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Editorial

Welcome to the Conference Proceedings of the 36th Annual Pacific Rim International Conference on Disability & Diversity 2021

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Abstract

This is a welcome message for the Conference Proceedings of the 36th Annual Pacific Rim International Conference on Disability & Diversity 2021 at the Center on Disability Studies at the University of Hawaiʻi at Mānoa.

Keywords: Pacific Rim, disability, conference, COVID-19

We are delighted to share the Conference Proceedings for the 36th Annual Pacific Rim International Conference on Disability and Diversity 2021. The conference is an annual Hawaii tradition. Since 1988, the conference has provided a forum for those concerned with disability and diversity to gather together and share research, ideas and strategies. In what has become the Premier international gathering on disability, researchers, practitioners, businesspeople, policymakers, advocates and others from across the globe come together to consider ways to improve the lives of people with disabilities.

This collection continues that tradition and represents some of the diverse voices that were present at Pacific Rim 2021 in March 2021. The volume offers innovative global perspectives on accessibility, education, mental health, indigenous perspectives, healthcare, and strategies on meeting the ongoing challenge presented by COVID-19.

Pacific Rim 2022 pacrim.coe.hawaii.edu

Building on the announcement of this collection, we are also pleased to announce the upcoming opening of registration for Pacific Rim 2022. The 37th Annual Pacific Rim International Conference on Disability & Diversity invites participants to gather together on the theme *Mobilize for action!* and come together to move forward towards meaningful action that improves the life of people with disabilities. As we celebrate our 37th year, the upcoming conference takes place February 28 and March 1, 2022 HST (with a Pre-conference Celebration Day on February 26, 2022 HST). Presentation proposal submissions are now being accepted. **Submissions will be accepted until December 1, 2021 at pacrim.coe.hawaii.edu.**

The 37th Annual Pacific Rim Conference will offer a wide variety of opportunities for participation, including:

- poster presentations,
- live and recorded sessions, and
- capacity building institutes.

For this year's theme, *Mobilize for Action*, we are especially inviting proposals that invite attendees to move forward together, taking collective action to amplify our power for change.

Presentations will fall within five general strands:

(1) **Communities:** Autism & Neurodiversity; Deaf Community; Family Engagement; Indigenous & Cultural Diversity

(2) **Education:** Higher Education, Disability, & COVID-19; PreK-12 Education, Disability, COVID-19; Social-Emotional Learning

(3) **Employment and Career:** Accessibility & Accommodation Issues; COVID-19

and Employment Issues; Innovations and Challenges in Career Development; Transition from Postsecondary Education to Employment

(4) **Health & Well-being:** Disability and Health; Mental Health Issues & COVID-19; Well-being and Flourishing; and

(5) **Disability Studies & Diversity Issues:** Disasters and Emergency Preparedness; Disability Policy and Advocacy; Creativity, Media & the Arts; Disability Studies & Intersectionality.

As the pandemic has helped focus global attention on the vulnerabilities of the body and our mutual interdependence, there is growing general awareness of the importance of addressing the needs of people with disabilities in any vision of social justice. In this most extraordinary time, we look forward to hearing your voice at Pac Rim 2022 on February 28th and March 1st, 2022 (with pre-conference Celebration Day February 26th.)

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The Pacific Rim International Conference on Disability & Diversity is hosted by the Center on Disability Studies at the University of Hawaiʻi at Mānoa. Learn more about the Center on Disability Studies at https://cds.coe.hawaii.edu .

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Research Articles and Essays

A Universal Design Framework for Addressing Diversity, Equity, and Inclusion on Postsecondary Campuses

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Abstract

The pivot toward online courses and services as a result of the COVID-19 pandemic amplified weaknesses in an accommodation approach to making academic offerings accessible to students with disabilities. This article elaborates on how a universal design approach can more effectively reach diversity, equity, and inclusion goals with respect to students with disabilities.

Keywords: diversity, universal design, postsecondary education

Weaknesses in an accommodations approach to making campus offerings accessible to students with disabilities were illuminated as campuses moved postsecondary courses and services online at lightning speed as a result of the pandemic. Offices that provide accommodations have reported significant increases in requests for remediation of inaccessible curriculum materials, including digital documents, as well as other aspects of online delivery. Why do so many leaders in higher education consider it reasonable to marginalize one group of students by requiring that they provide documentation of their disabilities and make special requests from a designated office for an accommodation *simply* to have access to the basic materials provided to other students in courses? Why do so many courses use inaccessible materials and practices when there are established principles, guidelines, and evidence-based practices for designing accessible and inclusive courses as they are being created?

An accommodation process for addressing the inaccessible design of physical spaces, technology, courses, and services is deeply rooted in the culture of most postsecondary institutions. In this approach a professional identifies an individual's functional "deficits" and prescribes adjustments that allow this person to engage in an offering that is not accessible to them as initially designed. The idea of an accommodation rests on the view that the difficulties people with disabilities experience are a direct result of *their* deficits rather than deficits in the product or environments to which they seek access. Besides marginalizing students with disabilities by requiring a segregated process for gaining access to what the institution routinely offers to other students, an accommodation approach often results in students receiving accessible course materials at a later time than other students. In addition, accommodations only benefit students who have documentation to validate their disabilities and choose to disclose them, even though this group has been estimated to be less than one third of the students with disabilities on campuses and other groups of students might benefit from the accommodations as well (e.g., English language learners who benefit from captions on videos). And, typically the work in developing an accommodation for one student does not in and of itself make a course or other campus offering more accessible to future students. Instead, faculty members continue to use inaccessible materials and apply inaccessible practices and rely on the accommodation process to meet the needs of students with disabilities who enroll in their courses in the future.

Accessibility efforts that primarily rely on accommodations in postsecondary institutions have been criticized for their focus on the perceived "deficit" of an individual with much less attention given to remediating *deficits* in the designs of courses and other offerings. Although most people recognize the need to provide some accommodations (e.g., sign language interpreters for students who are deaf), proponents of proactive, inclusive design practices suggest that institutions reflect on their role in creating systemic barriers and commit to eliminating or at least reducing them and on how accommodations for routine, predictable academic needs could be systematically eliminated by, for example, making the use of accessibly designed course materials a standard practice.

The UD Framework

Universal design (UD) has emerged as an approach for achieve equity in the design of a broad range of applications. UD requires that a wide range of abilities and other characteristics of potential users be considered when developing products and environments, rather than simply designing for the "average" person and relying on accommodations when a product or environment is not accessible to an individual.

Universal design has been identified as an appropriate design approach to embrace in higher education because it can be applied to all products and environments and results in making them beneficial to a broad audience (Burgstahler, 2020). The Centre for Excellence in Universal Design (n.d.) in Dublin does a good job of correcting some misconceptions about UD in its list of “10 things to know about UD.” Essentially, Centre assertions include the following:

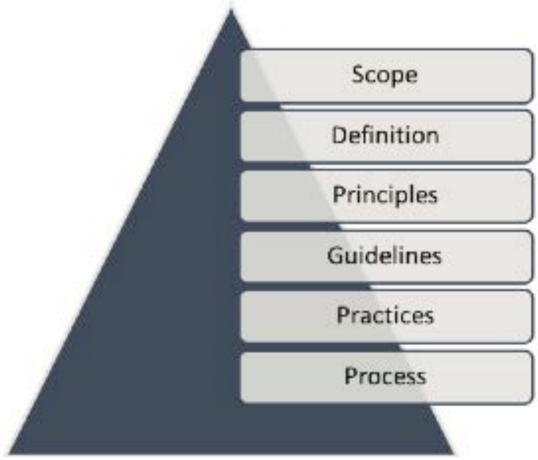
- UD is much more than just a new design trend.
- UD strives to improve an original design concept by making it more inclusive.
- UD benefits are not limited to older people and people with disabilities.
- UD is not about “one size fits all.”
- UD is not a synonym for compliance with accessible design standards.
- UD should be integrated throughout the design process.
- Universally designed products can have high aesthetic value.
- A universally designed product is the goal; UD is the process.
- UD does not aim to replace the design of products targeted at specific markets.
- UD can be undertaken by any designer, not just by specialists.

The paragraphs that follow present a UD in Higher Education (UDHE) Framework that can be fleshed out into a toolkit for a campus seeking to address diversity, equity, and inclusion efforts that include issues related to disability. Note that much content was informed by a review of the literature and the experiences of collaborators in UDHE initiatives of the DO-IT Center (where, DO-IT stands for Disabilities, Opportunities, Internetworking, and Technology) at the University of Washington (UW, n.d.a).

UD can be applied to the whole campus, as presented in this article, but also to a campus unit, such as an academic department, informal science learning facility, or online learning program. As presented in Figure 1, once a scope is determined, remaining issues to address in fleshing out the framework require choices with respect to definition, principles, guidelines, practices, and process.

Figure 1

Components of the UDHE Framework



Definition, Principles, Guidelines

The term "universal design" was coined late in the twentieth century by Ronald Mace, an internationally recognized architect, product designer, educator, and wheelchair user. He helped to develop the Center for Universal Design (n.d.) which defined UD as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." Mace's approach to design challenged more traditional approaches that designed for a "typical" user; in his view all designs should contribute to a more inclusive world *for everyone*.

The Contribution of UD to the UDHE Principles and Guidelines

In the early years of the Internet, UD practices began to be applied to the design of hardware and software to ensure accessibility to individuals with disabilities, English language learners, and other groups. Principles for the UD of any product or environment include the following:

1. *Equitable use*: The design is useful and marketable to people with diverse abilities.
2. *Flexibility in use*: The design accommodates a wide range of individual preferences and abilities.
3. *Simple and intuitive use*: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. *Perceptible information*: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. *Tolerance for error*: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

6. *Low physical effort*: The design can be used efficiently, comfortably, and with a minimum of fatigue.
7. *Size and space for approach and use*: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility. (Story, Mueller, & Mace, 1998, pp. 34–35)

These principles, originally applied in designing architecture and commercial products, have been more recently used in the design of hardware and software, later to instruction, and even later to student services (Burgstahler, 2020). The result of this proactive process of UD is products and environment that are accessible to, usable by, and inclusive of a broad audience. With respect to a product or environment, "accessible" means that individuals with a variety of disabilities cab operate it as it was designed to be used, "usable" means everyone can effectively perform its functions, and "inclusive" means it has flexible features so that people with a wide variety of characteristics can use the same product.

The UD principles have stood the test of time. For example, Principle 5, "Tolerance for error," can be used in the design of educational software—by providing feedback to guide students when they make a selection error—even though such software was only available years after the principle was established.

The Contribution of UDL to the UDHE Principles and Guidelines

UD-inspired frameworks have emerged to specifically address instructional applications. Each is based upon a common finding in educational research: that learners are highly variable with respect to their abilities, preferred learning modes, and responses to instruction. Applications of UD to create inclusive teaching and learning opportunities include Universal Design for Learning (UDL), Universal Design of Instruction (UDI), UID (Universal Instructional Design), UDT (Universal Design of Teaching), UCD (Universal Course Design), IDL (Inclusive Design for Learning). Several different approaches have been taken in adopting principles to underpin guidelines and practices for the design of curriculum and instruction. Some leaders in these efforts have simply applied the seven principles of UD and their respective; others edited or added additional principles to the UD list because they considered them necessary for making them more relevant to postsecondary instruction (Burgstahler, 2015).

The most common UD-inspired approach applied in K-12 settings underpins Universal Design for Learning (UDL). Developed by the Center for Applied Special

Technology (CAST), UDL is increasingly applied in higher education. Applying the UDL principles, which have roots in cognitive neuroscience, leads to practices where instructors offer students multiple means of engagement, representation, and action and expression, as represented below.

1. *Engagement*: For purposeful, motivated learners, stimulate interest and motivation for learning.
2. *Representation*: For resourceful, knowledgeable learners, present information and content in different ways.
3. *Action and expression*: For strategic, goal-directed learners, differentiate the ways that students can express what they know (Center for Applied Special Technology, 2018).

The Contribution of WCAG to the UDHE Principles and Guidelines

Many specific barriers to digital tools and materials faced by students with disabilities have well-documented solutions. These include those articulated by the Web Content Accessibility Guidelines (WCAG), originally published in 1999 by the World Wide Web Consortium (W3C) (2018). The Guidelines dictate that, to be universally designed, all content and user interface components of IT adhere to four guiding principles.

1. *Perceivable*: Users must be able to perceive the content, regardless of the device or configuration they're using.
2. *Operable*: Users must be able to operate the controls, buttons, sliders, menus, etc., regardless of the device they're using.
3. *Understandable*: Users must be able to understand the content and interface; and
4. *Robust*: Content must be coded in compliance with relevant coding standards in order to ensure its accurately and meaningfully interpreted by devices, browsers, and assistive technologies.

While principles that underpin WCAG were developed to apply to web-based technologies, their guidelines and success criteria can also be applied to digital media, software, and other technologies (W3C, 2013).

It is not necessary to memorize the three sets of principles for UDHE, but it is good to know that, for most applications, taking the following three actions will result in an educational product or environment that is accessible to, usable by, and inclusive of individuals with disabilities.

1. Provide multiple ways for participants to learn and to demonstrate what they have learned.

2. Provide multiple ways to engage.
3. Ensure all technologies, facilities, services, resources, and strategies are accessible to individuals with a wide variety of disabilities.

Although the need is minimized with this approach, reasonable accommodations will in some cases be necessary to ensure full access and engagement for a particular student when the universally designed offering does not already do so. For example, a student with a learning disability engaging in a universally-designed online course may require extra time on examinations as determined by a disability services office.

Practices

The first widely adopted UD practice is the routine inclusion of curb cuts in sidewalks. This feature allows a person using a wheelchair to go from sidewalk to street level without negotiating a curb. Figure 2 is a sketch of picture that appeared with an article in the UW *Daily* student newspaper in 1970. The picture shows a student with a sign affixed to the back of his wheelchair: "Ramp the curbs. Keep me off the street." In 1970, many people thought this was an unreasonable goal for the UW’s hilly campus. They were wrong. And, those who benefit from the now common practice of including curb cuts when sidewalks are being created includes parents pushing baby strollers, delivery carts, and roller bags. And, as with other universal designs, adding this UD feature to a sidewalk does not *deny* people the choice to step to street level directly from the sidewalk.

Figure 2

A UW Student Posts a Sign on His Wheelchair That Reads "RAMP THE CURBS."

Ramp The Curbs

Forging a stream of humanity, this silent protester carries his campaign on his back. His goal: to end high-rise sidewalks.

An illustration of how UD goes beyond "ADA compliance" can be found in the designs of a main entrance of a campus building. A typical design for an entrance that includes steps is to provide an alternative for those who cannot walk up the steps. This approach is accessible and usable, and usually "ADA compliant," but it is not *inclusive* because people reach the entrance door in different ways. If I walked up to this building with someone who uses a wheelchair or walker I would likely use the steps to avoid the awkward situation of walking in front of or behind my companion on the ramp. In contrast, a wide, sloping ramp to the main entrance would allow us to approach and enter the building side by side, thus meeting all three characteristics of a space that is universally designed—it is accessible, usable and inclusive.

Combining the UD approach and the capabilities of digital technology allows a user to customize a product to make it almost unrecognizable with another user's configuration. A universally designed smart phone, for example, gives users myriad choices (including text size, background color, speech output) for tailoring an environment to their unique preferences. Unfortunately, most technology developers today do not apply UD and continue to create products that are inaccessible to some potential users with disabilities.

Infusing UDHE into all aspects of higher education is an important step toward destigmatizing disability and ensuring equity for all groups. Evidence-based practices have been established for all three sets of principles included in the Framework. The list below provides examples in higher education for all fourteen principles (Burgstahler, 2020, p. 95).

- *UD 1: Equitable use*: Career services: Job postings are in formats accessible to people with a great variety of abilities, disabilities, ages, racial/ethnic backgrounds, and technologies.

- UD 2: Flexibility in use. A museum exhibit allows a visitor to choose to read or listen to descriptions of the contents of display cases.
- *UD 3: Simple and intuitive*. Assessment in a course is conducted in a predictable, straightforward manner.
- *UD 4: Perceptible information*. An emergency alarm system in a dormitory has visual, aural, and kinesthetic characteristics.
- *UD 5: Tolerance for error*. Instructional software provides guidance when a student makes an inappropriate selection.
- *UD: Low physical effort*. Curriculum software includes on-screen control buttons that are large enough for students with limited fine motor skills to select.
- *UD 7: Size and space for approach and use*. In a science lab, an adjustable table and flexible work area is usable by students who are right- or left-handed and have a wide range of physical characteristics.
- *UDL 1: Multiple means of engagement*. In a course, multiple examples ensure relevance to a diverse student group.
- *UDL 2: Multiple means of representation*. Multiple forms of accessibly designed media are used to communicate what a student service offers.

- *UDL 3: Multiple means of action and expression*. An assigned course project optimizes individual choice and autonomy.
- *WCAG 1: Perceivable*. A person who is blind and using a screen reader can access the content in images on a school website because text descriptions are provided.
- *WCAG 2: Operable*. A person who cannot operate a mouse can navigate all content and operate all functions of a learning management system (LMS) by using a keyboard alone.
- *WCAG 3: Understandable*. Definitions are provided for unusual words, phrases, idioms, and abbreviations used in instructional materials.
- *WCAG 4: Robust*. Application forms can be completed using a wide range of web browsers and assistive technologies.

Process

The following steps can be followed when applying UDHE. Note that this process suggests that the best designs for products and environments integrate *both* UDHE practices and best practices within the field of application. Putting captions on a movie of poor quality (a UDHE practice) will simply make a poor movie accessible to more people, including those who are deaf.

1. *Identify the application and best practices in the field.* Specify the product or environment to which you wish to apply UDHE. Identify best practices within the field of the application (e.g., evidence-based teaching practices, technology standards, architectural design specifications).
2. *Consider the diverse characteristics of potential user:* Describe diverse characteristics of potential users for which the application is designed—e.g., with respect to gender; age; ethnicity; race; native language; learning preferences; size; abilities to see, hear, walk, manipulate objects, read, speak—and the challenges they might encounter when attempting to engage with the product or environment.
3. *Integrate UDHE with best practices in the field:* Integrate UDHE practices (underpinned by relevant UD, UDL, and WCAG principles) with best practices within the field of application to maximize the benefits of the application to individuals with a wide variety of characteristics.
4. *Plan for accommodations:* Develop processes for the provision of accommodations for individuals for whom the design does not automatically provide access (e.g., with assistive technology or sign language interpreters). Make these processes known through signage, syllabi, publications, or websites.

5. *Evaluate:* After implementing the product or environment, collect feedback from individuals with diverse characteristics who use it (e.g., through online surveys, focus groups). Make modifications based on the results. Return to step 3 if evidence from your evaluation suggests that improvements should be made to your design. (Burgstahler, 2020, pp. 47–48).

Example: Application of the UDHE Framework to Online Learning

We have witnessed with the explosion of online offerings due to the need for social distancing a corresponding increase in certain types of accommodations that could have been addressed by course designers and instructors as their courses were being developed. The UDHE Framework can be used as a guide for designing more accessible and inclusive fully online as well as hybrid courses in the future.

Faculty and designers can begin by anticipating that students interacting in online components of a course will have diverse characteristics—one may be blind and using audible output presented by a screen reader of digital content using synthesized speech); a student with a learning disability such as dyslexia who uses text to speech technology to read aloud digital text while visually highlighting each word; a student with low vision who enlarges default fonts or uses screen magnification software; a student with fine motor impairments who uses assistive technology such as speech recognition, a head pointer, a mouth sticks, or eye-gaze tracking systems; a student in a noisy or noise-free environment or who is deaf or hard of hearing and depends on captions or transcripts to access audio content; and many students who use mobile smartphones, tablets, or other devices, which have a variety of screen sizes, as well as touch screens or other user interfaces. Although there is an interesting array of assistive technologies for people with disabilities, the good news for faculty and designers is that they do not need to be familiar with specific products in order to make simple decisions about online elements of a new or updated course in order to make it more accessible and inclusive of future students. For example, an assistive technology may emulate the keyboard, but not the mouse; this makes it important that technology used in a course can be operated with the keyboard alone. Assistive technology that reads aloud content for those who are blind or have learning disabilities cannot read words presented in an image (including scanned in PDFs); to be accessible to these students, the content needs to be presented in a text-based format. In addition, screen reader users who are blind benefit from alternative text to describe images and document and web content that is formatted using style features provided within the LMS or word processor and linked text that is descriptive.

With a deep understanding of these and other accessibility issues and an extensive literature review (see NWeLearn, in press), the author of this article, with input from collaborators in projects led by the DO-IT (Disabilities, Opportunities, Internetworking and Technology) Center created a list of 20 tips for helping faculty and designers get started in making online components of a course accessible to students with a wide range of disabilities. Always a work in progress, the list below includes some of the practices suggested in the current list (Burgstahler, 2021). The freely available document, *20 Tips for Teaching an Accessible Online Course* also includes a reference to an online tutorial and other resources for implementation of the tips (e.g., UW, n.d.b). Following guidelines such as these reduces the need for accommodations of future students with some types of disabilities.

