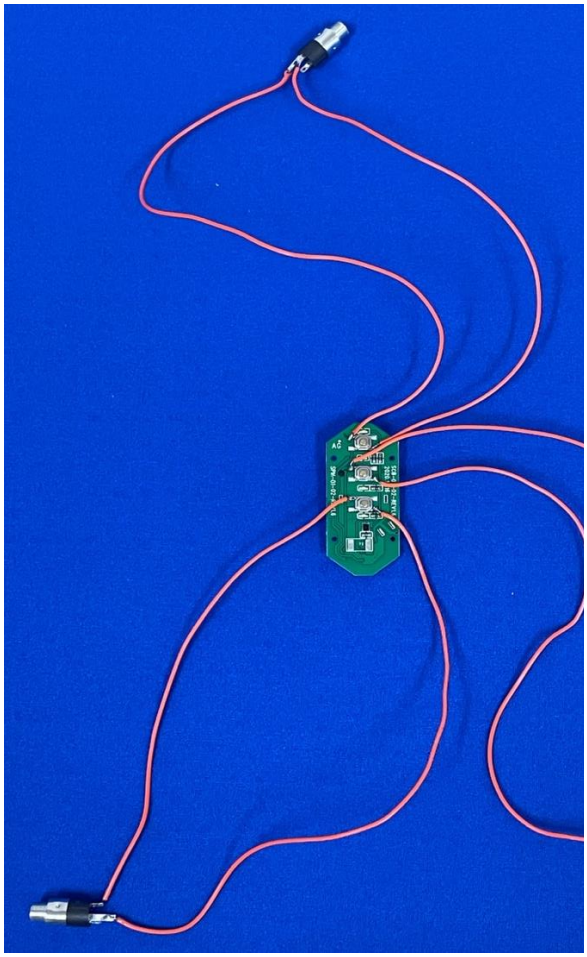


Figure 3b

Circuit Board with Three Mono 1/8” Jack Attached



Step 3: Solder the other end of each wire to a mono 1/8” jack. Repeat steps 2 & 3 until all desired mono 1/8” jacks have been soldered (Figure 3b).