1. Use clear, consistent layouts and organization schemes to present content.
2. Use a text-based format and structure headings, lists, and tables using style and formatting features within your LMS and content creation software, such as Microsoft Word, and PowerPoint and Adobe InDesign and Acrobat; use built-in page layouts where applicable.
3. Use descriptive wording for hyperlink text (e.g., “student services website” rather than “click here”).

4. Avoid creating PDF documents. Post most instructor-created content within LMS content pages (i.e., in HTML) and, if a PDF is desired, link to it only as a secondary source of the information.
5. Provide concise text descriptions of content presented within images.
6. Use large, bold, sans serif fonts on uncluttered pages with plain backgrounds.
7. Use color combinations that are high contrast and can be distinguished by those who are colorblind.
8. Caption videos and transcribe audio content.
9. Don’t overburden students with learning to operate a large number of technology products unless they are related to the topic of the course; use asynchronous tools; make sure IT used requires the use of the keyboard alone and otherwise employs accessible design practices.
10. Recommend videos and written materials to students where they can gain technical skills needed for course participation.
11. Provide multiple ways for students to learn (e.g., use a combination of text, video, audio, and/or image; speak aloud all content presented on slides in synchronous presentations and then record them for later viewing).

12. Provide multiple ways to communicate and collaborate that are accessible to individuals with a variety of disabilities.
13. Provide multiple ways for students to demonstrate what they have learned (e.g., different types of test items, portfolios, presentations, single-topic discussions).
14. Address a wide range of language skills as you write content (e.g., use plain English, spell out acronyms, define terms, avoid or define jargon).
15. Make instructions and expectations clear for activities, projects, discussions and readings.
16. Make examples and assignments relevant to learners with a wide variety of interests and backgrounds.
17. Offer outlines and other scaffolding tools and share tips that might help students learn.
18. Provide adequate opportunities to practice.
19. Allow adequate time for activities, projects, and tests (e.g., give details of all project assignments at the beginning of the course).
20. Provide feedback on project parts and offer corrective opportunities.

A Model for an Inclusive Campus

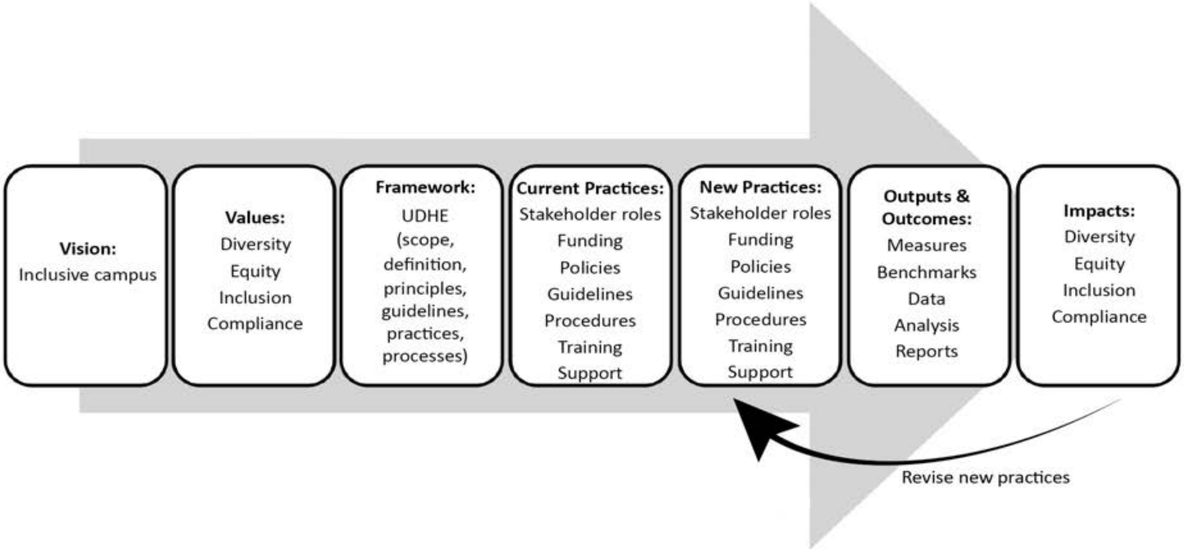
Institutions can adapt and flesh out each aspect of the UDHE Framework—scope, definition, principles, guidelines, exemplary practices, process—to create a toolkit appropriate for applying UDHE to campus practices as a whole or to those in specific units. An institution, for example, might decide to use a different definition of UD or to choose a different set of principles to apply. The UD Framework can then be used to underpin an Inclusive Campus Model to guide diversity, equity and inclusion narrowly or broadly defined for a whole campus or specific organization. The Model was developed and applied within an IT unit charged with ensuring the procurement, development, and use of accessible IT campus-wide. The Model format is well known by faculty, researchers, administrators, and evaluators who use it to present the flow of a project being proposed for funding. Such a roadmap can lead to a more accessible and inclusive campus where UDHE is routinely applied. It embraces a vision for an inclusive campus; identifies campus values that support the desired shift; embraces the UDHE Framework to create a toolkit for achieving the desired change; identifies relevant current practices; identifies and implements modifications to existing practices or new ones that are more in line with the vision, values and adopted

UDHE Framework; measures and analyzes outputs, outcomes, and impacts; and applies results to further improve practices to be more in line with the desired shift.

Figure 3 presents the Inclusive Campus Model that is underpinned by the UDHE Framework. When fleshed out with details, this flexible Model can be used as a tool to guide the creation of a roadmap for making a campus more inclusive.

Figure 3

An Inclusive Campus Model Underpinned by the UDHE Framework



The adoption of the Inclusive Campus Model or similar one adapted for a campus identifies practices that can contribute to making a paradigm shift toward a broadly defined inclusive campus. “Paradigm,” in this context refers to “a theory or a group of ideas about how something should be done, made, or thought about” (Merriam-Webster’s Collegiate

Dictionary, n.d.). A dominant paradigm is a system of thought in a society or organization that is widely held at a given time. For the group that has adopted the paradigm it provides an almost unconscious, internalized framework that affects the way they think things should work and often goes without question. Paradigm shifts—when the dominant system of thought changes—take a long time to develop. Some paradigm shifts are accomplished in the next generation if they become part of early education programs—which is what happened, at least in part, when recycling became common practice in many communities. A paradigm shift toward a UDHE approach challenges leaders to work toward constructing an institution in which everyone can fully participate. With the adoption of UDHE, when a product, environment, or social structure is found to be inaccessible to some students, leaders routinely explore changes that could be made to the product, environment, or social structure so that it contributes to the inclusion of all students.

An Inclusive Campus Model that is underpinned by the UDHE Framework can be adapted and fleshed out to create a roadmap for implementation of diversity, equity, and inclusion initiatives for the institution and specific campus units. The logic of this approach is revealed in the following short description of the efforts of a fictitious institution—FirstRateUniversity—that applies the Inclusive Campus Model.

> Our FirstRateUniversity's vision of an inclusive campus culture reflects our values that include diversity, equity, inclusion, as well as compliance with all relevant legislation and policies. Underpinning our model for change is the UDHE Framework, which we fleshed out into a toolkit tailored to our campus; we assigned stakeholder roles; secured funding; developed policies, guidelines and procedures; engaged in training tailored to stakeholder groups; created resources; and made structural changes. Throughout these activities, we updated old practices and created new ones that more closely align with our vision, values, and the UDHE Framework. We regularly measure outputs, outcomes, and impacts from these efforts and, from lessons learned, revise our practices to ensure continual project improvements. There is clear evidence that our efforts are gradually leading to a paradigm shift toward a more inclusive campus that better reflects our vision and values. (Burgstahler, 2020, p. 189)

To apply the Inclusive Campus Model or similar model tailored to your campus, create a working document and begin to flesh out key components of your model by answering questions similar to those listed below, which were designed for an informal science learning (ISL) program at a postsecondary institution.

- *Vision*: What is our vision for an inclusive campus and ISL program?

- *Values*: What campus values (e.g., diversity, equity, inclusion, compliance) are most relevant to making our campus and ISL program more inclusive?
- *Framework*: What framework (e.g., the UDHE Framework along with principles, guidelines, practices, and processes) reflects our vision and values and can be fleshed out to helps us work toward making our campus more inclusive?
- *Current Practices*: What are current practices in our ISL program with respect to stakeholder roles, funding, policies, guidelines, procedures, training, support, and other relevant issues?
- *New Practices*: What existing practices for our ISL program should we modify and which new practices should we develop to be more consistent with our vision, values, and Framework?
- *Outputs and Outcomes*: What measures should be identified, what benchmarks should be set, what data should be collected and analyzed, and what reports should be made?
- *Impact*: What evidence suggests a positive impact of our UDHE efforts with respect to a more inclusive ISL program and campus that better reflects our vision and values?

Implications for Practice

Applying UDHE enhances the quality of campus offerings, but may impact the roles of faculty, staff, and disability service personnel when it comes to serving students with disabilities. In an accommodation approach, a student typically presents documentation to a disability service counselor who approves reasonable accommodations and tells faculty and staff members how to implement them. With a UDHE Framework, faculty, staff, and disability service personnel share responsibility for creating accessible, usable, and inclusive products and environments. For example, under the guidance of a UD Framework, disability service staff might continue to authorize and arrange for reasonable accommodation, but also be funded to consult with faculty and staff about UDHE practices relevant to their positions; faculty members would apply UDHE practices to their courses and implement reasonable accommodations determined by disability service staff; IT staff would work to ensure that IT procured, developed, and used at the institution is accessible to people with disabilities and consult on assistive technology and the accessible design of documents, videos, and other IT; and administrators of student service units would apply UDHE practices and implement reasonable accommodations determined by disability service staff.

A common inhibitor to the acceptance of UDHE is adherence to "the way we have always done things" (e.g., reactively providing accommodations for students with disabilities rather than employing proactive practices). A paradigm shift to the UDHE Framework may require no less than a different way of thinking about every campus offering in order to nudge a campus toward the ideal of UDHE. To implement UDHE campus-wide effectively, efforts should be made to engage units throughout the institution (e.g., faculty, physical plant, libraries, centers for teaching and learning, student services, IT units). Potential efforts include disseminating UDHE guidelines customized to specific audiences (e.g., webmasters, administrators, faculty), publishing articles on UD in campus periodicals, and delivering presentations on UDHE. All stakeholders should have access to training that is tailored to their specific application areas.

Conclusion

When it comes to human beings, variability is not the exception, it is the norm. Every field, every project, every initiative can benefit from the engagement of people with diverse expertise and experiences, including those with disabilities. In contrast to one size does not fit all, UD has a simple goal: to design flexible products and environments that are accessible to and usable by everyone and, when they are not, provide reasonable accommodations. On many campuses today, embracing UDHE requires a shift from a deficit to a social model of disability; from a view of disability as a deficit to a view of disability as a diversity characteristic; from considering inaccessibility as a problem caused by a person's impairment to a problem that may be the result of design flaws in a product or environment; from a focus on the average person to a focus on individuals with diverse characteristics; and from a reactive accommodation approach to proactive design practices that minimize the need for accommodations. Multiple stakeholders have roles to play in making a campus more inclusive, but it takes strong leadership to draw them together and identify ways for everyone to receive the support they need in order to contribute. Looking through a UD lens can lead to making curriculum and instruction and other offerings better for everyone. When those of us who teach include UD topics in our curriculum, we can also contribute to a world that is more inclusive of everyone through the future careers of our students. Among the beneficiaries of this paradigm shift to UD are students who disclose their disabilities, those who have disabilities but do not disclose, students with various learning preferences and technological expertise, those whose native language is not English, people who are older than the average student, members of specific racial and ethnic groups, and everybody else!

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Research Articles and Essays

The Role of Teachers who are Deaf/Hard of Hearing in the Field of Deaf/Hard of Hearing Education

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Abstract

There is a diversity gap between teachers of students who are deaf and hard of hearing and the students that they teach. Teachers of students who are deaf or hard of hearing who are deaf or hard of hearing themselves are underrepresented in the profession. Within a multicultural educational framework, evidence supports the benefits of diversity for all students. Further, some research suggests teachers with disabilities bring a unique lived experience to the students they teach both with and without disabilities. Little research exists specifically addressing teachers who are deaf or hard of hearing in the field of deaf education. This qualitative survey study explored the perceptions of fifty teachers of the deaf and hard of hearing who are deaf or hard of hearing themselves regarding their role and value in the profession. Through electronic open-ended interview questions and qualitative thematic analysis, the findings are discussed in length with comparisons and suggested solutions. Implications of the findings and recommendation for future action are discussed.

Keywords: Deaf, education, multicultural education

If you want to change the story, change the storytellers. – Oprah Winfrey

The student make-up in classrooms has changed, becoming increasingly more diverse across a number of factors. For example, in the United States, racial and ethnic diversity is highlighted by the U.S. Census Bureau who reported that in 2007, about 57% of elementary and middle school students were non-Hispanic white (Anderson, 2006). Ten years later that number had decreased to less than 50%. Numerous aspects of student diversity are evident in today's schools including migrant status, socio-economic status, homelessness, English language learners and more. Not only must teachers become equipped to respond to the diverse characteristics of their students, the teaching profession recognizes the need for the make-up of teachers themselves to become more diverse and better reflect the population of students they serve. However, the gap between teacher diversity and student diversity remains large and widening (Boser, 2014).

This gap is also evident in the field of Special Education and calls to action for addressing it have appeared in the literature for more than 10 years (Nichols et al., 2008). For the current study, the following statistics related to students receiving special education in the U.S. are helpful: (a) Students ages 3-21 years receiving special education services make up about 14% of the total school-age population, (b) of these students, about 8.5% are also

English Language Learners, (c) 17% are male and 9% are female, and (d) students who are DHH represent only about 1% of students receiving special education services in other disability categories (US Department of Education, 2018). While the majority of the literature on teacher diversity pertains to race and cultural/linguistic diversity, it is particularly important to remember a) that disability is a form of diversity, and b) Deaf and hard of hearing (DHH) students using a bilingual/bicultural communication approach, including American Sign Language (ASL), may also be considered culturally/linguistically diverse (Holcomb, 2013). It is logical then, that the make-up of Special Education teachers, including teachers of students who are DHH (TODHHs), should reflect the diversity characteristics of the students they serve. There is ample literature describing the population of students who are DHH as diverse. Ausbrooks et al., (2012) state, “Deaf Education has become a beautiful mosaic comprised of unique images of ethnicity, etiology, communication preference, and educational need” (p. 369). By contrast, a recent study including 365 TODHHs in the United States found that this group was 96% female, 92% white, 10% DHH, with a mean age of 44 (Luckner & Ayantoye, 2013). Clearly, these statistics illustrate the gap between the diversity characteristics of TODHHs and the students they serve.

Literature Review

Linguistic & Cultural Diversity in DHH Education

The majority (more than 90%) of children who are DHH are born to hearing parents (Shantie & Hoffmeister, 2000; Smith, 2001; Carty, 1994). Parents are faced with a myriad of new choices regarding technology and communication modality - the choice of learning a new language and culture, and whether or how to navigate between deaf and hearing worlds. The field of DHH education has a 200+ year history of controversy surrounding communication modality and cultural identity. This controversy continues today despite evidence that one method is superior for all children who are DHH (Sass-Lehrer, 2016).

Prior this century, the linguistic and cultural choices for children who were DHH were limited and often "black and white" – if you were audiologically profoundly deaf, it was likely you would attend a school for deaf children, use ASL, and identify with Deaf culture; if you were audiologically hard of hearing, it was likely you would use spoken language (possibly with support of English based sign systems) and identify with mainstream or hearing culture. The medical model of deafness was prevalent, meaning that hearing loss was viewed as something to be corrected rather than an identity. However, advances in technology including the implementation of universal newborn hearing screening, digital hearing aids, and cochlear implants has significantly impacted the field of DHH education. Before 1975, 80% of deaf students attended schools for the deaf, but today nearly 85% of students are in the general education classroom (Shaver et al., 2013). Also, the majority of students who are DHH now use listening and spoken language or listening and spoken language combined with some sign support (often referred to as total communication) as their primary means of communication (The NCHAM ebook, 2019; Sass-Lehrer, 2016; Gannon, 1981).

Language and culture are intertwined; language is how cultural norms are shared amongst the community (Hall, 1989; Holcomb, 2013). Immersion into the Deaf community is the best way to experience Deaf culture (Hall, 1989). The community helps with instruction in the areas of linguistic and cultural traditions, themes, signed storytelling, signed folklore, modeling, and identity development (Sutton-Sprence, 2010). Recently, some researchers have acknowledged that cultural identity amongst people who are DHH is now more fluid and that they often move between the Deaf and hearing communities depending on the various situations they may encounter (McIlroy & Storbeck, 2011; Kemmery & Compton, 2014).

Theoretical Framework

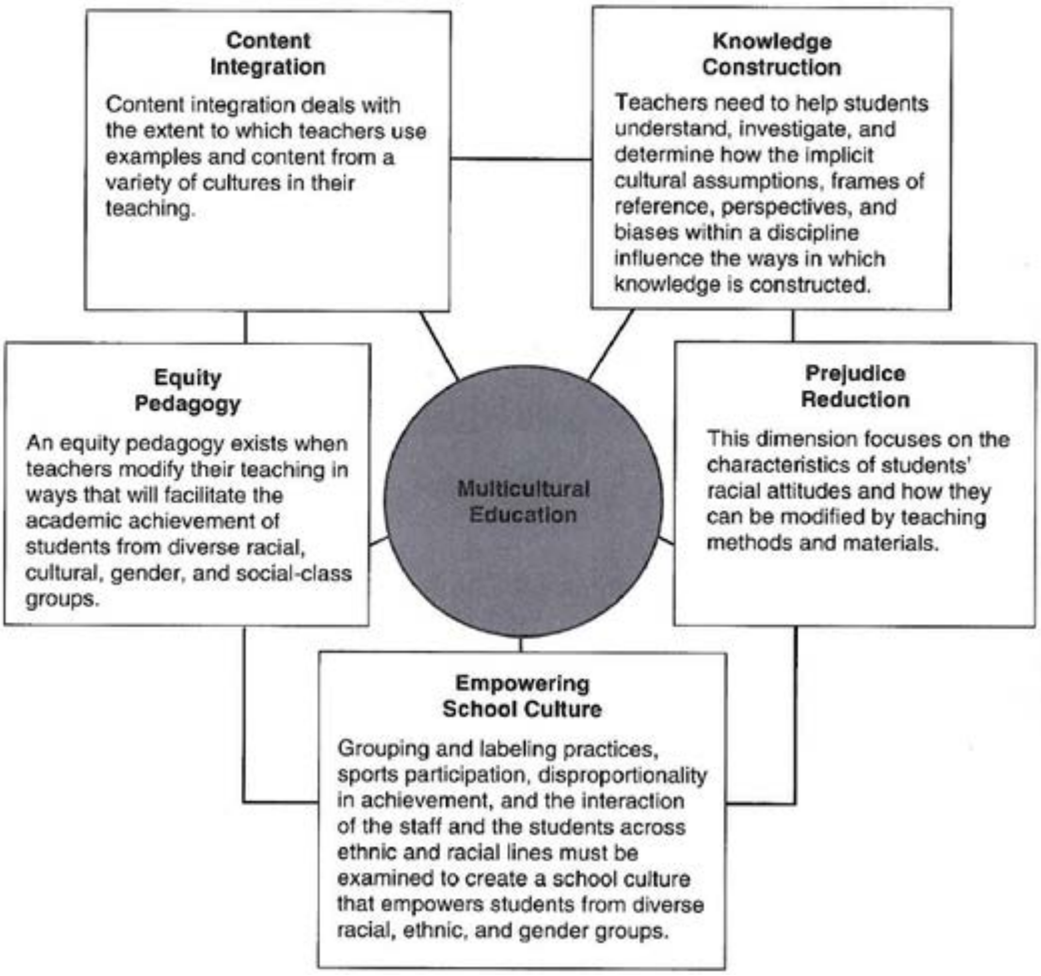
Two constructs provide support for the current study. James A. Banks is a contemporary author widely known for his work on multicultural theory in the field of education. Banks' (1997) model proposed five aspects of multicultural education: content integration, knowledge construction, prejudice reduction, equity pedagogy, and empowering school structure. While a large body of literature discusses multicultural theory in the field of education, Cumming-McCann (2003) provides this succinct comment, "the primary goal of multicultural education is to promote the education and achievement of all students, particularly those who are traditionally dismissed and underserved in our education system" (p. 9). Clearly, this goal aligns with the intent of special education and with disability issues and the social model of disabilities commonly accepted today (Thomas, 2004); however, it is also important to note that some researchers strongly argue that the link between multicultural education and disability has not been well researched and the inclusion of Deaf culture in the discussion is lacking (Johnson & McIntosh, 2009; Storey, 2007).

Related to multicultural education is the developmental theory of self-concept. Discussed by well-known theorists Abraham Maslow and later Carl Rogers, self-concept is the general term that describes how a person perceives and evaluates themselves (McLeod, 2008). Self-concept theory supports the current study in the assumption that interaction with role-models who have similar characteristics to an individual motivates them to "see their potential" and develop a healthy or positive self-concept.

Multicultural Education. Multicultural education is an idea, an educational reform movement, and a process (Banks, 1997). Banks' (1997) model, displayed in Figure 1, proposed five aspects of multicultural education: content integration, knowledge construction, prejudice reduction, equity pedagogy, and empowering school structure.

Figure 1

Banks' Multicultural Education Model (Banks, 2009)



Banks' model is conceptualized as a process that school systems will move through in increasing efforts to reach multicultural education. In the context of the current study, the dimensions of equity pedagogy and prejudice reduction are particularly important. The purpose of special education including the education of students who are DHH is to ensure these students receive access to the curriculum through free appropriate public education (Smith, 2001). Recent advances in technology have allowed for unprecedented opportunities for students who are DHH, and yet postsecondary outcomes for this population still lag behind their hearing peers (Garberoglio et al., 2016). Equity pedagogy and prejudice reduction focus on student outcomes and how teachers and teaching methods can influence them.

Self-Concept Development and Identity Formation. A major hurdle that children who are DHH who are born to hearing parents have to face is the prospect of finding and forming their identity while increasing their self-esteem (Desgeorges, 2003). Hearing parents pass on their knowledge the only way they know how: by telling their child stories of how they formed their identities through listening to the narratives around them; however, hearing parents' experience is not the same as the experiences of their children will be (Cole & Flexer, 2016). The child who is DHH will face new and different challenges that will define who they are and they will need to find a role model that can lead them in this endeavor (Carty, 1994). According to Kemmery and Compton (2014), identity may be defined as "the distinctive characteristic belonging to any given individual and the formation of one's identity may be affected by one's identifications or lack of identifications with significant others." The others noted could include caregivers, parents, siblings, or any other person who is a part of this individual's life.

Another type of identification is the use of a cochlear implant or hearing aids, which drastically alters the experiences of the child who is DHH from that of a hearing child (Williams, 2009). The technology creates a visual identity marker which can make a difference in a child's self-esteem, both good or bad. Perspectives of language, culture, daily routines, and communication are a few of the ways of how to ideally create the framework of identity development (Carty, 1994). Children need to be shown how to take what they know and mold it into self-identity and be proud of who they are, creating and fostering self-esteem. The TODHH may be one to encourage and direct a child in how to discover their identity (Hall, 1989). The teacher can point the way with introducing the child to other deaf and hard of hearing individuals (both child and adult), reading literature involving DHH characters, providing information to other teachers in how to guide and nurture the child's journey to self-identity, and involving the family in Deaf culture immersion activities (Hall, 1989).

It is not uncommon for a child to choose to be part of both the Deaf and the hearing community (Vernon & Makowsky, 1969; Carty, 1994; Musengi & Dakwa, 2010). Another aspect is a fluid view of identity that would move them from one to the other of the four main types of Deaf identity: Deaf, deaf, bicultural/dual, and marginalized (Kemmery & Compton, 2014). The view that is chosen is based on factors such as roles, interactions, contexts or settings that the individual finds themselves in. The adults in this child's life are an important influence on their identity by use of language choice, mode of instruction, and style of communication (Desgeorges, 2003).

Teachers with Disabilities

The number of teachers in pre K-12 education who have disabilities is not tracked; however, a number of sources provide rationale to suggest that this group is underrepresented in education as are other aspects of diversity amongst teachers (Anderson, 2006; Wills, 2007). There have been several studies examining various aspects of teachers who have disabilities. The majority of this work has been done with teachers who have learning disabilities. The potential benefits of hiring teachers with disabilities are numerous. Storey (2007) lists this practice as one way to combat ableism in schools. Riddick's (2003) study of experienced, novice and preservice teachers with dyslexia found that these teachers had developed numerous coping strategies and that their own negative school experiences motivated them to become teachers who would provide a better experience for their students. Similar results were found by Ferri et al. (2005) and by Burns and Bell (2011) noting that being a positive role model for students with disabilities and having a great understanding of the challenges that these students may face was a motivating factor for teachers with disabilities. Teachers with disabilities have further opportunity to model ways that all students can view challenges as opportunities for growth (Stewart, 2010) and also to contribute to normalizing disability culture within schools. Finally, teachers with disabilities are in a unique position to examine the pedagogy of teaching students with disabilities (Anderson, 2006; Grenier et al., 2014).

Despite these benefits, teachers with disabilities may face barriers in their own profession. The Council for Exceptional Children (CEC) is a supporter of educators with disabilities as they believe first-hand, or personal experience is a strength offered by these educators (CEC, 2016). In CEC's official policy statement, they acknowledge that teachers with disabilities may not disclose their disability for fear of discrimination or rejection and that appropriate accommodations to support the success of these teachers are not always in place. CEC's policy calls for the provision of strategic supports for teachers with disabilities during recruitment, hiring, daily practice, and evaluation in order to gain the benefits that these teachers can offer to all students.

Teachers Who are DHH. The history of deaf education documents the use of teachers who were deaf themselves going back to its foundation in Paris in the 1700s (Roberson & Serwatka, 2000). When the first school for the deaf was established in 1817 in the US, the school exclusively used sign language and employed deaf teachers. However, the infamous Conference of Milan in 1880, which banned the use of sign language in deaf education, resulted in the loss of most deaf teachers in deaf education worldwide. While the large and highly controversial topic of communication modality in deaf education is acknowledged, it is discussed in this study only as it pertains to the linguistic diversity issue amongst students who are DHH.

Modern calls for teachers who are DHH to be represented in the education of students who are DHH are documented in the literature for more than 50 years (Vernon, 1970). Teachers who are DHH have the same goal as hearing teachers: teach students and help them to succeed (Thagard et al., 2011); however, concerns about whether or not the profession of teaching is truly inclusive discussed above are also echoed in the field of DHH education. In fact, the lack of diversity amongst TODHHs has been compared to apartheid (Simms et al., 2008). While this term is most often associated with the divide between whites and blacks in Africa, the term actually means “apartness” in the Afrikaans language, which Simms, et al. (2008) use to describe the marginalization of individuals who are DHH in the education system and offer increased teacher diversity in this field as a solution. Likewise, Andrews and Franklin (1997) highlighted the need for teachers who are DHH as well as those who are ethnically and culturally (in addition to Deaf culture) diverse. These authors also discussed the potential barriers faced by individuals who are DHH to even becoming teachers in the first place, including standardized testing bias and discrimination in post-secondary settings. It is interesting to note that these barriers were also present at this researcher's own institution, where administration actively worked to keep teacher candidates out of the profession using the rationale that individuals who were DHH could not be effective teachers due to poor speech and language skills (Pedersen, personal communication March 6, 2020). However, one study disputes this notion, as Roberson and Serwatka (2000) found no difference in the achievement scores of students who were DHH that were taught by either TODHHs who were hearing or TODHHs who were DHH. Similarly, when it comes to the early language development of children who are DHH who are using ASL, Shantie and Hoffmeister (2000) argue that TODHHs who are DHH themselves are more effective as native language users than TODHHs who are hearing. Marlatt's (2004) research concluded that, while there are differences in the ways that TODHHs who are DHH and TODHHs who are hearing teach, these two groups of teachers are more alike than different and the profession should focus on ways to collaborate. One study examining the perceptions of TODHH teaching teams that were comprised of both hearing and DHH teachers, identified positive aspects of such collaborative practices. Specifically, Jimenez-Sanchez & Antia (1999) found that it provided both hearing and DHH students with, “a model of interaction between D/HH and hearing individuals based on mutual respect, collaboration, and equal status. The team was providing a model of respect between individuals who use different languages” (p. 218).

While the research is thin, there does not appear to be any evidence that teachers who are DHH are less effective than those who are hearing, but rather that TODHHs who are DHH may possess specific skills that enhance the education of their students. These findings support the rationale that diversity in general can strengthen everyone’s experience.

The Current Study

The problem this study addresses is that the diversity characteristics of TODHHs do not reflect those of the students they serve; specifically, TODHHs who are DHH themselves. Barriers, such as language, culture, labels of disability, or lack of respect and support stand in the way of teachers with hearing loss either doing the best job they can or even becoming a teacher in the first place (Boser, 2014). Some research identifies possible barriers for individuals who are DHH in becoming teachers, but little input exists regarding the perceptions of TODHHs who are DHH themselves. This is significant because if efforts to increase the diversity characteristics of TODHHs are to be successful, we must consider the voices of these individuals in the conversation. Therefore, the purpose of this study was to explore the perceptions of TODHHs who are DHH themselves regarding the role, importance, and value of a TODHH who is DHH to the students they serve and to the field of DHH education.

Method

Design and Rationale

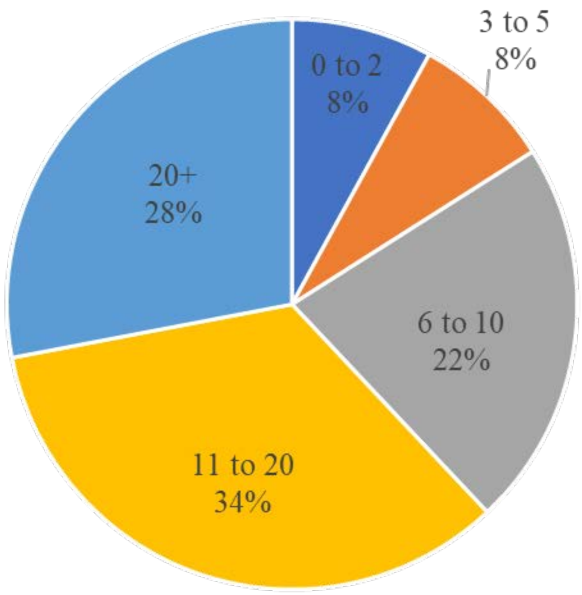
A cross-sectional electronic survey design was used for the current study. Survey designs are appropriate to describe both individual opinions at one point in time as well as to collectively search for trends amongst these individual opinions (Crewell, 2012). While survey designs may traditionally be viewed as tools for collecting quantitative data, this design has application for qualitative methods as well including interviews and focus groups because it allows the researcher access to a larger potential sample; this is particularly true when using electronic distribution methods (Creswell, 2012; Jansen, 2010). A narrative approach through the use of open-ended questions in the electronic survey, allowed researchers to explore the perceptions of TODHHs who are DHH themselves as there is limited available literature. Narrative approaches are best for capturing the experiences, values, feelings, perceptions, and goals of the people we want to know more about (Creswell, 1997).

Participants

Fifty teachers responded to the electronic survey and the average time for survey completion was 20 minutes. Participants identified their hearing status as 54% hard of hearing, 38% Deaf, 2% deaf, and 6% other (not specified). Most participants, 92%, were female and 8% were male. Represented age ranges for participants were 8% in their 20s, 25% in their 30s, 39% in their 40s, 18% in their 50s and 8% in their 60s. The professional preparation of these teachers was 60% with a Master's degree, 24% with a Bachelor's degree and 14% with a Doctorate degree (one participant skipped this question). Participants' reported years of teaching experience in the field of DHH education is shown in Figure 2; indicating the majority of teachers in this study were experienced professionals.

Figure 2

Participants' Years of Experience



Aligning to national trends in the field, the majority of participants reported they were currently teaching in an itinerant role (68%), 22% were teaching in a self-contained program within a public school, and 8% were teaching at a school for the deaf (one participant skipped this question).

Instrument and Data Collection

Informed by the literature review for this study, an original survey instrument was developed containing both demographic questions and open-ended questions. When designing survey questions, it is important to (a) use different types of questions that may be personal or attitudinal, (b) ensure questions are clearly worded and applicable to all participants, and (c) pilot test the instrument (Creswell, 2012). The open-ended questions were piloted with five TODHHs who were DHH themselves and revisions to the survey were made based on this group's feedback. The final survey instrument contained six demographic questions and eight open-ended questions. The survey was built using Microsoft Forms®. After obtaining approval from the researchers' institutional review board for human subject research (Protocol #2110), the survey was distributed through social media channels consisting of groups for TODHHs. The researchers are members of these groups and had access to post the survey. The survey was open for a period of eight weeks, the repeat postings to the social media groups made four times during the survey period to ensure visibility to the population.

Data Analysis

After the survey was closed, raw data from Microsoft Forms® was exported into a spreadsheet for data analysis. Participant demographic data was analyzed using descriptive statistics and represented through percentages. An inductive approach to analyzing the qualitative data (participant responses to the open-ended questions) was taken. The written responses to the open-ended questions were coded by the researchers using a pattern matching strategy (Enns, 2017). Words and phrases that were consistent with the key constructs of each question were coded together. Through repeated readings of the raw data and the coded data, these groupings were refined into themes that could be described in the context of perceptions. In order to visually represent these themes, word clouds were created. A word cloud is a grouping of words and phrases representing a topic in which frequency and emphasis are shown through larger and bolder print; colors and other tools for visually representing the data may also be utilized (DePaolo & Wilkinson, 2017). Word clouds are useful to summarize qualitative data in an impactful and visual way.

Results

The five perception themes discovered during data analysis are presented below using the visual word clouds as well as salient participant quotes to describe the themes.

Recognizing and Valuing Diversity. Teachers were asked to indicate the education setting in which they preferred to teach students who are DHH. About 30% of teachers indicated itinerant models while about 26% indicated schools for the deaf or other self-contained settings. About 20% of teachers described inclusive settings within a public or private school that included resource room and pull-out services. Finally, about 12% of teachers stated they did not have a preference, but rather described they preferred settings that met the student's needs. One participant said, "I prefer teaching in settings with clear and accessible communication.", while another noted, "I like any situation that supports the student's and family's choice."

Participants consistently noted they had lived experiences that could help them identify with their students and that serving as a role-model was important to them. "I can help my students realize I understand them and that we can work through challenges together", one teacher said. The word cloud representing participant perceptions for valuing diversity is shown in Figure 3.

Figure 3

Recognizing and Valuing Diversity Word Cloud

As one participant noted,

> Diversity is key! I think it's incredibly important for students to have someone in their life they can relate to and have shared experiences with. I find myself interacting with students the way I wish I'd had a teacher who really understood.

In the same way, another TODHH said,

> I think there is great value in students being taught by those who have the same characteristics as they do- the same challenges and who will pass down the knowledge gained by their experiences. Benefits include seeing others like themselves in successful and rewarding careers, functioning in the world, and meeting the same challenges.

However, participants in this study did not indicate students who are DHH exclusively need teachers who have the same characteristics as they have. One teacher observed, “The kids know I understand what they are experiencing. But I don’t have to have cancer to have empathy for someone who has cancer.”

Participants also expressed some motivators for becoming a TODHH that are common to all teachers including having a passion to help children learn and wanting to make a difference; however, TODHHs who are DHH themselves also noted they wanted to help students receive the same supports they had received as a student, or conversely, TODHHs wanted to be able to provide a supportive environment for their students that was not available to them.

Then Versus Now. The TODHHs who are DHH themselves in this study overwhelmingly noted the increased access that is available today than was their experience, as illustrated in Figure 4. One participant said,

> Constantly fighting to hear and access sound (I grew up oral, no sign language); never knowing what was going on with peers around me, always left out; very little CC. This has not changed. What's changed is easier access to CC, texting for

communicating is huge, great tech options for hearing or access to speech.

In the same manner, I remember getting my hearing tested by the nurse and her always giving me strange looks but never referring me. It wasn't until my brother, who is 8 years younger than me, got diagnosed with hearing loss and then I went to get a physical for grad school that my hearing was ever screens by a professional. This was when I found out I probably had hearing loss. Looking back, I note how much trouble I had when I was little. Slight trouble with speech, reading, and other things, until I received more direct instruction. My anxiety was always high. Social situations were difficult. I think kids experience the same things today, especially those that have slipped through the cracks, like me, with mild-moderate hearing loss. However, I think things have changed because less kids are slipping through the cracks with the newborn hearing screenings, and those that do I feel receive prompt attention and direct instruction. It's just more accepted and easily identified than it was 25 years ago.

Figure 4

Then vs. Now World Cloud

Participants also perceived that, while access and appreciation for diversity had improved for their students when compared to their own experiences, some of the same challenges remained and some new challenges have developed. For example,

> SAME: Bullying. Isolation. (I saw when supporting mainstream students; I don't see nearly as much at the… school for the deaf where I currently teach, though it certainly still exists). Literacy and math struggles are ongoing. DIFFERENT: Greater focus on group work in mainstream settings (this is not a good thing). Children receiving early intervention earlier in life (this is a very good thing). Children moving more freely between ASL and English (this is a good thing).

Educational Philosophy. The diverse views related to communication methodology that are present within the field of DHH education were also reflected within this study's sample of TODHHs that are DHH themselves. A few comments indicated a strong emotional philosophy toward exclusively oral or manual approaches including, “Bilingual, bilingual, and bilingual.”, “Every Deaf child should have access to ASL and English.” and also, “The hearing aids are the most important factor in children’s success in learning” and, “If they can learn to be oral they can become more independent functioning members of society. Not dependent upon an interpreter or writing notes.” However, the majority of participants perceived full access to language was the key and recognized that this could happen in a variety of ways; that one size did not fit all students as shown in Figure 5 below. As one participant noted, “Whatever the student needs to be successful they get - oral or sign support, technology or accommodations.”

Figure 5

Educational Philosophy

The concept of high expectations was expressed by participants and part of their educational philosophy, and related this to their personal experiences as an individual who is DHH:

> I have high expectations so that they have high expectations. I feel it's important they not use the hearing loss as a crutch but know they can do anything anyone else can do. That's important to me. That was one of the hardest things for me growing up is that I could succeed as well as anyone else and I don't want them to have doubts like I did.

Professional Relationships. The TODHHs who are DHH themselves in this study also perceived they had a role to play in having a positive influence with other professionals within the field of DHH education. One teacher stated they had, "Great collaboration and respect as an individual who has experience as a hard of hearing person." Participants indicated their experiences as a professional within the field were mostly positive; however, there was still a need to self-advocate and raise awareness. For example, "I have good relationships with almost everyone I work with. That being said, I often have to confront biases about our DHH students and their needs. Communication with masks has been particularly challenging." and, "Mutual respect between all parties. It took years to build that rapport but now people seek me out for advice and follow (most of) my recommendations.” One teacher noted,

> I have been in my current role for 7 years. I took my employer to the (made a federal discrimination complaint) as they refused to make the necessary provisions I need to access calls. I won. It is now 7 years since this extremely stressful experience, and I couldn't be happier. A LOT has changed. It is a work in progress.

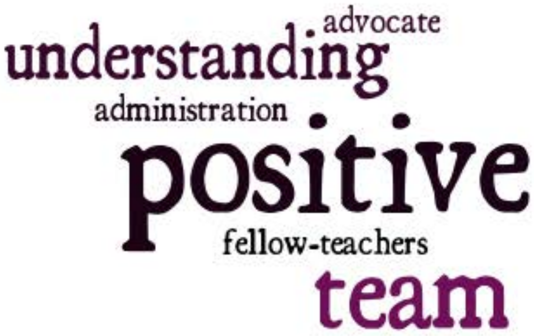
Further, many participants noted their professional relationships with their immediate team members was good, but that administration and other related personnel often did not understand the needs of individuals with hearing loss, as in, “I have a fantastic working relationship with SLPs, Audiologists, Interpreters, Paraeducators, and other TODHHs. I struggle with my administration quite a bit.” and,

> I love the team I work with - I love that they are so understanding of using sign language immediately and never letting anyone feel left out. My administration unfortunately is not from a DHH background, so my team often relies on each other instead of administration for support and guidance.

The word cloud representation of this theme is displayed in Figure 6 below.

Figure 6

Professional Relationships Word Cloud



Future Directions

Interestingly, participants' views of what is needed for a more positive future of the field of DHH education appears consistent with what *all* educators, regardless of their discipline, desire. As show in Figure 7, TODHHs in this study indicated more emphasis on student's unique needs and to be provided with the resources to be able to successfully meet these needs.

Figure 7

The Future Word Cloud

Echoing what they described in their educational philosophies, TODHHs who are DHH themselves in this study commented on the need to move away from historical controversies (i.e., communication modalities) and focus on language and literacy outcomes. For example, "A fully comprehensive, standards-based curriculum aimed at bridging the literacy gaps for DHH students." and,

> I would like to see a more student-centered philosophy. Each child is unique in what they need and the child often knows best what that is. I would like to see children empowered to learn what is available and make their own choices. I would like to see Language Deprivation taken seriously.