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Figure 4a

Outside of Project Box with 3 Holes Drilled. 2 Holes have 1/8” Jacks Affixed

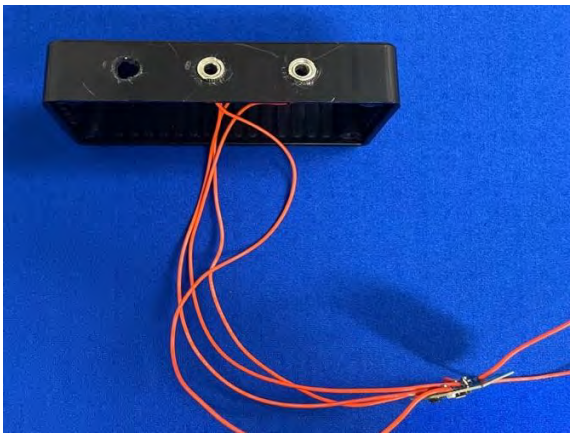


Figure 4b

Inside of Project Box with Two 1/8” Jacks Affixed

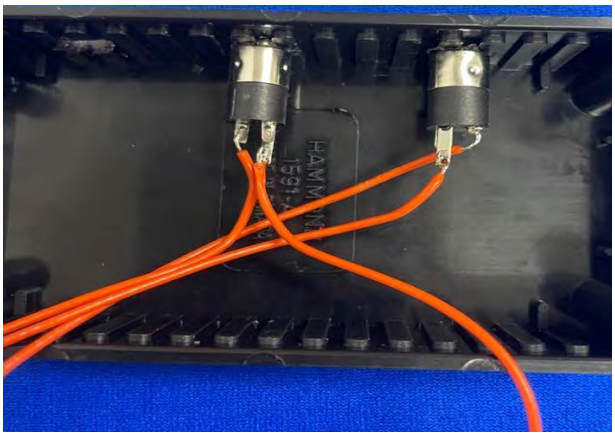


Figure 4c

Project Box Packed with Circuit Board and Wire Before Lid

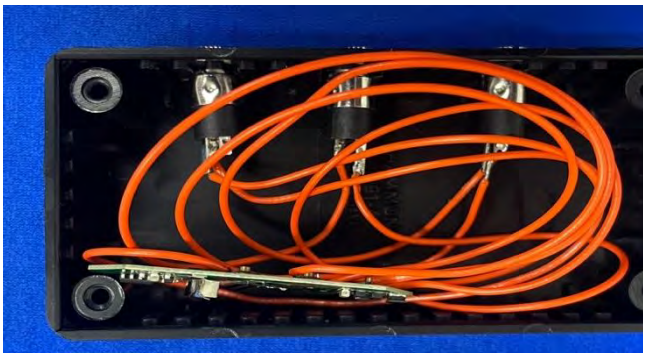


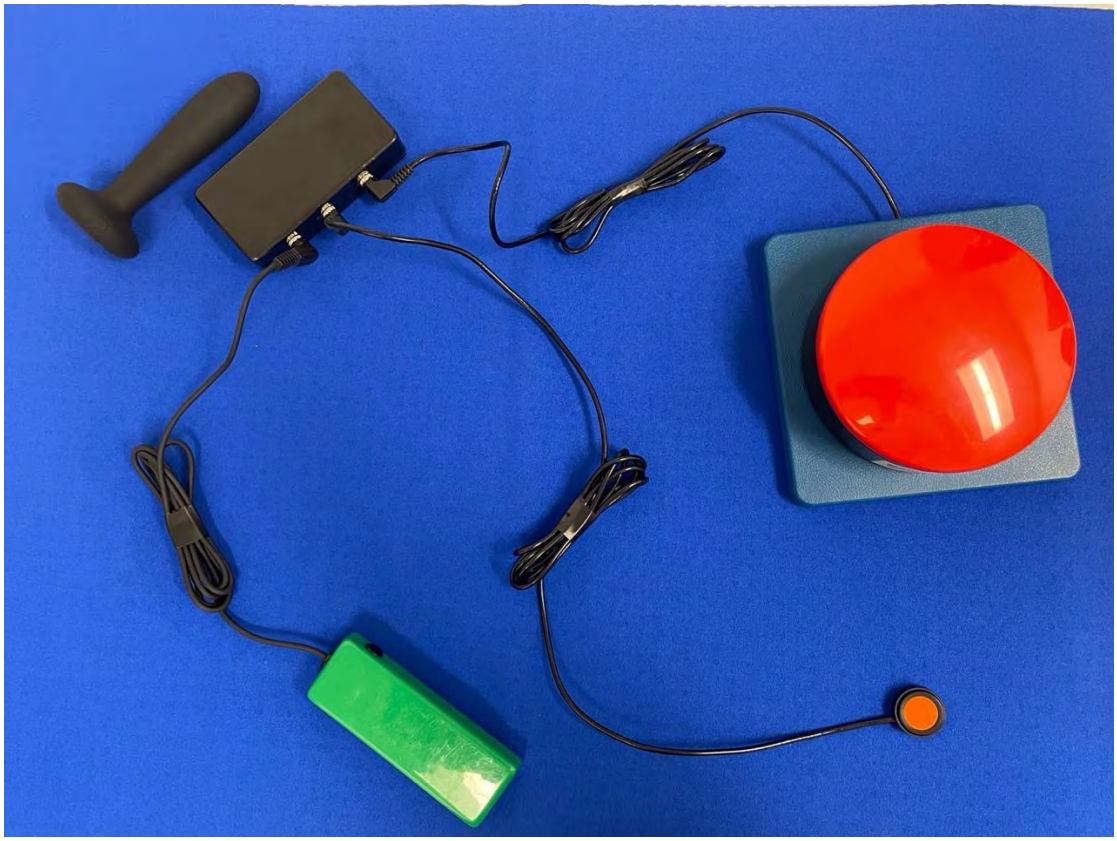
Figure 4d

Project Box Packed with Circuit Board and Wire After Lid Applied

Step 4: Drill holes in the side of a plastic project box (Figure 4a). Affix 1/8” jacks in each of the holes and secure them with mounting nuts (Figures 4a & 4b). Place the circuit board and wires in the project box (Figure 4c) and cover it with a lid (Figure 4d).

Figure 5

Final Product of Vibrator and Completed Project Box, with Three Adaptive/External Capability Switches Attached



Step 5: Attach/insert adaptive/external capability switches to your device. You have finished adapting the remote to your vibrator/sex toy.

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DOI: 10.26681/jote.2024.080114