Discussion

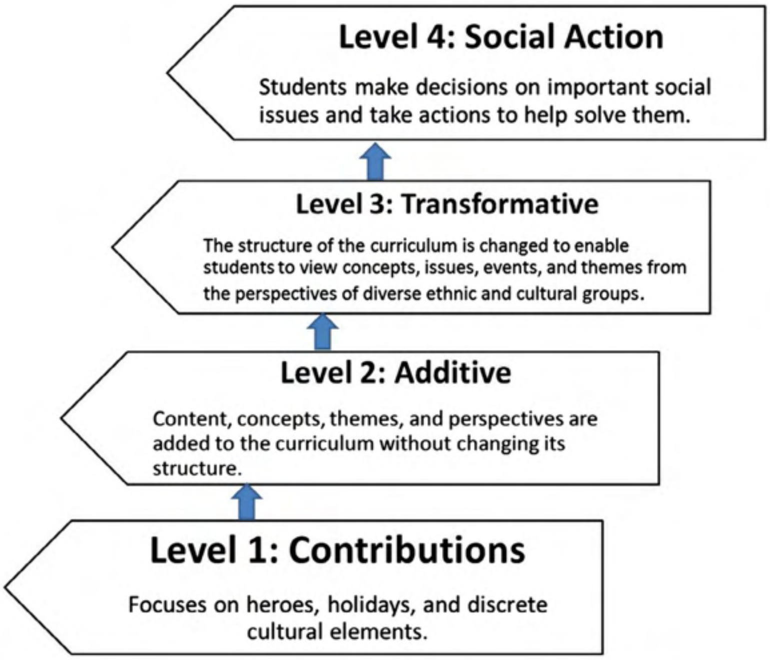
This exploratory study brings the voice of TODHHs who are DHH themselves to the conversation of increasing teaching diversity in the field of DHH education. In this study, being a role model for students who are DHH was very important to participants. The findings support Roberson & Serwatka's (2000) assertion that a teacher who is DHH has gone through some of the same experiences as their students and are thus able to truly understand and have credibility with the student.

The longstanding challenges faced by teacher candidates who are DHH still requires attention. This begins with representation amongst the faculty (Parasnis & Fischer, 2005). There continues to be a need for not only recruitment efforts of teacher candidates who are DHH but also support for their retention. If we know that younger students who are DHH require linguistic and academic supports as well as mentoring, perhaps the evidence-based practices used with this group can be systematically employed in university to support retention and graduation of TODHHs who are DHH themselves. This study's findings also indicated a need for both personnel preparation programs and prek-12 systems to "practice what we preach." While the field of DHH education places value on efforts to develop cultural competence, appreciation for diversity, and an atmosphere of accessibility, this may not be happening with enough regularity in practice (Cannon & Luckner, 2016; Johnson & McIntosh, 2009).

It is also important to note how colleagues can learn from each other. When a teacher who is DHH is not available, schools may use what is necessary to close the gap, such as films, other media, biographies of famous people with disabilities, and other literature (Storey, 2007), but daily interaction with a fellow TODHH who is also DHH can lead to greater understanding. Banks (1997) describes implementation of his multicultural education model often progresses from things that are very easy to implement and have a lesser impact to things that are harder to implement but have a larger impact as shown in Figure 8.

Figure 8

Implementation of Multicultural Education



Within the context of multicultural education, Johnson & McIntosh (2009) remind us that in order for this greater understanding to take place, someone's lived experience must be accepted as valid and worthy of value. Whenever possible, individuals who are DHH (including TODHHs) should be willing and invited members both in preservice and inservice arenas. As Martlatt (2004) recommended, finding common ground amongst DHH and hearing professionals can lead to improved outcomes for all.

Limitations and Recommendations for Future Research

The current study sought to explore the topic of diversity in DHH education by bringing the voice of TODHHs who are DHH themselves to the conversation, but there is still much more to be learned. This study gathered initial information of teacher perceptions. Additional research that contains the voices of these teachers is needed, including strategies that have been employed to address the challenges that were identified in this study. Personnel preparation programs and prek-12 education systems should carefully examine how they truly support cultural competence, multicultural education, and disability access. One recent case study of how a TODHH preparation program did this was done by Engler and Macgregor (2018) and could be used as a basis for future investigation.

Conclusion

Results of this study highlight the continued need for representation of diversity in schools including diversity amongst teachers. Access to positive role models is key to healthy self-concept development for all children, including children who are DHH. As noted by Johnson & McIntosh (2009), “an understanding of the shared and collective experiences and perspectives of the Disability community and the Deaf community may better inform educational policies, practices, and research that leads to improved educational outcomes for Disabled and Deaf youth” (pp. 76-77). Mainstream society is making some gains, recognizing this and taking appropriate steps, but there is more work to do. As illustrated in the candid snapshot of a child at Target® in Figure 9, one thing is clear, representation matters in the healthy growth and development of all children.

Figure 9

Representation


toddler
$6
graphic tees

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Research Articles and Essays

Disability and Food Insecurity in Higher Education

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Abstract

As more individuals with disabilities seek postsecondary education, they often find their already challenging experiences further complicated by food insecurity. This qualitative study illustrates the experiences of students with disabilities who visit a campus food pantry to illuminate how essential this resource is for this population.

Keywords: disability, food insecurity, higher education

Though many classify obtaining a college degree to be crucial for future economic success, affording a higher education remains a challenging feat for many individuals (Goldrick-Rab, 2016). Many students find it difficult to make ends meet and often have to sacrifice their basic needs to continue their schooling (Broton & Cady, 2020; Broton, Weaver, & Mai, 2018; Goldrick-Rab, 2016; Henry, 2020). This is when individuals must satisfy their basic needs (e.g., sufficient nourishment) in order to pursue higher-level skills (Maslow, 1943). As the demands of higher education require higher-level skills, such basic needs insecurity can jeopardize students' overall academic success (Broton, 2017; Farahbakhsh et al., 2017; Goldrick-Rab, Richardson, Schneider, Hernandez, & Cady, 2018; Maroto, Snelling, & Linck, 2015; Phillips, McDaniel, & Croft, 2018). For this reason, the prevalence of basic needs insecurity among postsecondary students remains a critical issue in need of extra attention (Meza, Altman, Martinez, & Leung, 2019).

Food security, which refers to individuals' physical and economic access to sufficient and nutritious food in a way that fully addresses their dietary needs and food preferences for a healthy and active life (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2019) is recognized as a human right (Food and Agriculture Organization, 2010). Despite this understanding, many households continue to face various challenges when it comes to affording and accessing food. According to Hadley and Crooks (2012), "the ways in which households respond to food insecurity have implications for health and wellbeing including effects on nutritional status, chronic disease incidence and management, infectious disease exposure and mental health" (p. 80). Limited access to resources may also compel individuals or households to forgo medical treatments in lieu of affording food, and high medical expenses may force them to eat a diet that is not compliant with their medical condition, thereby leading to food insecurity (Hadley & Crooks, 2012).

Populations that are already underserved on college campuses are disproportionately affected by food insecurity (Cady, 2014). In addition to its negative impact on students' academic performance (Maroto, 2013; Maroto et al., 2015; Patton-López, López-Cevallos, Cancel-Tirado, & Vazquez, 2014), food insecurity can result in various physical and mental health issues. Research shows that food insecure adults are more likely to experience poor health outcomes, such as mental health issues (Chilton & Booth, 2007; Pourmotabbed et al., 2020) and chronic disease (Gregory & Coleman-Jensen, 2017; Seligman, Laraia, & Kushel, 2010). Several studies have found evidence of college students' poor nutrition and its related physical and mental health consequences (Broton et al., 2018; Bruening, Brennhofer, Van Woerden, Todd, & Laska, 2016; Bruening, Van Woerden, Todd, & Laska, 2018;

Farahbakhsh et al., 2017; Henry, 2020; Hughes, Serebryanikova, Donaldson, & Leveritt, 2011; Patton-López et al., 2014).

An increasing number of students with disabilities are pursuing higher education each year (Madaus, 2011). In terms of legislation, Section 504 of the Rehabilitation Act of 1973 played a pivotal role in allowing individuals with disabilities to access postsecondary education. This legislation aimed to prevent discrimination against students with disabilities in the college admission process, and required higher education institutions to implement necessary accommodations and auxiliary aids that would improve this population's overall access to programs and facilities on campus (Madaus, 2011). The National Center for Education Statistics (NCES) reports that 19 percent of undergraduate and 12 percent of graduate students reported having a disability in the 2015-2016 academic year (U.S. Department of Education, 2019). The Americans with Disabilities Act (ADA) defines an individual with a disability "as a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment" (U.S. Department of Justice, 2020). This population's pursuit of higher education has increased despite the fact that they themselves are disproportionately at risk of food insecurity, with personal disability recognized as one of the strongest known indicators of household food insecurity. In other words, individuals with disabilities experience a higher risk of food insecurity compared to the wider U.S. population (Coleman-Jensen & Nord, 2013; Hiranandani, 2014).

Federally-funded safety net programs, including the Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), were formed in response to the issue of food insecurity in the United States. Regardless, few students are able to make use of these resources due to the complex and limiting eligibility criteria as well as a general lack of information (Broton & Goldrick-Rab, 2018; Broton et al., 2018; El Zein, Mathews, House, & Shelnutt, 2018; Goldrick-Rab, Baker-Smith, Coca, Looker, & Williams, 2019; Henry, 2020). Although federal law imposes several limitations on the availability of SNAP benefits for postsecondary students attending more than half time, there is a long list of exemptions for this “SNAP student rule” (Broton & Cady, 2020, p. 248). Students who are unable to work because of a disability, for instance, are exempted from these limitations, meaning that they are typically able to take advantage of federally-funded safety-net programs. However, students who are not aware of these exemptions would not receive SNAP benefits, resulting in a higher risk of food insecurity.

There are various ways that education institutions have attempted to address students' basic needs, with campus food pantries offered as an essential short-term solution. This resource is particularly critical for students with disabilities. In order to receive related accommodations, students need to self-disclose their disabilities. Self-disclosure is voluntary in postsecondary education, and research shows that the rate of self-disclosure is low among postsecondary students (Gabel & Miskovic, 2014; Higbee, Katz, & Schultz, 2010; McGregor et al., 2016; Newman & Madaus, 2015). This fact increases the importance of university food pantries, which serve everyone on campus, including students, faculty, and staff, without any eligibility criteria. Therefore, students with disabilities can take advantage of this resource on their campus without reporting their disabilities.

Theoretical Framework

This study is guided by resilience developmental theory (Masten, 2001), and aims to further understand postsecondary students with disabilities' food insecurity conditions in higher education. According to this theory, no matter what past negative experiences individuals have had with significant risk exposure, they tend to show resilience when they maintain a positive adaptation, allowing them to cope successfully with any challenges they may face (Luthar, 2006; Masten, 2015; Rutter, 2012). This means that individual characteristics and personality traits (e.g., autonomy and problem-solving skills), as well as having a social support network (e.g., parental support) has the potential to reduce the effects of adverse experiences and even lead to positive outcomes (Benard, 1991; DuMont, Ehrhard-Dietzel, & Kirkland, 2012; Greene, 2002; Masten, 1994).

Resilience theory has been implemented in the field of higher education. Studies have found students' levels of resilience are positively associated with successful college adjustment. (Banyard & Cantor, 2004; Fassig, 2004). Moreover, in addition to their social capital, the qualities of resilience and self-efficacy are critical to "high-risk" postsecondary students' retention and graduation (Avery & Daly, 2010, p. 46). Resilience theory is therefore useful when exploring the coping strategies of postsecondary students with disabilities who try to overcome the barriers to accessing sufficient food, the ways they have been impacted by the COVID-19 pandemic, and the subsequent loss of access to campus food pantries.

Current Study

Although students with disabilities are a growing population on college and university campuses, there is little, if any, research on the experiences that these students have with basic needs insecurity and their subsequent coping mechanisms. The initial purpose of this study was to assess the overall experiences that student clients had with campus food pantries at a Midwestern public university. The data was collected by conducting semi-structured interviews. However, of the fifteen students that the principal investigator interviewed, four individuals were students with disabilities. Their stories revealed the importance of paying attention to the experiences of food insecure students with disabilities. With this in mind, the current study focuses on the four postsecondary students with disabilities and illustrates their experiences using an on-campus food pantry with the purpose of shedding light on the diversity of their experiences and how important such resources are in the lives of these students. As this research was conducted in the early days of the COVID-19 pandemic, some of the immediate impacts of the pandemic on the students will also be discussed in further detail. The central research questions guiding this study are: 1) *What are the factors that affect postsecondary students with disabilities' access to sufficient food?* And 2) *How did the COVID-19 pandemic affect their food access in the early days of this pandemic?*

This study provides valuable information on the ways that students with disabilities can benefit from on-campus food pantries. In addition, we hope these findings raise awareness about the special needs of these students and compel higher education institutions to address the food insecurity of this vulnerable population and promote inclusivity in postsecondary education. Related implications of the study can also be used to inform the policies and practices of postsecondary institutions tasked with serving students with disabilities and providing inclusive education.

Methods

Sample

A purposeful sampling method was used to select the participants after obtaining approval from the Institutional Review Board (IRB). The food pantry staff sent invitation emails to all students who had visited the food pantry from Summer 2016 to Spring 2020. Over a two-month period (March 2020 to May 2020), fifteen students participated in this study. According to the U.S. Department of Justice's definition of disability, of the fifteen students interviewed, four individuals were students with disabilities. Pseudonyms have been used to protect the identity and confidentiality of participants. Charlotte was "visually impaired." Dave, a male undergraduate student, faced mental health issues, which resulted in receiving treatment at a psychiatric hospital. The other two students, Milo and Jaime, had chronic illnesses that required special treatments and nourishment. Table 1 presents the self-reported information of these four student clients.

Table 1
Demographic Information of the Participants

Pseudonym	**Charlotte**	**Jaime**	**Milo**	**Dave**
Age	26	26	48	23
Sex	Female	Female	Female	Male
Race/Ethnicity	Caucasian/White	Caucasian/White	Caucasian/White	Caucasian/White
Student Status	Graduate	Graduate	Undergraduate	Undergraduate
Full-time Student	Yes	Yes	No	Yes
Year of Study	Second	First	Graduated	Third
First-gen Student	No	No	Yes	Yes
Residency Status	In-State	In-State	In-State	In-State
Employment Status	Unemployed	Part-time	Part-time	Part-time

Procedure

The principal investigator conducted semi-structured interviews to collect the data. To respect social distancing guidelines, interviews were held over the phone or through Zoom Video Conferencing. Interviewees filled out a demographic information form concerning age, sex, ethnicity, student status, residency status, and employment status as part of the interview. To ensure consistency among the semi-structure interviews, the interviewer followed an interview guide including open-ended questions about the students’ experiences with the university food pantry. Additionally, if a participant mentioned the pandemic during the interviews, they were also asked follow-up questions about how the COVID-19 pandemic has influenced their lives. Interviews were audio taped with the interviewee's permission and later transcribed verbatim (using Rev.com.) for data analysis.

Data Analysis

We conducted a qualitative study to better understand the experiences of postsecondary students with a campus food pantry. Due to the ability to capture students' voices and perspectives (Mulligan & Brunson, 2017), qualitative research methods are ideal for studying food insecurity among college students (Henry, 2017, 2020; Meza et al., 2019; Stebleton, Lee, & Diamond, 2020; Watson, Malan, Glik, & Martinez, 2017). To analyze the data, thematic analysis was applied to generate the codes and themes of the interview in order to provide insight into the participants' experiences with food insecurity. Thematic analysis allowed us to better understand students' experiences by connecting their narratives and finding common data categories (Braun & Clarke, 2012). To increase the internal validity of our analysis, we applied investigator triangulation (Merriam & Tisdell, 2015). This approach required the two investigators to analyze the same interview data independently, compare their findings in team meetings, and finalize the study themes.

We also adopted Nowell, Norris, White, and Moules (2017) method, consisting of six phases to carry out a trustworthy thematic analysis. In the first phase, we familiarized ourselves with the interview data by going through the transcripts repeatedly and determined what data pertained to students' experiences related to food access. The second phase involved generating initial codes in Dedoose (a web application for qualitative and mixed-method data analysis) by the principal investigator and Microsoft Excel spreadsheets by the research assistant. Phases three to five, searching for themes, reviewing themes, and defining and naming themes, are documented in Microsoft Word and Excel files. In these cycles of coding, pattern and axial coding enabled the research team to combine the initial codes and generate themes (Saldaña, 2015). Codes and themes concerning the research questions of this study were discussed during research team meetings to reach consensus on the findings. The principal investigator also used a personal journal to document additional ideas and impressions. The final phase was producing a report of the findings. These six phases enabled us to establish trustworthiness during the thematic analysis (Nowell et al., 2017).

Results

In thematic analysis of the interview data from the four students with disabilities, four major themes related to food access were revealed, namely: financial, social, environmental, and dietary factors. Each theme will be discussed in further detail in the following sections. Impacts as they relate to the COVID-19 pandemic are also included.

Financial Factors

Employment Issues

All four students reported having financial difficulties that motivated them to reach out to the food pantry. These financial difficulties stem from a variety of issues, including unemployment. Some students reported that employment issues (e.g., the loss of a job or limited job opportunities) jeopardized their financial stability. In certain cases, these issues were directly related to the student's disability. Dave, for instance, indicated that, as a result of his problematic relationship with his father, he began contemplating suicide and subsequently received treatment at a psychiatric hospital. As this hospitalization prevented him from working and consequently earning money, he looked to the university's food pantry to access food and keep him in school. Dave explained,

> When you can't work and you're in that kind of space, you need a food source. And you know, even I know I'm not the worst off, but as a student here that yeah, it's

> been a very important part of keeping me going, keeping me in school. Yeah, keeping me alive in general, really.

Jamie and Milo also shared their struggles with unemployment, which put them at high risk of food insecurity. It is also important to note that Dave and Milo claim to have lost their jobs due to the COVID-19 pandemic.

High/Unexpected Expenses

High expenses, including medical and unexpected expenses, also limited students' financial stability. Milo, a single mother, incurred high medical expenses due to a chronic illness, which she shares with her daughter; coupled with Milo's job insecurity, these expenses resulted in both food insecurity and homelessness. While sharing how she learned about the campus food pantry, Milo clarified, "I was paying so much money in Lyme doctors. I had no money to go to the grocery store and so forth. So, I was always trying to find free things."

After being diagnosed with a disability, Jaime was forced to adjust to life-altering changes, while Charlotte faced financial challenges due to some unexpected expenses. For these reasons, the students who took part in this study were highly vulnerable to high and unexpected expenses, subsequently making them largely dependent on the campus food pantry for their nutritional needs.

Environmental Factors

Accessibility of the Campus Food Pantry

Our findings indicate that the location and accessibility of the campus food pantry were considered critical factors to the students who took part in the study. Having the food pantry on campus was especially convenient for students, particularly Charlotte who was “visually impaired” and could not drive. She elaborated further on her reasons for utilizing the campus food pantry, stating,

> I think just because it's on campus and it's local like me it's you know, it’s it's near me and I'm actually like visually impaired so I don't drive, so it's just easier to access it on campus versus like the one on [G.] Court.

Though the food pantry was generally beneficial to the students, there were a few barriers that the students faced while accessing its services. Charlotte, Milo, and Jaime, for instance, had difficulty locating the food pantry during their first visit. Transportation was another factor that prohibited the students from easily accessing the campus food pantry.

Jaime, for instance, talked about her frustrations with finding free parking near the food pantry locations. Carrying items from the food pantry to their home was also challenging for some students. Ironically, Jaime, who was herself challenged when it came to carrying items home, disclosed that she learned about the campus food pantry when her physically disabled friend asked for her help carrying the bags they had retrieved from the pantry.

The interviewees also reported encountering problems when it came to the food pantry’s operating hours. Since the students were busy working, attending classes, and studying, it was often difficult for them to keep track of the food pantry’s changing schedule. Charlotte personally experienced these frustrations, adding,

> I think they change every semester I wanna say so that can be kind of, you know difficult to remind ourselves to like check to see when they're open and then over breaks they have a lot less available obviously ‘cause like running by [inaudible] students so, students tend to go home over breaks, but I would say that probably was like a bigger issue especially around like, you know, a longer break like, um, like winter break was you know a month basically or so or thinking about longer than that but that was a little bit trickier. Yeah, and I would say if you go later in the week, they have less options just based on like

> stocking and that kind of thing so I guess the timeline of when you go you don't always have as many options but that obviously like makes sense.

As a result, the students had limited access to the food pantry due to shifting operating hours and experienced frustration when it came to finding certain items at later points of the day. Jaime and Dave also shared Charlotte's frustrations with this issue.

2. The COVID-19 Pandemic

The COVID-19 pandemic was another notable environmental factor that influenced students' access to food, particularly when it came to campus food pantry closures. When the university shut down due to the pandemic, the food pantry ceased operations, at which point students lost access to essential food provisions. These closures compelled students to look for other resources. Jaime, for instance, talked about visiting a community food pantry, adding that her chronic health-related concerns were heightened due to the pandemic. She explained,

> I'm trying to avoid going out too much because I'm a chronic illness person, so I'm just like kind of self-isolating, I guess. I'm definitely spending more money on food. ... I've stopped going to the [Crisis Food Bank] because when

> you go there to pick up a premade box, they're still like a whole bunch of people in a really long line and I was just like around too many people still and exposed to too many germs.

Dietary Factors

Size and Number of Meals

Many of the students reported skipping or eating small meals due to a lack of time, limited access to food, or other factors that that were related to the pandemic. While sharing how many meals she eats per day, Charlotte indicated,

> I don't really have a lot of time in the mornings to like, get that usually taken care of um, and so I usually don't eat breakfast and I eat like kind of like a mid like not exactly brunch but like I usually eat something around like 10 or 11 and then I probably don't eat again until like, like six maybe and then sometimes if I'm like particularly hungry that day, I'll eat when you get it (inaudible) like nine like something like the smaller meal, um, so yeah, I would say I usually eat like two.

Dietary Restrictions

Some students also faced certain dietary restrictions that complicated their needs. Milo, for instance, was unable to take full advantage of the campus food pantry because the available items did not always coincide with her dietary needs. For this reason, she predominantly used the food pantry to meet her hygienic needs. Milo elaborated on her dietary restrictions by adding,

> When I look at my daughter and I, our situation in and out of homelessness for all these years, and our health, having a Lyme disease and having poor health, it is mandatory that we have a good diet on low sodium, vegetable fruit-based, Mediterranean, good protein in our diet.

Jamie also had some dietary restrictions that were not met by the campus food pantry; this limitation, she says, compelled her to personally address her special needs by shopping at the grocery store.

3. Cooking Opportunities

The participating students also indicated that their dietary factors were related in some way to cooking opportunities. Each of the students shared that, even though they enjoyed cooking, there were certain situations that prevented them from taking advantage of its nutritional benefits. As Milo was homeless, for instance, she did not have access to a kitchen or kitchen utensils. These limitations prohibited her from cooking, which was problematic considering her special dietary restrictions due to her disease. She added,

> When I went in [the food pantry], I was looking for the snack foods, but they usually didn't have it. They usually just had the canned items or boxed kitchen, making the kitchen type things or stovetop. So, I went in there basically just from a hygienic need.

The students also pointed to having a limited amount of time to dedicate to cooking. Though it is worth noting that Jaime mentioned that staying home because of the pandemic has provided her with some extra time to cook, which has helped her save money. She stated, “I'm home so I don't have to worry about having like as many convenient foods or options and I can like cook more.”

Social Factors

Receiving Social Support

The participating students received emotional, instrumental, informational, and financial support from various resources, including social services (e.g., SNAP), community and campus food pantries, family, and friends. For example, the campus food pantry was a source of both emotional and instrumental support for Dave when he was struggling and feeling lonely. He shared, “When I was going through a hard time, feeling neglected by the school as a whole, [the food pantry], you know, kept me fed and in school in a lot of ways.” Gaining information about the various resources that were available was another form of social support. Jaime, who was motivated to seek out the campus food pantry based on the suggestions of her mother and friends, highlighted the advantages of having parents with a college education, reporting,

> My mom mentioned that when she was in graduate school, she had food stamps and so I've done both of those things and it's been like, one last thing to worry about like having to clip coupons and scrimp on my food budget. I can just like eat and not have to worry about like, how much I'm eating.

Providing Social Support

It is also notable that the students who received social support also tended to bestow it to others in a myriad of ways. One way they provided social support to their fellow students who faced financial difficulties involved advocating for the campus food pantry and informing them about its existence. Students were eager to share their experiences with the food pantry when they encountered students who were struggling with basic needs insecurities. In so doing, the students also tried to raise awareness about the challenges that they themselves faced because of their own identities. As Jaime shared,

> I tend to be like a pretty open person and general like, I'm an LGBT person with disabilities which are two things that you don't necessarily know by looking at me, but that are like very important parts of my identity and things that I think if I share them it increases visibility and awareness.

Milo also tried to educate others (particularly leaders and people in positions of power) about the difficulties that homeless students face.

Frustration with Social Support

Unfortunately, some of the students also reported feeling frustrated when attempting to make use of certain sources of social support. Charlotte, for instance, reported having difficulty renewing her SNAP benefits, which resulted in her becoming more reliant on the campus food pantry as her primary source of food. Milo also described how she attempted to reach out to various resources (both on and outside of campus) but was ultimately denied in almost all cases. She shared her frustrations accordingly,

> So, I don't know what it is about us, but our Lyme disease has definitely cursed us from getting any type of community support eligibility grants, housing, we have been denied up and down for having Lyme disease all these years in [this state].

Discussion

Though higher education has become relatively more accessible to students with disabilities, these students face several institutional challenges once they are enrolled (Madaus, 2011). One such challenge that continues to persist is food insecurity, which research suggests is particularly prevalent among individuals with disabilities (Coleman-Jensen & Nord, 2013). Our findings confirm previous research studies that speak to students' diverse experiences with food insecurity and the subsequent need for a multi-faceted approach to promote food security in higher education (Broton et al., 2018). As a result of their personal contexts and needs, the students in this study faced numerous hardships unique to their situation. The thematic analysis of the interview data for the participants revealed four major themes related to food access: financial, social, environmental, and dietary factors. Existing research suggests that financial hardship motivates students to visit campus food pantries (Broton & Cady, 2020; El Zein et al., 2018; Henry, 2020). We also found similar evidence for students with disabilities in our study. Students who faced unemployment, as well as those who incurred high medical expenses due to their health conditions, were particularly challenged with financial instability. These findings are consistent with Henry's (2020) study, which also identified a correlation between high medical expenses and food insecurity at the college level. Homelessness and restricted access to a kitchen or kitchen utilities posed additional limitations to one of the participants' food access. It is important to note that food-insecure students are at high risk of experiencing housing insecurity too (Broton & Cady, 2020; Goldrick-Rab et al., 2019; Henry, 2020). We also learned that hospitalization in a psychiatric institution could result in a loss of income and, consequently, heightened food insecurity. This finding is especially critical, as students with psychological and psychiatric disabilities are among the largest groups of students with disabilities in institutions of higher education (Madaus, 2011).

A significant barrier to accessing food at the college level emerged with the COVID-19 pandemic in early 2020. Our study found that closure of the campus food pantry was a barrier to food access due to the pandemic and subsequent closures. In response to the pandemic, many universities, including the university at which this study was conducted, closed their campuses (Foresman, 2020). These closures happened simultaneously as students and families were facing unemployment (Wolfers, 2020). A study conducted in the spring of 2020 found that 60% of students reported basic needs insecurity during the pandemic, and 64% of students who were employed before the pandemic reported job insecurity (Goldrick-Rab et al., 2020). Some students in our study also faced unemployment due to the pandemic.

Beyond the consequences of the COVID-19 pandemic, students with disabilities (including those who dealt with some form of visual impairment) generally benefit from the convenience of having the food pantry available on campus. However, some students in this study had dietary restrictions that complicated their nutritional needs and limited their options at the food pantry. As individuals tend to forgo maintaining a diet that is compliant with their medical condition in cases of financial instability and existing competing demands (Hadley & Crooks, 2012), it is essential that campus food pantries consider students' dietary restrictions.

As it is captured in the existing literature, the students in this study identified a lack of money and time as major barriers to food security (Broton et al., 2018; Henry, 2020; Maynard, Meyer, Perlman, & Kirkpatrick, 2018). Similar to the findings of El Zein et al. (2018), our students also faced challenges when it came to the limited and generally inconvenient hours of the campus food pantry. This finding stems from the fact that housing and food insecure students are typically more likely to work longer hours than their peers (Goldrick-Rab et al., 2019; Patton-López et al., 2014). Therefore, it can be challenging for working students to figure out a time to visit the campus food pantries and to keep track of their changing and limited schedules.

In sum, the students in this study faced various barriers to address their basic needs, including food. They implemented various strategies to cope with these challenges, including visiting food pantries, taking advantage of federally-funded safety net programs, and seeking help from family and friends, to express resilience, maintain an optimistic viewpoint, and overall moderate the harmful effects of their financial instability (Benard, 1991; DuMont et al., 2012; Greene, 2002; Luthar, 2006; Masten, 1994, 2015; Rutter, 2012). As many of these strategies are short-term in nature, there is an essential need for policies that embrace such long-term objectives as affordable higher education for all students, particularly those already challenged with disabilities.

Limitations

It is worth noting that the initial goal of this study was to investigate the overall experiences of postsecondary students with a campus food pantry. The study's focus shifted to the unique experiences of students with disabilities after the researchers had completed the data collection and after the analysis of the interview transcripts had been initiated. As such, since the research team did not make any particular attempts to attract or include this population, the current sample does not necessarily represent this population. Moreover, due to the small size of the sample, it would not be possible to generalize the results to campus food pantry clients with disabilities. The emergence of the COVID-19 pandemic also imposed additional limitations. Considering the closure of the university and how vulnerable the targeted population for this study was, it is possible that the students in more severe situations did not have internet access to receive or respond to the email

Implications

Considering the diversity of experiences that students had with food insecurity, it is clear that a multi-faceted approach is needed (Broton et al., 2018). Although the short-term solutions for students' basic needs insecurity (e.g., campus food pantries and emergency funds) are helpful, more systematic and institutional changes are required. In order to facilitate students' graduation, "a cultural shift that sees financial, family, and health issues as integral to academics, recognizes poverty as a societal problem rather a personal failing, and unites college and community in partnerships to provide support" is needed (Goldrick-Rab & Cady, 2018, p. 3). As the participants in this study illustrate, students' food and housing security as well as their physical and mental health all affect the student's academic enrollment and success.

Our results suggest that future research would benefit from a more nuanced investigation of how prevalent the issue of food insecurity is among postsecondary students with disabilities. Additional research that further examines the role of various interventions, including university-affiliated resources, is also needed to deepen our understanding of the ways in which contextual factors may influence students with disabilities' experiences with food insecurity and their related coping strategies.

Conclusion

An increasing number of students with disabilities are pursuing higher education each year (Madaus, 2011). This trend continues despite the fact that this population is disproportionately at risk of food insecurity, with personal disability recognized as one of the strongest known indicators of household food insecurity. Despite the small sample size of this study, the individuals who were interviewed offered key insight into the challenges and barriers they faced when attempting to access and obtain food at the postsecondary level. Their responses indicate that additional research on the food insecurity of post-secondary students with disabilities is needed to more fully understand how to improve food access and availability. In addition, funding and support are also essential to the wellbeing and success of students with disabilities.

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Research Articles and Essays

Healthcare Providers' and Deaf Patients' Perceptions Toward Video Remote Interpreting

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Abstract

This mixed-methods study identified healthcare professionals' and deaf patients' preferences for video remote interpreting (VRI) and in-person interpreting. The study found that both groups preferred in-person interpreting for critical care and proposed hospital stakeholders to not exclusively popularize VRI, but also allocate funding for in-person interpreting for appropriate clinical situations.

Keywords: Video Remote Interpreting, Healthcare Communication, Deaf Patients

Background

Approximately 37.5 million adults report some degree of hearing loss (National Institute on Deafness and Other Communication Disorders, 2020). However, many of these people who are deaf/hard of hearing (D/HH) encounter communication barriers in healthcare settings (Harmer, 1999). Despite the legal obligation under the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973 (U.S. Department of Justice, 2020), healthcare professionals, often, do not provide interpreting services due to scant knowledge about the availability of professional interpreters, difficulties in arranging for interpreters, and high costs of interpreting services (Jacobs et al., 2004; Reis et al., 2004).

Due to technological developments, many hospitals have popularized the use of video remote interpreting (VRI). This technology involves the use of a video camera mounted on a computer or a tablet screen to facilitate communication between healthcare professionals and patients who are D/HH or have limited English proficiency (LEP) through a remote interpreter. While VRI is cost-effective and can be accessed at all times (Alley, 2012), technical issues, such as poor connectivity, a small screen, and limited mobility for placement, are some of its drawbacks. Some patients with visual impairment, cognitive disability, or limited literacy are not comfortable using VRI (National Association of the Deaf

[NAD], 2018). Despite this, hospitals try to reduce in-person interpreting and replace it with VRI to save money (NAD, 2018). However, there has been little research on healthcare professionals' and D/HH patients' preferences for critical and non-critical care related to interpreting.

Theoretical Framework

The study adopted two theories — deaf studies' cultural perspective on deafness and disability studies' social model of difference (DeVault et al., 2011) — in order to understand the perspectives of healthcare professionals and D/HH patients on VRI and in-person interpreting.

Within the purview of deaf studies, there are two different perspectives on deafness: cultural and pathological. From a pathological perspective, deafness is a hearing impairment that needs to be recovered from for the patient to be assimilated with the rest of society (McLeod & Bently, 1996). From a cultural perspective, the capitalized Deaf people are viewed as a linguistic minority that uses the American Sign Language (ASL) and shares cultural values; the non-capitalized deaf people are viewed as a group that does not belong to the Deaf community and is not familiar with Deaf culture or ASL (Padden & Humphries, 1988).

Within disability studies, the two basic organizing models of disability considered are the social model and the medical model (Oliver, 1996). In a manner similar to that of the pathological perspective, the medical model views disability as an impairment to rectify and from which to recover. In contrast, the social model suggests society is often the central problem because it may not provide an accommodating environment for people with disabilities (Oliver, 1996).

As an example of these theoretical applications, the ADA obligates institutions to ensure that people with disabilities receive accommodation in healthcare settings, as the definition of disability is rooted in the pathological perspective that deafness is a physical impairment (Donoghue, 2003). This approach applies to the medical model of disability studies. Meanwhile, D/HH patients have been found to request interpreters to communicate with their healthcare professionals because they are unable to physically hear oral spoken language, and healthcare professionals provide interpreting services as a legal obligation under the ADA.

In contrast, deaf studies' cultural perspective on deafness treats this example differently. The use of interpreting services is to build a bridge between healthcare professionals' and D/HH patients' communication barriers. Since most healthcare professionals are not fluent in ASL, they need an interpreter to communicate with D/HH patients. The interpreting preferences of D/HH patients are rooted in cultural perspectives and the desire for effective communication. However, healthcare professionals' interpreting preferences are rooted in the social model of difference and the desire for cost-effectiveness.

Therefore, both theoretical frameworks identify communication barriers in healthcare settings. When hospital administrators reduce the number of on-site interpreters and popularize the use of VRI interpreters in favor of economic values rather than preferences associated with patient-provider communication, D/HH patients end up using VRI interpreters due to the lack of availability of on-site interpreters. Thus, the hybrid model comprising the social model of difference and the cultural perspective of deafness helps understand the interpreting preferences of healthcare professionals and D/HH patients either opting for critical or non-critical care.

Research Questions

In light of the above, the present study proposes and aims to respond to the following three research questions:

1. What are the interpreting preferences of healthcare professionals and D/HH patients opting either for critical or non-critical care?
2. What percentage of healthcare professionals has received training for using VRI and treating D/HH patients?
3. What are the recommendations of healthcare professionals and D/HH patients for improving VRI services?

Methodology

The study uses a mixed methods approach, called an explanatory sequential design, which first collects quantitative data, followed by qualitative data, to explore findings in an in-depth manner (Creswell & Clark, 2017). The mixed methods approach allows us to cover both the strengths and limitations of the research methods. For instance, quantitative data can provide overall data generation on the characteristics of the sample and association relationships, but the numbers cannot explain why these occur in detail (Johnson &

Christensen, 2016). On the other hand, qualitative data can provide information in an in-depth manner to answer why, but the qualitative sample size is too small for the researchers to draw a generalization for the overall population (Johnson & Christensen, 2016). Thus, using both methods strengthen the data research outcomes (Johnson & Christensen, 2016).

The study consists of Parts I and II. Part I involved the administration of online questionnaires asking about the interpreting preferences of healthcare professionals and D/HH patients either opting for critical or non-critical care, training experiences of healthcare professionals, and recommendations of healthcare professionals for improving VRI services. In statistical data analysis, the chi-square test was used to identify a significant difference in interpreting preferences between the two populations. The study also used Fisher's exact test for accuracy of data due to the small sample size (Lane, 2021).

Part II involved face-to-face interviews with eight healthcare professionals and eight D/HH patients to explore the findings from Part I. The interviews with healthcare professionals were audio-recorded by an interpreter of sign language and transcribed for data analysis. The interviews with D/HH patients were audio-recorded and video-recorded using an interpreter of sign language. While audio-recorded files were transcribed for data analysis, video-recorded files were used to check the translation accuracy of the interview transcripts.

In the qualitative data analysis, the study used a direct analysis of content (Hsieh & Shannon, 2005).

Results

Table 1 presents the demographic characteristics of participants. The study included a majority of healthcare professionals and D/HH patients identified as white, compared to a minority group. Both groups were from Illinois, the United States of America (Yabe, 2019; Yabe, 2020).

Table 1

Healthcare Professionals' and Patients' Demographic Characteristics

Healthcare Professionals

Variables	*n*	%
Gender		
Male	16	25.8
Female	45	72.6
Not Answered	1	1.6
Age		
20-29	25	40.3
30-39	15	24.2

D/HH Patients

Variables	*n*	%
Gender	17	41.5
Male	22	53.7
Female	2	4.9
Other		
Age		
20-29	5	12.2
30-39	6	14.6

40-49	8	12.9	40-49	9	22.0
50-59	6	9.7	50-59	8	19.5
Over 60	1	1.6	Over 60	9	22
Not Answered	7	11.3	Not Answered	4	9.8
Race			Race		
White	41	66.1	White	28	68.3
Black	2	3.2	Black	5	12.2
Hispanic	4	6.5	Hispanic	4	9.8
Asian	11	17.7	Asian	3	7.3
Other	3	4.8	Other	1	2.4
Not Answered	1	1.6			

Study of Part I

Research Question 1: Interpreting Preferences

The study asked whether there was a difference between the interpreting preferences of the two groups opting for critical care. Critical care refers to care such as emergency care, postoperative care, cancer treatment, or a condition that requires intense treatment. Non-critical care refers to concerns such as colds, follow-up appointments, or refilling medicines; thus, conditions that require less intense treatment. No difference was found and both groups preferred in-person interpreting for critical care. The study then examined whether there was a difference between the interpreting preferences of the two groups opting for non-critical care. It was found that healthcare providers did not have strong interpreting preferences, but D/HH patients had a tendency to prefer in-person interpreting for non-critical care as well (Yabe, 2019; Yabe, 2020).

Table 2

Healthcare Professionals' and D/HH Patients' Interpreting Preferences for Critical Care

	In-Person Interpreting	Video Remote Interpreting	Exact Sig. (2-sided)	Fisher's Exact Test	Total
Healthcare Professionals	20	1			21a
Deaf/Hard of Hearing Patients	35	2	1.000	1.000	37b
Total	55	3			58

[a] Five healthcare professionals who had no preference were omitted from the data analysis.

[b] Four deaf/hard of hearing patients who had no preference were omitted from the data analysis.

Healthcare Professionals' and D/HH Patients' Interpreting Preferences for Non-Critical Care

Healthcare Providers	11	10			2 1a
Deaf/Hard of Hearing Patients	26	6	0.0 27	0.0 27	3 2b
Total	37	16			5 3

[a] Five healthcare professionals who preferred telephonic interpreting or had no preference were omitted from the data analysis.

[b] Nine deaf/hard of hearing patients who had no preference were omitted for the data analysis.

Research Question 2: Training Experiences

The study asked healthcare professionals whether they had received training for using VRI while treating D/HH patients. It was found that 46.2% of the healthcare professionals who worked with D/HH patients had received little training for treating D/HH patients, and only a few healthcare professionals, such as speech-language pathologists who often work with D/HH patients, had received such training (Yabe, 2019; Yabe, 2020).

In other words, healthcare professionals tend to learn to use VRI or treat D/HH patients through their experiences, but not through training or academic instruction at medical schools. Another factor is the fact that medical schools often do not have disability curricula (Symons et al., 2009). Therefore, like babies who learn to walk by themselves without formal training, healthcare professionals learn to use VRI and treat D/HH patients. This method can be a good approach to learning, but may not be so at other times, negatively impacting patient-provider communication.

Research Question 3: Recommendations

The study inquired whether healthcare professionals and D/HH patients would recommend VRI training in the future, and both groups recommended training (73.1% of the healthcare professionals who worked with D/HH patients; 87.8% of D/HH patients). Training can help engage effective communication, understand Deaf culture, and advocate and empower the D/HH patients' needs. Therefore, hospital administrators need to understand why it is essential to balance the use of VRI and in-person interpreting, and they should not exclusively popularize VRI, but provide interpreting services for appropriate treatments (Yabe, 2019; Yabe, 2020).

Study of Part II

Although the study found interesting facts from the online survey, it could not identify the reasons behind why the two groups preferred in-person interpreting or VRI for critical and non-critical care. Thus, in-depth interviews based on quantitative findings were conducted. From the results of the interviews, the author, with the help of the peer reviewer, established themes and coded the transcripts of the interviews, added additional subthemes, and discussed this information with the peer reviewer for agreement through content analysis (Yabe, 2019; Yabe, 2020). Table 3 presents the characteristics of healthcare professionals and D/HH patients who participated in Part II.

Table 3

Healthcare professionals' and D/HH Patients' Characteristics

Healthcare Professionals

ID*	Gender	Age	Profession
BE	Female	58	Physical Therapist
EP	Female	31	Speech-Language Pathologist

I

ID*	Gender
BU	Male
DE	Female

GJ	Female	31	Dentist
GO	Female	32	Physical Therapist
MN	Female	38	Nurse Practitioner
KS	Male	26	Oral Surgeon
TY	Female	27	Nurse Practitioner
WD	Male	50	Physician

ED	Female
IK	Female
JA	Male
ML	Female
RM	Male
RP	Male

*ID is coded as a fictitious initial name.

Research Question 1: Interpreting Preferences

As discussed in Part I, there was no statistical difference between healthcare professionals' and D/HH patients' interpreting preferences for critical care, but there was a statistical difference for non-critical care. When the author looked into the specific theme of *Preference* in the transcripts, the reasons behind why both groups preferred in-person interpreting for critical care were found. Healthcare professionals, GJ, KS, and WD, explained that in-person interpreting provided effective access to communication during surgery care. GJ explained that she did not have to worry about turning VRI on or off during oral surgery, as VRI cannot be placed on hold for more than five minutes. KS, an oral surgeon, explained:

> For something more serious, like oral surgery or a root canal, I would prefer using an in-person translator because VRI is awkward. This is because I am working on my patient's mouth/face. Most of the time, I and an assistant are there and our hands/arms are completely obstructing our field of vision. Therefore, having someone in person to tag in when communication is necessary is good.

On the other hand, D/HH patients, BU, DE, IK, RM, and RP explained that in-person interpreting could help them communicate and clarify information during critical treatments, allow access to complete information in a doctor's room, and provide effective patient-provider communication smoothly. The patient RM explained,

> If it were a serious case and — well, even if — I feel like if it were a serious case, such as something more critical, then an in-person interpreter would be better. I do not think VRI would be acceptable in that situation.

In contrast, there was a statistical difference between healthcare professionals' and

D/HH patients' interpreting preferences for non-critical care. Healthcare professionals did not have strong preferences for VRI as compared to in-person interpretation. For example, the healthcare professionals GO and TY preferred VRI in non-critical care because it was already set up in hospitals and in-person interpreters were not often available. The professionals EP, KS, TY, and WD preferred in-person interpreting for non-critical care because of logical reasons associated with the effectiveness of patient–provider communication. KS explained that in-person interpreting increases trust between the patient and provider, which leads to better treatment outcomes. EP, a speech-language pathologist, pointed out that in-person interpreting provides more effective communication for cognitive and speech therapy.

As for D/HH patients, ED and IK said they would accept VRI for non-critical care for specific reasons, such as follow-up appointments. ED explained:

> If it is just a follow-up from a test or maybe taking a blood pressure check, or maybe going in for a refill, something routine, something that is done pretty often, and everyone kind of knows what is going to happen, then I think that is fine and I would accept the use of VRI because I understand it is not easy to get interpreters at the last minute.

However, the patients BU and DE preferred in-person interpreting for non-critical care, even when the appointments were pre-arranged. The patient DE said,

> If a hospital uses VRI, I mean, I will make an exception for an emergency situation, but if it is an appointment planned ahead of time, there is no reason why VRI should be used, and I would prefer a live, in-person interpreter.

Research Question 2: Training Experiences

As in Part I it was found that more than 50% of healthcare professionals had little training in using VRI or treating D/HH patients, the author looked into the theme of *Experience* with VRI. EP, a speech-language pathologist, explained:

> I think it is interesting. When I worked with VRI at the hospital, I did not even know that we had access to it. I just saw it on the [hospital] floor and I asked what it was, and I remember, oh, okay. I looked at it myself. We had no training, no in-service, did not even know how to use it, and I actually simply asked to use it for a patient, and I liked it. I thought it was convenient. It was helpful.

GO, a physical therapist, also received no training, and she simply learned to log in, pick up, and select a language. Moreover, she explained that her D/HH patients looked comfortable using VRI. She said, "I mean I think that it has improved over the time that I have been here, and I think most of the time patients feel comfortable using that. So, I think that it works fairly well."

Furthermore, KS, an oral surgeon, pointed out that the VRI interpreter was unprofessional. He had seen that the VRI interpreter gave a biased opinion, ignoring the patient's opinion. He said that the patient needed to get his tooth extracted and had no other option, but the interpreter gave a biased opinion that more options of treatment were available.

Research Question 3: Recommendations

As in Part I it was found that both groups recommended training for improving VRI services, Part II explored the type of training resources recommended by both groups. As a result, there were commonalities and differences in their recommendations. Healthcare professionals, GJ, GO, KS, and MN, suggested improving VRI equipment in terms of better connectivity, gooseneck attachment, larger screens, and wider availability of VRI. While BE suggested more bilingual providers, EP and GJ suggested training students and healthcare professionals to interact with D/HH patients, as well as advocate for D/HH patients and their families.

The D/HH patients, BU, ML, RM, and RP had similar suggestions for improving VRI services. JA, additionally, suggested there be more bilingual providers. DE, IK, ML, and RM had specific suggestions for training needs, such as the necessity of not only training students and healthcare professionals to interact with D/HH patients, but also training VRI interpreters in medical terminology and advocating for D/HH patients and training hospital administrators in aspects that healthcare professionals did not address. IK explained that hospital administrators need more rigorous training to determine whether D/HH patients need VRI or in-person interpreters. Meanwhile, hospital administrators should be aware of the interpretation preferences of D/HH patients for different types of treatments.

In particular, the patient ED suggested that VRI companies and hospital administrators should meet legal obligations. She argued that VRI should take responsibility under law enforcement and educate hospitals on how to use VRI interpreters; hospital administrators should fulfill the legal obligation to provide D/HH patients’ preferred interpreting services. She sharply explained:

> However, I had to explain to many providers and deaf people as well to, in a way, advocate for them and teach them that this is a right and a lot of people just assume that deaf people do not know their rights and that is not true. They know their rights. The problem pertains to those hospitals, doctors, or providers who refuse to honor their request for the preferred method of communication. That is the problem.

To summarize, through the study of Parts I and II, the author explored the findings in an in-depth manner to identify healthcare professionals' and D/HH patients' interpreting preferences for critical and non-critical care and their recommendations for improving VRI services, as well as healthcare professionals' training experiences.

Discussion

First, this study has several limitations. Due to time constraints and a limited budget, the study was unable to arrange for an ASL survey designed for D/HH patients with limited literacy skills; therefore, D/HH patients who participated either had college education or were working professionals. The survey questions were designed for this specific study and had not been tested for reliability and validity prior to their administration in the study. The study also planned to recruit 12 healthcare providers and 12 Deaf patients for data saturation, but the study was only able to recruit 8 healthcare providers and 8 deaf patients, resulting in a lack of diverse participants.

Second, the study found that the cultural perspectives of deaf studies on deafness did not align well with the findings of Parts I and II. However, the disability studies' social model of difference was more applicable to these findings. The study addressed environmental barriers, such as technical issues associated with VRI, lack of availability of in-person interpreters, budget concerns, and surgery demands, that affected the healthcare professionals' and D/HH patients' choice of interpreting modality for critical and non-critical care. For instance, healthcare professionals preferred VRI for time sensitivity for emergency treatments, and D/HH patients accepted VRI for non-critical care, including the treatment of colds and follow-up or appointments for refilling/replenishing medicines. Healthcare professionals preferred in-person interpreters for surgical care, and D/HH patients preferred in-person interpreters to clarify information and facilitate full access to treatment.

More importantly, a majority of healthcare professionals did not have cultural knowledge pertaining to the Deaf community, but they valued the importance of patient-provider communication that impacts their treatment outcomes. Thus, both groups had logical reasons for their interpreting preferences based on their surroundings and the demands of critical and non-critical care. These examples were related not only to environmental factors but also physical, social, and economic factors.

Third, the study addressed the author's positionality and reflectivity, which includes bias and awareness of the relationship between the author and participants (Bourke, 2014). The topic of the study focused on healthcare professionals' and D/HH patients' interpreting preferences for critical and non-critical care. Personally, the author experienced both VRI and in-person interpreting during critical and non-critical care, which led to her dissertation journey. Thus, the author was aware of her positionality and reflectivity to maintain a distinction between her own experience and that of her healthcare professionals and D/HH patients when she developed the research design and methodology of data collection and data analysis.

Furthermore, the author was also aware of the importance of establishing a relationship of trust between researchers and participants. As the Deaf community encountered negative experiences with VRI in healthcare settings, the author clarified that the purpose of the study was to propose that hospital administrators should balance the use of VRI services, and not support the popularity of VRI services. The author maintained a professional relationship with her former healthcare professionals and her former D/HH clients during data collection. The author also worked with peer reviewers for data analysis on Parts I and II in order to balance the cultural perspective of both the Deaf and those who can hear.

To conclude, this study identified the interpreting preferences of healthcare professionals and D/HH patients for critical and non-critical care. Both healthcare professionals and D/HH patients suggested training for students, healthcare professionals, hospital administrators, VRI interpreters, and D/HH patients. This study confirmed that only VRI is not recommended for clinical treatments, but that a balanced use of in-person interpreting and VRI for specific clinical treatments to ensure better treatment outcomes is desirable.

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Research Articles and Essays

Going Beyond the Classroom: Service-learning to Apply STEM Skills in the Community

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Abstract

Our current ways of teaching and learning STEM have forgotten indigenous methods of learning and knowing about our world around us, leaving Native Hawaiian students feeling disconnected to the learning in the classroom. The wealth of knowledge that once upon a time their ancestors shared are no longer cherished. This disconnect has created a gap in the number of students pursuing STEM fields.

Keywords: culturally responsive education, service learning, indigenous, STEM

Our current ways of teaching and learning STEM have forgotten indigenous methods of learning and knowing about our world around us, leaving Native Hawaiian students feeling disconnected to the learning in the classroom. The wealth of knowledge that once upon a time their ancestors shared are no longer cherished. This disconnect has created a gap in the number of students pursuing STEM fields.

The U.S. Bureau of Labor Statistics (2019) and The Condition of STEM 2016 (ACT, 2016) show that Native Hawaiians and other indigenous groups are significantly underrepresented in STEM fields. STEM fields often require specialized skills and a minimum of postsecondary education, but not enough students are also completing postsecondary degrees to fill the STEM job positions. A study conducted by Crouse, Harmston, and Radunzel (2016) showed that students who have expressed and measured STEM interest were more likely to graduate with a STEM major than those students who only expressed interest or only measured STEM interest.

Thus, there is a need to intentionally increase students’ interest and readiness from early years and provide a supportive environment for talent growth as attitudes towards STEM developed in these formative years along are the foundation of a child’s attitudes and motivation towards learning STEM for any future experiences they have with STEM

(Garriott et al. 2014; Rice et al., 2013; Wang & Degol, 2013). Studies have shown that students benefit when programs bridge the gap between home and school by providing resources and opportunities for parents to participate in STEM-related assignments, activities, or events (Bottoms et al., 2017; Galindo & Sheldon, 2012; Mantzicopoulos, Patrick, & Samarapungavan, 2013).

To provide intentional opportunities for Native Hawaiians students to thrive in STEM, we developed the Ka Pilina Noʻeau (KPN) math and science learning (MSL) model for K-5th graders. In the model, we use Native Hawaiian and local cultural context to teach Native Hawaiian students and other local students STEM knowledge and skills. The model helps the students, as well as their parents, learn STEM concepts through culture and make *Pilina* (connection) to daily living.

One part of the MSL model is going beyond the classroom to apply their STEM skills through a one-day service-learning. Service learning can be defined as learning through participation in activities that address community needs (Brown & Howard, 2005). In our project, we view service-learning activities as: (1) showcasing Native Hawaiians applying STEM in culturally relevant ways in modern settings; (2) cementing knowledge gained in the classroom through hands-on activities; and (3) experiencing the importance of giving back to the community.

As much as possible, we partner with organizations that can embrace traditional Native Hawaiian practices and Native Hawaiian knowledge of place. In addition, we work with and feature Native Hawaiian practitioners who can speak as to how STEM is used in their jobs.

Over a year and half of MSL model implementation, four different service-learning activities were implemented. In these service-learning activities, students and their parents learned (1) *moʻolelo* (story); (2) how *moʻolelo* explain geological features and phenomena; (3) how to use STEM to care for these places; (4) what indigenous methods were used to care for the land and resources; and (5) how communities benefit from people giving back to them. These community-based activities further cement the language and *moʻolelo* that were introduced and taught in our classes. Through these service learning, second and third graders felt more connected with Hawaiian culture and demonstrated a stronger sense of belonging and place. Fourth and fifth graders also demonstrated stronger connectedness with Hawaiian culture, making statements such as: “I understand the Hawaiian ways of understanding the world,” “I know what I do affects people around me.”

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Research Articles and Essays

Moving online: Transforming an Algebra Enrichment Program for Online Instruction and the Impacts on Student Learning Experiences and Outcomes

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Abstract

Article provides an overview of Project BEAM (BE A Mathematician) and its efforts to engage indigenous and Hispanic middle school students in algebra to increase their participation in gifted education programs, as well as facilitate their advancement to careers in STEM.

Keywords: STEM, Native Hawaiian Education, algebra, gifted education, online instruction, math

Despite considerable efforts by educators and researchers, Hispanics and indigenous groups of students such as Native Americans, Native Hawaiians, and Pacific Islanders continue to be significantly underrepresented in both K-12 gifted and talented education programs, as well as, in science, technology, engineering, and mathematics (STEM) college majors and careers (Landivar, 2013; Payne, 2011; Yoon & Gentry, 2009). Participation in gifted education math programs, such as successful completion of algebra in middle school, can open up opportunities to college programs and careers in STEM (Adelman, 2007; Satz, 2007). Algebra 1 is considered a "gatekeeper" course of the STEM pathway (Satz, 2007) since enrollment in advanced-level math and science courses are oftentimes contingent on the mastery of algebra (Jetter, 1993; Stoelinga & Lynn, 2013). Thus, it is critical to engage indigenous and Hispanic middle school students in algebra in order to increase their participation in gifted education programs, as well as facilitate their advancement to careers in STEM.

To provide such early opportunity and to research the effectiveness of providing a culturally responsive, accelerated, and enriched algebra intervention for Hispanic and indigenous middle school students, we have designed a program called Project BEAM (**BE A M**athematician). The BEAM Model consists of three main components: (1) hands-on, culturally responsive math activities; (2) real-world math exploration; and (3) math project development. The model uses the Renzulli Enrichment Triad Model (Renzulli, 1976) as a core structure to guide students through a progression of activities, beginning with general exploratory activities (Type I), continuing on towards developing problem solving and critical thinking skills (Type II), and culminating with an independent, real-world problem investigation study utilizing the processes of practicing professionals in their area of interest in order to produce advanced-level and creative products (Type III). In delivering the program to the students, we utilize an array of evidence-based teaching strategies (i.e., blended learning, ethnomathematics, differentiated instruction, and universal design for learning). So far, the model has been tested with 332 students from 24 middle schools across Hawaiʻi, Arizona, and the Commonwealth of the Northern Marianas Islands.

Originally, the BEAM program was implemented as an in-person, after school or summer intensive math program. Due to school closures resulting from the COVID-19 pandemic, we modified and implemented BEAM math lessons and activities through synchronous online sessions since March 2020. The purpose of the study is to describe how we transformed the math program for online instruction and compare student learning experiences and outcomes between the online math program with the original in-person math program and an online (non-math) English-Language Arts program.

In order to maintain the original program components, intensity, and quality as well as research design, we substituted activity materials for common household items. We created an online learning environment using Zoom to hold synchronous online sessions with breakout rooms for small group activities in addition to online learning management programs (i.e., Canvas and Google Classroom) for assessments and daily assignments. Transforming student worksheets and math games into Google Docs, Slides, and Sheets allowed project instructors to observe the students' problem-solving process and provide feedback in real time.

To compare the learning experiences and outcomes when students were exposed to two different learning environments (face-to-face vs. online), we used the data from in-person BEAM Summer 2019 math camp (n=28), online Summer 2020 math camp (n=71), and online Summer 2020 English Language Arts (ELA) camp (n=39). As a result of data analysis, despite the concerns regarding the virtual learning platform in fostering engagement and understanding among students, we found that the online math program made significantly more positive impacts on students' sense of excellence and responsibility, attitudes towards math, and engagement in math learning than the online non-math, ELA program. In turn, these positive attitudinal changes were translated into increased confidence in learning and solving algebra skills as well as improved algebra achievement. There wasn't a significant difference between the in-person and online math camps in those outcomes. Furthermore, the online math program students were as likely as in-person math group students to view the math camp as fun and engaging. In part, this might be because project staff had fostered a supportive and engaging online learning environment in which students could interact with the teachers and, more importantly, their peers. These findings imply that online learning can provide quality math instruction, comparable to the in-person math instruction, when appropriate adjustments are made to assure students' engagement in learning.

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Research Articles and Essays

Audio description for 3-Dimensional (3D) virtual worlds

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Abstract

Three-dimensional (3D) virtual worlds have little to offer people with visual disabilities because the experience is largely visual in nature. This paper describes a project that seeks to develop best practices for creating audio description for 3D virtual worlds by creating and testing audio descriptions for the University of Hawai‘i at Manoa College of Education’s OpenSim virtual campus as a proof of concept.

Keywords: audio description; 3D virtual worlds; virtual campus

A three-dimensional (3D) virtual world is a simulated 3D environment that can be accessed online through a computer. Instead of a flat two-dimensional (2D) website, 3D virtual worlds allow users to interact through animated avatars (digital representations), customizable objects, instant text and voice chat. The use of virtual worlds has been explored for purposes that include entertainment, socialization, education and commerce. A 3D virtual world that is the most widely used and popular is Second Life (SL), a platform created by Linden Lab.

Many institutions of higher education have established their own presence in SL in order to explore the possibilities of stimulating different forms of learning (Michels, 2008). A number of universities have introduced virtual representations of themselves in the form of virtual campuses for supporting a wide range of educational activities. A virtual campus provides learners with a special place as a framework for learning activities and a set of tools to benefit the educational process (Clark & Maher, 2001). Due to COVID-19 pandemic, many academic-related activities pivoted to an online delivery format and the need for a virtual campus is more evident now than ever.

The University of Hawai‘i’s (UHM) College of Education Second Life (COE SL) virtual campus was launched on March 4, 2011. The COE SL virtual campus was built with the help and advice of the COE SL advisory board of nine members representing the college’s stakeholders. Following Prasolova-Førland et al.'s (2006) proposed six requirements for a 3D virtual campus representing a real university; the college made the decision to design the virtual campus to partially resemble the real campus while creating other new fictitious places to meet all the goals of the COE SL virtual campus.

The virtual campus features a replica of the Wist-Everly Hall complex (see Figure 1) which houses the faculty offices and the college’s Office of Student Academic Services, the Diamond Head Amphitheatre (see Figure 2), the Holomua Learning Area (see Figure 3), a tree house, the Hale Anuenue dormitory and a dockside coffee shop.

Figure 1

Façade of Wist–Everly Hall Complex

Figure 2

Diamond Head Amphitheatre

Figure 3

Holomua Learning Area

In 2018, the COE SL virtual campus was moved to OpenSim, a free and open-source software that allows anyone to create a 3D virtual world similar to SL. This paper describes a project that seeks to develop best practices for creating audio description for 3D virtual worlds, such as OpenSim, in order to provide access to students with visual disabilities and to enhance universal design for learning (UDL). Like other “assistive technology,” audio description is geared primarily toward people who are blind or visually impaired but many sighted people can benefit from “description’s concise, objective ‘translation’ of the key visual components of various art genres and social settings” (Snyder, 2014, p.46). The project created audio descriptions for the UHM COE OpenSim virtual campus as a proof of concept and will recruit students (visually impaired & sighted) to evaluate their satisfaction and effectiveness of the audio descriptions.

Problem to be Addressed

From an assistive technology standpoint, 3D virtual worlds have little to offer people with disabilities because the experience is largely visual in nature and user inputs often require extensive hand/eye coordination to precisely control an avatar's movements. Wood, Morris and Ussery (2009) identified numerous accessibility limitations of 3D virtual worlds to students with disabilities. Blind and visually impaired students face significant barriers to entry to 3D virtual worlds, specifically challenges on how they navigate and orient themselves within virtual spaces. Information in these virtual spaces is presented graphically rather than with textual equivalents. In particular, user generated content within 3D virtual worlds is not accessible to visually impaired users.

Project Solution

This project seeks to develop best practices for creating audio description for 3D virtual worlds for the purpose of providing access to the 3D virtual world of OpenSim for blind and visually impaired students by creating and testing the use of audio descriptions for the COE OpenSim virtual campus. Audio description:

> involves the accessibility of the visual images of theater, television, movies, and other art forms for people who are blind, have low vision, or who are otherwise visually impaired. It is a narration service (provided at no additional charge to the patron) that attempts to describe what the sighted person takes for granted -- those images that a person

> who is blind or visually impaired formerly could only experience through the whispered asides from a sighted companion. (The Audio Description Project, n.d)

Virtual reality offers great potential for people with disabilities; however, it suffers from major accessibility issues (Phillips, 2020). While efforts have been made to devise best practices for creating audio descriptions for 360-degree videos (Herndon, 2020), to our knowledge, there has been no initiative to incorporate audio descriptions into 3D virtual worlds.

Project Methods & Evaluation

This project comprised two components. The first part involved creating audio descriptions for the UHM COE OpenSim virtual campus as a proof of concept. For this proof-of-concept stage of the project, the audio descriptions are integrated as audio streams within the Holomua Learning Area of our COE OpenSim virtual campus.

The second project component will involve formative evaluation of the audio description of the Holomua Learning Area. The formative evaluation will involve both qualitative and quantitative online methods. Data collected from both visually impaired and sighted students will be analyzed for similarities and differences.

Design of audio description for the COE OpenSim virtual campus

Two overarching principles guided the design of the audio descriptions for the COE OpenSim virtual campus:

1. To promote independence and agency
2. To thoroughly describe visual content without judgment about what is “important” or “most useful” (Conway, Oppegaard & Hayes, 2020)

Firstly, audio description was created to set the mood and provide an overview of the Holomua Learning Area. When an avatar arrives at the Holomua Learning Area, this overview audio description will automatically play in the parcel audio streaming. The Holomua Learning Area overview audio description reads:

> Aloha and welcome to the University of Hawaiʻi at Mānoa's College of Education Open Simulator virtual space. You have arrived at the Holomua Learning Area. The Holomua Learning Area's natural landscape from an aerial 360-degree view: At 12 o'clock, the ocean can be seen at a short distance from the green grassy

spaces bounding the Holomua Learning Area. From one o'clock to four o'clock, several mountains create a barrier between the Holomua Learning Area and the sea. The tallest of the mountains has a waterfall cascading into a small river that leads to the sea. Tall thin Lauhala palm trees are sprinkled around the perimeter close to the water's edge. At six o'clock, the island extends out with light and dark green grassy hills and palm trees. The ocean can be seen at a distance. Between seven o’clock and ten o'clock no ocean is visible. The rolling green hills bound the Holomua Learning Area from this direction. At 11 o'clock, Diamond Head, a volcanic tuff, cone looms in the distance. It is brown, rocky and without vegetation. The ridge line of the crater resembles the shape of a tuna's dorsal fin. From a 360-degree ground viewpoint of the Holomua Learning Area man-made constructions: At 12 o'clock, a large A-frame structure called the Hale stands as tall as its closest mountain. At one o'clock and three o'clock, two identical taro patches are enclosed by short, stone walls and dark green fronds. A rectangular thatched hut called the Bishop Hale is a short distance away at six o'clock. From a distance, a modern two-story cream building with a flat rooftop can be seen at eight o'clock. In the center of the Holomua Learning Area is a large cream sheer canopy. Two strands of hanging light bulbs stretch from either side of the canopy poles to the trunks of clumping palms above a stone path. The stone path leads to each of the buildings directly to the right of the path. From nine o'clock to eleven o'clock are several signposts. At nine o'clock, the signpost is a teleporter to a sandbox area. Next to the right of this, is a sign describing the Holomua Learning Area. To the right of this are two directional signs stacked on top of each other with blue arrows pointing in opposite directions. The top sign points to Diamond Head Amphitheater; the bottom sign points to Wist Hall. Each sign also functions as a teleporter. The final sign to the right is a stem signpost that links to the STEM^2 website at University of Hawaiʻi at Mānoa's College of Education.

Next, audio description was created for the main structure in the Holomua Learning Area – the A-frame hale (traditional Hawaiian hut). The audio description for the A-frame hale reads:

> The dirt ground beneath the hale holds a blazing campfire with smoke billowing towards the sky. A tan woven mat (Lauhala mat) spanning the perimeter of the hale is several inches thick. On top of the mat, brown and cream floor pillows are scattered about. There are dark rocks on each corner of the mat weighing the mat down. The hale frame is wooden and sits atop a stone wall on its two sides. Five

> diagonal beams stretch out from the two walls and meet at the top from either side forming the "A" and are braced by three horizontal beams. The outside of the frame is covered in yellow palms. The palms overlap in four sections. A perpendicular wooden platform in the center of the hale is two thirds of the way up the intersection of the frame.

In addition to creating audio descriptions, to promote agency and independence, we devised structures and strategies that would aid blind and visually impaired users navigate independently within the Holomua Learning Area. We designed walking paths with semi-translucent barriers on either side of the path as well as a “thud” sound trigger to alert when an avatar ventures off the path. The path has various junction points and walking over a junction will trigger a voice prompt that tells users how to enter and exit to various locations. The audio description for the walking path and junction reads:

> Your avatar arrives at the Holomua Learning Area and stands on top of an aloha mat that is on top of a stone path that leads to the various areas in the learning area. Semi-translucent barriers are on either side of the path and enable a sound trigger to occur if you venture off the path and go on again. If your avatar strays off the path, continue walking until you hear a thud sound indicating that the avatar has

> walked back onto the stone path. The path has various junction points and walking over the junction will trigger a voice response that tells you how to enter and exit to various locations. "You are either exiting the junction heading towards the hale, or you are entering the junction at 4 o'clock. The path to the Bishop Hale is at 12 o'clock, and the path to the Taro patch is at 8 o'clock." Continuing on towards the taro patch...Upon entering the taro patch, another voice will trigger to describe the area.

Finally, the audio description was created to describe the taro patch:

> A green grassy square enclosed by a short stone wall on four sides. Two divided lines of tilled earth have three evenly spaced taro root chairs. A green stem and heart-shaped leaf bends slightly out from the speckled dirt. A white ball hovers over the leaf. Right clicking on the ball will allow the avatar to sit on it.

Next Steps & Conclusion

In the next phase of the project, we will conduct formative evaluation of the audio description of the Holomua Learning Area. We plan to recruit both visually impaired and sighted students to evaluate the effectiveness of and their satisfaction with the audio descriptions. Participants will spend about an hour navigating and evaluating the audio descriptions of the COE OpenSim virtual campus. Feedback from both groups of students will help us improve the quality and process of creating audio descriptions for 3D virtual worlds. The formative evaluation will involve both quantitative and qualitative online methods.

Students will complete an online satisfaction survey and participate in a usability study which will take place online using the Zoom web conferencing system. Unlike 2D web usability, usability testing of 3D virtual worlds involves “complex, multiple, interdependent layers that must be taken into consideration” (Espinosa and Leong, 2021, p. 131). The usability test will focus primarily on the COE OpenSim virtual campus simulation, setting aside the user interface of OpenSim which is currently not fully accessible. Participants’ avatars will be positioned at the landing point of the Holomua Learning Area from which the usability test will proceed. Data collected from both visually impaired and sighted students will be analyzed for similarities and differences.

The intent of this proof-of-concept project is to develop best practices for creating audio description for 3D virtual worlds by creating and testing audio descriptions for the

Holomua Learning Area of the COE OpenSim virtual campus. We will revise the audio descriptions and prototype of our pathway navigation based on the results of our usability testing. We plan to seek further funding to develop more sophisticated technical implementations of audio descriptions in 3D virtual worlds.

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Research Articles and Essays

Bullying Victimization of Learners with Disabilities: Basis for the Development of an Anti-Bullying Survival Kit

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Abstract

This explanatory mixed methods study aimed to determine the challenges experienced and the coping strategies employed by high school learners with disabilities who have experienced bullying victimization as basis for the development of an Anti-Bullying Survival Kit. As an output of this study, this survival kit contains insights, strategies, activities, and resources that may help address bullying.

Keywords: bullying, victimization, learners with disabilities, Anti-Bullying Survival Kit

Anybody can be a target of bullying, but some people such as those with disabilities have a tendency to be bullied or victimized more often when compared to their peers with no disabilities (Young et al., 2011). Bullying is a type of aggression which has the following characteristics: intentionality, repetitiveness of aggressions, and imbalance of power between aggressor and victim (Olweus, 2013).

It is, therefore, important to be deliberate about addressing bullying at school and in creating an effective anti-bullying intervention for learners with disabilities. Perhaps, an Anti-Bullying Survival Kit may help learners with disabilities prepare and empower themselves, and become free from bullying.

This study was primarily anchored on the Stress Coping Transactional Model of Lazarus and his associates (Lazaruz & Folkman, 1984; Lazarus & Launier, 1978). This framework highlights the subject's relation with the environment or situation where they are interacting, and the coping approaches resulting from the evaluation of the situation. This evaluation or appraisal, in turn, is being shaped by both situational and personal variables (Lazarus & Launier, 1978).

Statement of the Problem

This study aimed to determine the challenges experienced and the coping strategies employed by high school learners with disabilities who have experienced bullying victimization as basis for the development of an Anti-Bullying Survival Kit. This study further aimed to answer these questions: (1.) What are the challenges faced by high school learners with disabilities who experienced bullying victimization? (2.) What are the coping strategies employed by the high school learners with disabilities? and (3.) What Anti-Bullying Survival Kit may be developed for learners with disabilities?

Assumptions of the Study

The following assumptions were developed for this study: (1) all participants (i.e., students with disabilities) answered the interview questions honestly and to their best ability; and (2) all participants have a documented disability.

Epistemological, Methodological, and Theoretical Research Perspective

The bullying situations that the learners with disabilities have encountered influenced my decision in selecting narrative inquiry as a research methodology, influenced by interpretivism as theoretical perspective, and informed by constructionism as epistemological stance. Although it was impossible to completely let go of my biases and beliefs, I have reflected on these biases, acknowledged them, and made attempts to bracket them.

Delimitation of the Study

The sample size in a qualitative study is relatively small. For this study, the researcher used narrative inquiry as a research methodology and approach, and selected five learners with disabilities as participants for interview. The qualitative interpretations of the experiences of the participants in this study can only be true to them and cannot be generalized to the general population.

Research Design and Methodology

This study utilized a case selection type of explanatory sequential mixed method design, wherein quantitative data were gathered and analyzed first (quantitative phase) in order to determine the participants who will take part in the qualitative phase (Creswell & Plano Clark, 2018).

Prior to conduct of the study, the approval of the school principal, advisers, parents, participants, and Research Ethics Review Committee were sought A survey using a validated Bullying Victimization Scale was conducted among 57 high school learners with disabilities who have given their assent to participate in the study. They were enrolled in either of the two public high schools in Iloilo City, Philippines for the school year 2018 to 2019. These public high schools have special education and inclusion programs designed for learners with disabilities. Participants who had the highest score in the survey and have met other inclusion criteria became the participants for the second, qualitative phase. In this study, bullying victimization referred to any intentional single or repeated behavior pattern (e.g. occurring at least twice a week) of aggressive behavior that creates reasonable fear of physical or emotional harm or damage to one's property.

In the second phase, narratives were explored in-depth through interviews. As a methodology used in this study, narrative inquiry sees "participants as authors of their stories" (Wang, 2017, p. 4) thereby encouraging them to generate "meaning of their own truths, value their own creation of knowledge through the process, and convey their interpretations freely" (p. 4).

Purposive specifically intensity sampling was utilized to identify the participants for the second phase of data collection. Qualitative samples lean towards purposive (Kuzel, 1992). Intensity sampling in qualitative research involves selecting cases that manifest rich information and have experienced the phenomenon in a high extent (i.e. has high extent of bullying victimization experience) (Kuzel,1992 & Patton, 1990 in Miles & Huberman, 1994). With fewer samples, qualitative studies can explore more deeply the experiences of the participants (Russell & Gregory, 2003).

Participants who have achieved the following inclusion criteria took part in the interview: A high school learner: (a) with disability/ies; (b) who had repeated and frequent experiences (at least twice a week) of bullying within the last three years; (c) whose parent/guardian signed the written consent allowing their child to take part in this study; (d) who gave assent for participation in the study; and (e) who had a high score in the Bullying Victimization Scale on the extent of bullying experienced.

These participants were four males and one female, with ages between 14 and 20 years old, and has one of the following diagnoses: deafness, blindness, or multiple disabilities. All of the participants considered themselves as victims of bullying. They were interviewed in a semi-structured manner using an interview guide with a combination of close and open-ended questions. The participants were interviewed inside the counselling room with the presence of a guidance counselor and a sign language interpreter (for deaf participants) who have signed a confidentiality agreement form. Each interview lasted for a maximum of one hour. An audio recorder and a cellphone were used to audio and video record the interviews. The learners' anonymity was assured, and the privacy and confidentiality of data were also strictly observed. Their real names were replaced with pseudonyms in this study. The researcher also gathered stories about the research participants from their family members, schoolmates, or teachers.

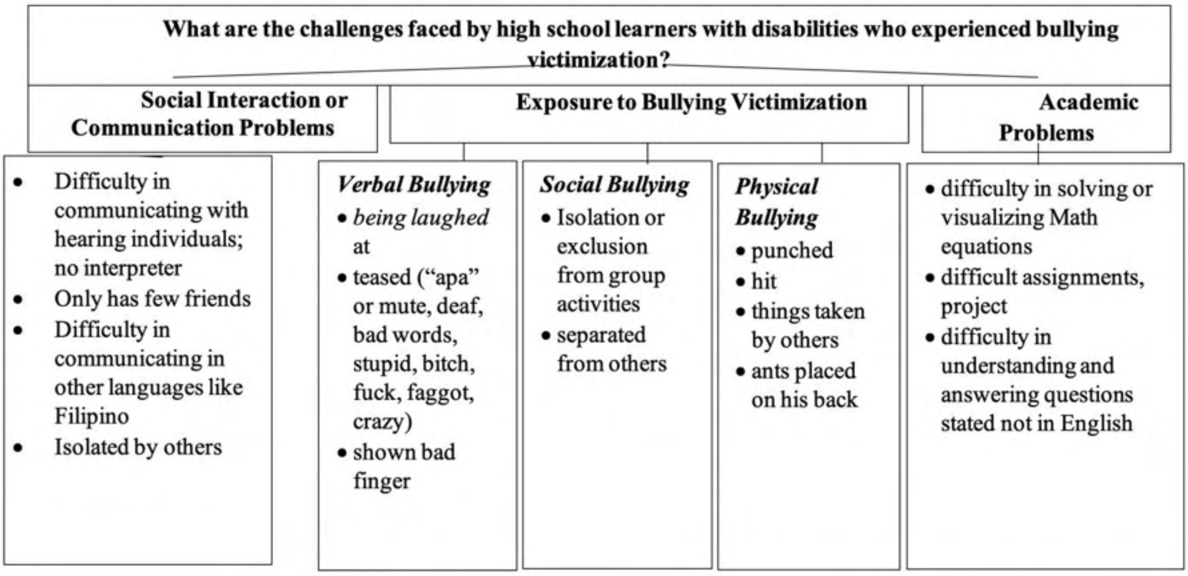
In this study, the analysis of data in qualitative phase involved a description of themes that emerged from stories of participants (analysis of narratives). Analysis of narratives involved data coding, dividing the transcript into small components (e.g., phrases, sentences, paragraphs), and labeling each unit. Evidence was clustered into codes, and themes were developed out of the codes (Creswell & Plano Clark, 2007). "Themes can then be grouped into even larger dimensions, related or compared" (Creswell & Plano Clark, 2007, p. 132). These themes after repeatedly being refined were presented back to the research participants in order to validate and clarify these themes (member checking).

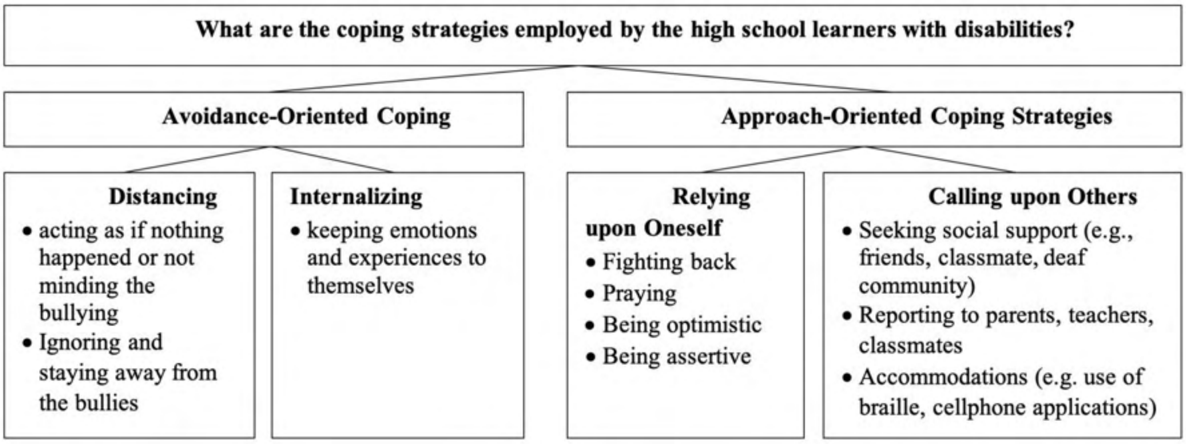
Results and Discussion

In analysis of narratives, the database is examined in order to “address the research questions” (Creswell & Plano Clark, 2007, p. 131).

Figure 1

Themes, categories and codes. Results of analysis of narratives of transcripts from interviews with learners with disabilities.





Challenges Faced by High School Learners with Disabilities

Results of analysis of narratives showed the following themes on the challenges the participants faced: Social Interaction or Communication Problems, Exposure to Bullying Victimization, and Academic Problems.

Social Interaction or Communication Problems

Social interaction was one of the areas where a participant had difficulty in. “I only have one classmate who helps me. I felt sad because others don’t help” (Macy, blind, 16 years old). According to Macy, she felt alone in the classroom.

All participants who are deaf shared their difficulty in communicating with hearing individuals such as their classmates and teachers. For Ben (deaf, 17 years old), it was difficult for him to communicate with hearing classmates because there was no one to interpret for him. He couldn't understand others so he was called an 'idiot'. "Hard to understand, hard to communicate, sign language only" (as interpreted) (Ben, deaf, 17 years old).

Another participant (Cha, deaf, 20 years old) also found it difficult to communicate with other people especially with those who are hearing, and because of this, he only has few friends. He felt hurt, angry and he cries because he is deaf. Also, when interacting with the regular students and teachers, Cha (deaf, 20 years old) needs to write and show through actions in order for others to understand him.

There is a tendency for learners with disabilities to be more poorly accepted by their age-group (Nakken & Pijl, 2002). Moreover, the sign language skill deficiency of teachers is one of the many challenges faced by learners with disabilities especially those with hearing impairment (Ndhlovu, 2007). Participants in the study conducted by Ndhlovu (2007) suggested that every teacher must be competent in using sign language and auxiliary tools like braille.

It was also interesting to note that guidance counselors in one of the participating schools (inclusive school) in this study were not trained in sign language. This may have contributed for the reluctance of the high school learners with hearing impairment to visit the guidance office.

Exposure to Bullying Victimization

The participants experienced different types of bullying for the past three years. Various studies have mentioned that learners with disabilities face bullying more often than their age-peers (Blake et al., 2012).

Being different, the participants with disabilities experienced various victimizations from other people. Results of various researches suggest that the victimization types or categories are highly associated with each other, and that a person may experience victimization in numerous ways (Wang et al., 2010).

Verbal Bullying. Three of the participants have experienced some sort of verbal bullying. One participant, Ben (deaf, 17 years old), shared that others laughed at him and teased him “apa” or mute and other negative words such as stupid. Another participant, Cha (deaf, 20 years old), was repeatedly teased as deaf, and was called “bitch, fuck, and faggot” (as interpreted). While the other participant, Pao (with multiple disability, 14 years old), shared that he was teased as crazy, and he was also shown a “bad finger” (middle finger).

Learners with disabilities especially communication difficulties (e.g. hearing impairment, speech and language impairment) tend to have a higher likelihood of being victimized (Blood & Blood, 2004). On the other hand, learners with disability that have a co-existing conditions (i.e. multiple disabilities) reported more victimization by their peers. Findings of Humphrey et al. (2007) revealed that kids with coexisting ADHD and psychological disorder (particularly those with externalizing manifestations) tend to be victimized more by their age-peers.

Physical Bullying. Aside from verbal bullying, some participants also experienced physical bullying. One participant (Ben, deaf, 17 years old) experienced being punched by his classmate on his head, back and shoulders. Another participant (Leorio, blind, 19 years old) also shared that he was punched on his shoulders. Aside from being punched, Pao (with multiple disabilities, 14 years old) shared that a big ant was also placed on his back. He also experienced losing his things because of other people.

> I lost my bag… I also lost my water container… they said that my bag and water container were in the canteen… I asked the seller there but my things were not there. They just fooled me. (Pao, with multiple disabilities, 14 years old)

Findings of Klomek et al. (2009) showed that boys tend to be more victimized by physical bullying (e.g. hitting, punching) while girls tend to be victimized by relational bullying (e.g. isolation or exclusion). Learners with disabilities may be more susceptible to bullying due to their attributes which may include problems in language or communication (Luciano & Savage, 2007), and inappropriate actions when interacting with others or problems in terms of establishing and maintaining satisfying interpersonal relationships (Fox & Boulton, 2005).

Social Bullying. Two of the participants experienced social type of bullying. These participants were excluded or isolated in the group activities. “I couldn’t feel that I was in the regular (class)… we were not included in the group” (Macy, blind, 16 years old). Another participant, Ben (deaf, 17 years old), experienced being “separated like being discriminated” (as interpreted).

Results from the investigation led by Fekkes et al. (2005) revealed that 17.2% of learners shared that they experienced bullying where they were snubbed or not permitted to take part in activities. According to Blake et al. (2012), the bullying experiences that the learners with disabilities may have may be due to disability-associated issues such as discrepancies in social or communication skills, disability condition, and the discernment of their debility (Blake et al., 2012). Also, victims generally lack social skills and are either neglectees or are friends with those who are socially excluded (Swearer, et al., 2012).

Academic Problems

Academic demands may also pose as challenge to learners with disabilities. Often, learners with disabilities encounter more academic or school problems, and also have more problems handling situations related to interacting with others (Meadan & Monda-Amaya, 2008).

All of the participants shared the problems they encountered in school. Being blind, it was difficult for two participants (Macy, 16 years old and Leorio, 19 years old) to understand and solve some Math problems or equations. According Leorio (blind, 19 years old) and Pao (with multiple disability, 14 years old), they had a lot of projects and assignments which they found difficult to do. For deaf participants (Cha, deaf, 20 years old and Ben, deaf, 17 years old), it was difficult to learn their lessons because no one interprets for them. Also, English was the medium they used in sign language. They found it difficult to communicate in other languages like Filipino.

Aside from deficiencies caused by their disability, the learners with disability/ies may find it difficult to access support services while attending school. The lack or inadequate essential facilities, accommodation, or services for learners with disabilities can "severely limit" their "independence" and "mobility" (Obiozor et al., 2013, pp. 127-130). Tugli et al. (2013) posited that the "lack of necessary support services" (p. 347) and the presence of "a number of physical, social and attitudinal barriers at various level of their education" (p. 347) can cause the learners with disabilities to be excessively reliant, and socially and academically isolated.

Coping Strategies Employed by High School Learners with Disabilities

The main themes which emerged on the narratives from the interview of the research participants when asked about their coping strategies were the following: Avoidance Coping Strategies and Approach Coping Strategies.

Each of the participants utilized different coping strategies that helped them cope with different challenges. Folkman and Lazarus (1985) referred to coping strategies as ever varying cognitive or behavioral approaches to address certain outer and inner demands which are assessed as stressful or beyond the individual's resources. Thus, coping refers to whatever we do to manage an event or stimulus we perceive as threatening.

It is important to recognize the coping strategies used by learners with disabilities because it's one way to understand the extent of bullying victimization they've experienced. Various authors (e.g., Kristensen & Smith, 2003) discussed that coping is one important variable in understanding the effects of bullying from the victim's perspective.

Roth and Cohen (1986) developed classified coping behaviors into approach and avoidance (Donoghuea et al., 2014). Approach strategies are adaptive coping strategies and are linked to positive functioning (Carver et al., 1989). Avoidance strategies, on the other hand, are used when dealing with solvable or controllable stressors (Roth & Cohen, 1986). Considered maladaptive, avoidance strategies are linked to poor adaptation socially (Carver et al., 1989).

Avoidance Coping Strategies

Avoidance strategies involve avoiding the stimuli (Roth & Cohen, 1986 in Andrasik et al., 2015). They are "classified as distancing (e.g. acting as if nothing occurred), internalizing (e.g. keeping their emotions to themselves) or externalizing (e.g. taking their emotions out on others)" (Donoghuea et al., 2014, p.42).

Distancing. Distancing as one type of avoidance coping strategy includes ignoring and staying away from the bullies, and acting as if nothing happened.

Ignoring and Staying Away from the Bullies. Learners with disabilities also tried to isolate themselves in order to prevent being victimized. For two participants, staying away from and ignoring the bullies were good strategies in preventing and stopping bullying. "Just stay away and avoid joining others" (as interpreted) (Ben, deaf, 17 years old). For Leorio (blind, 19 years old), he just stayed away and didn't go near the bully.

Wolpert (2003) as cited in Anderson and Swiatowy (2008) shared the importance of teaching learners how to get away from a bullying situation. This is supported by New (2007) who sees the "need to learn to walk away from the situation and not fight" (as cited in Anderson, & Swiatowy, 2008, p. 34).

Some researchers (e.g. Bourke & Burgman, 2010) discussed that isolation is common initial coping behavior used by victims to respond to bullying. Self-isolation is a defense mechanism intended to emotionally separate from, and physically avoid an unsafe, hostile environment (Rigby, 2012). However, the more the learners with disabilities become socially isolated, the more their social status decreases, and so does the potential support from their friends (Luciano & Savage, 2007). This can affect the possible protection that the learners with disabilities may have against those who bully them.

Acting as if Nothing Happened or Not Minding the Bullying. Feeling affected by bullying is important for some participants. One participant (Ben, deaf, 17 years old) would feel angry whenever he's teased but he would just forget about it. Another participant

(Leorio, blind, 19 years old) shared that sometimes, he just acted as if he was not punched while he was walking. He also expressed the importance of not really minding the bullying experiences because according to him, they can cause depression and suicide. Learners commonly involved in bullying victimization tend to experience sadness, low self-esteem, suicidal thoughts, and fear of attending school (Gourneau, 2012).

Internalizing. Internalizing as one type of avoidance coping strategy includes "keeping emotions & experiences to themselves."

Keeping Emotions and Experiences to Themselves. Some participants (e.g., Cha, deaf, 20 years old and Ben, deaf, 17 years old) kept their bullying experiences and emotions secret. Later, the teacher would know that they were being bullied. One participant, Ben (deaf, 17 years old), was called an idiot by his schoolmates and he felt hurt, but he kept it a secret and did not tell his parents.

Learners with disabilities and low self-esteem tend to report less their bullying victimization experiences (Smokowski, & Kopasz, 2005 as cited in Shetgiri, 2013). Also, learners usually do not feel comfortable when disclosing their bullying experience because they fear the retaliation of the bully, and they perceive teachers as unreceptive to the information (Dickinson, 2006). According to deLara (2012), there are various reasons why adolescents don't report incidents of bullying. These reasons include: (a) bullying action perceived as normal; (b) perceive self as helpless and that grown-ups cannot help out even if told; (c) apprehension about the reactions of adult regarding the allegation; (d) confidence in self that they can deal with the problem on their own; and (e) embarrassment as a consequence of asking for help. However, by not reporting to the school, learners with disabilities may not receive the support or assistance they need (Obiozor, 2009).

Approach-Oriented Coping Strategies

These strategies involve confronting the source of stress directly (Roth & Cohen, 1986 in Andrasik, Goodie, & Peterson, 2015). Approach-oriented or problem-focused coping aims to control or change the environment or the situation that is causing the stress to eliminate the perceived stressors.

Relying Upon Oneself. Relying upon oneself is one type of approach-oriented coping strategy and includes fighting back, praying, being optimistic or having positive outlook, and being assertive. According to Bosacki et al. (2006) as cited in Anderson and Swiatowy (2008), the most prevalent solutions to bullying include reporting to the teacher, developing friendship with the bully, and talking to or confronting the bully.

Fighting Back. To cope with bullying, some learners with disabilities decided to fight back. Anderson and Swiatowy, 2008, shared that it is necessary for learners to learn various strategies to "empower themselves and stand up to bullies" (p.34).

For three participants (Leorio, Ben and Pao), they chose to fight back against the bullies. Ben (deaf, 17 years old) also fought back by punching his classmate on the cheek and left shoulder. Pao (with multiple disabilities, 14 years old) shared his advice which is to "fight back."

Two of the participants (Ben, deaf, 17 years old, and Leorio, blind, 19 years old) verbalized that they learned to be strong and to fight back. According to Leorio (blind, 19 years old), one must be alert and ready always so that he or she can fight back.

Men are more likely to fight or confront a threat when under stress because of higher levels of testosterone (Girdler et al., 1997). According to Estell et al. (2009), victimized individuals with disabilities tend to become aggressors more probably because of a lack of emotional control and social skills needed to interpret the environment.

Praying. Prayers and having religious beliefs can help learners with disabilities cope with challenging, traumatic or stressful situations like bullying. Cha (deaf, 20 years old) prays as he hopes to be accepted by others. According to Pargament and Park (1995) as cited in

Kowalski and Westen (2005, p. 412), people's "beliefs allow them to ascribe meaning to the event or strengthen their sense of closeness to the divine," thus helping them cope with these events.

Being Optimistic or Having Positive Outlook. Having a positive outlook was also an important copying strategy for bullying and other life and school challenges. "We need to be positive and we have to remember our rights despite our disability. We need to be included in group activities and be treated just like the regular [persons]" (Macy, blind, age 16).

Optimistic individuals are more prone to coping with bullying in a more constructive and beneficial manner, and not focus on its (bullying) undesirable aspects and messages (Fredrickson, 2001, as cited in Gordon, 2020). People who think positive often believe that other people (e.g. peers, teachers) are more inclined to help and assist them with the bullying circumstance, and that the bullying will eventually terminate (Gordon, 2020). Optimistic individuals are capable of centering their attention to things they have control on such as their bullying reactions in order to cope or deal with the bullying situation (Gordon, 2020).

Being Assertive. Assertiveness is also an important coping strategy. One participant (Macy, blind, 16 years old) expressed that those with disabilities should assert their rights especially in terms of inclusion in socialization and in different activities.

> They wouldn’t want to include me in the group but I insisted. I hope they realize that they should also include me in the activities. We should also join because it is our right. Nothing is impossible. I know I can also do things. (Macy, blind, 16 years old)

Being assertive means standing up for your rights and defending yourself or others comfortably against unfairness (Gordon, 2018). Assertive behaviors or responses are stated in a calm and confident manner or speech while giving respect to the other persons’ needs and wants (Gordon, 2018). Assertiveness skills may help learners “get the voice they need without the aggression of a bully” (Anderson, & Swiatowy, 2008, p. 35).

Calling Upon Others. Calling upon others as one type of approach-oriented coping strategy includes seeking social support, reporting to parents, teachers, classmates, and making use of accommodations.

Seeking Social Support (e.g., friends, classmate, deaf community). For some participants, having friends that help mattered. Cha (deaf, 20 years old) shared that he had two friends who helped him. Another participant (Ben, deaf, 17 years old) shared that he also had good classmates who helped him by writing to him what was happening, and by telling him not to go to others who bully him.

Results of the study conducted by Kristensen and Smith (2003) among a sample of Danish children showed that asking for help from others and solving their own problems were the most common responses to bullying. Also, the role of support system such as friends is vital to successful coping of learners with disabilities, and in defending themselves against bullying victimization. This is supported by studies by Card and Hodges (2008) and Kendrick et al. (2012) which stated that acceptance by age-peers, and having a lot of friends especially those who help have been shown to be protective against victimization. Kowalski & Westen (2005) suggest "people with supportive relationships are less likely to make a primary appraisal of situations as stressful, and they are more likely to perceive themselves as able to cope" (p. 415). Friends encourage and help the bullied child in processing his or her bullying experience by being there with him or her to talk and listen; and a friend is more likely to help and mediate on their behalf than another bystander (Gordon, 2018).

On the other hand, for two participants, working with groups and having friends help them cope with their academic tasks. According to Leorio (blind, 20 years old), his friends helped him with his assignments. Sometimes he didn't know what to do but with the help from his classmates, he was able to do his tasks. In order not to experience school difficulties, Pao (with multiple disabilities, 14 years old) worked with groups and his friends.

Cha (deaf, 20 years old), on the other hand, joined the deaf community to learn and become aware about the deaf. According to him, this community provided him with friends who accept and comfort him. He also has friends and best friends who teach him. Results of studies indicated that academic achievement is associated with the child's social interactions and friendships (Gordon, 2018).

Reporting to Parents, Teachers, and Classmates. Some of the participants told their teachers, trusted classmates, parents or relatives about the bullying they were experiencing. Two of the participants (Leorio, blind, 19 years old, and Pao, with multiple disabilities, 14 years old) shared that the victims of bullying should report to their friends, teachers, parents, relatives, or guidance counselor. Learners may "be encouraged to discuss any problems with bullying" (Brown et al., 2005 as cited in Anderson, & Swiatowy, 2008, p.36).

Researches showed that bullying victims also seek help from others when being bullied. In a study conducted by Paul, Smith and Blumberg (2012), London students aged 11 to 13 were questioned about the manner they coped with victimization. Results showed that most students preferred to seek help and advice. In a comparative study conducted by Kanetsuna et al. (2006), Japanese and British students shared an advice to victims, which was to seek help from others, however, these students also shared that they are afraid of actually doing it.

Accommodations. Accommodations refer to variations in terms of instructional delivery, form of performance, or manner of giving assessment but do not considerably change the curricular content or level of difficulty (Hallahan et al., 2009).

For blind participants, they are brought in the resource room during examinations and the shadow teacher read to them the test questions. Leorio (blind, 19 years old) shared that there were teachers who were with them when they read. According to another participant (Macy, blind, 16 years old), the teachers were willing to help them. Aside from shadow teachers, "there were regular teachers who also helped me" (Macy, blind, 16 years old).

Technology such as cellphone applications and braille also helped the blind students to cope with their academic tasks. One blind participant (Macy, 16 years old) typed on her cellphone what her mother dictated or read to her. She also uses braille. A braille is a tool with dots raised allowing the blind to read using the tip of their fingers; it has a number of quadrilateral cells with one to six dots in each cell pertaining to certain letters or symbols (Hallahan, Kauffman, & Pullen, 2009).

Provision of accommodations such as reading the test questions to the blind during examinations, may positively influence the adjustment of the learner with disability in school, and thus be able to confront challenges successfully. Accommodations in the form of human resources and auxiliary materials may be provided to guarantee the independence and effective functioning of learners with visual disabilities (Tugli, et al., 2013).

Development of an Anti-Bullying Survival Kit

The development of the Anti-Bullying Survival Kit was based on results of the study and on Knirk and Gustafson design model (1986). An instruction design model like that of Knirk and Gustafson shapes and gives sense to a problem, allowing designers to develop their task with greatest understanding (Ryder, 2001 as cited in Qureshi, 2004). This design model has three stages or steps: problem determination, design and development (Qureshi, 2004).

Problem determination step consists of the problem being recognized, and the goals being laid down. Also, goals are determined based on assessed needs, and analyzed tasks (Nimbkar & Sonali, 2013). For the development of the Anti-Bullying Survival Kit, this stage involves determining the needs of high school learners with disabilities which were identified in the findings of the study.

In the second stage (design stage), the objectives and strategies are specified (Sortrakul & Denphaisarn, 2009) to solve the identified problem. The researcher created an Anti-Bullying Survival Kit which aimed to help the learners (1) become informed of the extent, seriousness, and dynamics of bullying, (2) become aware of the roles students have in a bullying situation, (3) examine their beliefs about bullying, (4) differentiate submissive, aggressive, and assertive responses toward bullying, (5) be empowered and be equipped with necessary knowledge about effective strategies for preventing and stopping bullying, and (6) be informed on how other people (e.g. parents, teachers) can help control bullying.

Lastly, the materials are crafted in the development stage (Qureshi, 2004). This stage consists of construction of materials and final output (i.e., survival kit).

The Anti-Bullying Survival Kit was developed to help learners especially those with disabilities be informed on how to cope with and prevent bullying. The challenges experienced and the effective coping strategies employed by the participants were presented in this kit. Designed in a way that accommodates the needs of learners with disabilities (e.g. printed in braille; printed with large font size; audio format), it contains strategies, activities, and resources to address bullying. Aside from information and activities for learners, information for parents and teachers were also provided.

The Anti-Bullying Survival Kit was evaluated using a valid instrument, and the overall mean given by the evaluators was 3.85 which means survival kit was very acceptable.

Table 1

Jurors' Evaluation of the Anti-Bullying Survival Kit in terms of Different Areas

CRITERIA	Evaluator 1	Evaluator 2	Evaluator 3	Evaluator 4	Mean
1. Objectives	3.75	3.75	3.75	4.00	3.81
2. Content	3.78	3.88	4.00	4.00	3.92
3. Technical Quality	4.00	3.67	4.00	4.00	3.92
4. Presentation & Organization	3.50	3.75	4.00	3.75	3.75
5. Assessment	4.00	3.33	4.00	4.00	3.83
Mean	3.81	3.68	3.95	3.95	3.85

Note. 3.41 – 4.00: Very acceptable; 2.81 – 3.40: Acceptable; 2.21 – 2.80: Moderately acceptable; 1.61 – 2.20: Barely acceptable; 1.00 – 1.60: Not acceptable

The comments given by the evaluators after evaluating the Anti-Bullying Survival Kit included: (a) "the survival kit is very well-presented and is a very useful material in the future" (Evaluator 1); and (b) "You are excited to see what's in the next page. The presentation and color combination are pleasing to the eyes. The content is comprehensive such that you become well informed and prepared to deal with bullying after reading it" (Evaluator 2).

Conclusions

Identifying various challenges that learners with disabilities experience as early as possible is important so that interventions and coping strategies can be planned, suggested and implemented sooner, and psychological problems can be prevented. It is therefore necessary to learn from learners with disabilities so that other people can learn from their challenges or experiences, and their best coping strategies can be shared to others. Hence, the researcher created an Anti-Bullying Survival Kit with information about the best coping practices of the participants to help other learners, especially those with disabilities, prevent, prepare for, and cope with bullying situations.

Implications for Theory

The findings of this study validated the Stress Coping Transactional Model of Lazarus and his associates. Learners with disabilities who experienced the same type of bullying may respond to the event in a different way. The strategies utilized to handle taxing circumstances are based on the discernment of the individual (subject) about any given circumstance (Lazarus & Folkman, 1984). When a person views the demands of the circumstance as beyond his or her ability to meet those demands, he or she will experience stress. Thus, the appraisal or evaluation depends on the individual's judgment of his or her own capability to manage the stressing circumstance or event. Thus, it is important that learners with disabilities who are victimized are self-aware of how they view a particular event such as bullying.

The participants' stories described the challenges they faced and the type of coping strategies they employed. At the beginning, the participants' stories illustrated their powerlessness, their inability to change their situation, and thus they employed avoidance-oriented coping strategies. Those who believe that they have unchangeable situation (e.g. classmates calling them "idiot" or "crazy") tend to isolate themselves, while those who believe that their situation is something that can be changed tend to be more optimistic and assertive in promoting their rights. However, it was also interesting to note that they used multiple avoidance-oriented and approach-focused coping approaches but utilized more approach-focused approaches than avoidance-oriented ones. Also, they were able to adapt or adjust because they perceive their situation as manageable, and they utilized various coping strategies that aim to change their environment or themselves.

Implications for Practice and Recommendations

This study's findings have great implications for learners with disabilities. Teachers, parents, researchers, interventionists and policy makers, may attempt to hear the voices of these learners with disabilities and understand their needs, perceptions, and experiences.

Providing special support to learners with disabilities, especially those who were victimized, is indispensable in inclusive education. This support may be in the form of guidance, classroom accommodations, psychological counselling, assertiveness training, and stress debriefing.

It is necessary for schools to solve the persistent bullying problem. Multifaceted whole-school approach may be used in addressing the said issue. Teachers must be actively involved in preventing bullying. This may start with awareness of what is happening in the classroom and devising activities that will promote positive interaction among learners. Classroom activities should be designed in a way that accepts diversity and accommodates the needs of learners with disabilities. The parents, on the other hand, should play an active part in school events, in making decisions, and in the formulation and implementation of the laws and policies related to their children. Anti-bullying policies must also be updated, implemented, monitored, and evaluated. Importantly, aside from disability awareness campaigns, anti-bullying and discrimination campaigns can also be done to inform people and schools of the detrimental bullying effects, and the effects of the labels we use for learners with disabilities. Addressing the issue of bullying is like a symphony orchestra; everyone has a role to play.

The development of the Anti-Bullying Survival Kit as an output of this study is an initial step towards achieving a bully-proof learning environment for learners especially those with disabilities. This kit may help schools, parents, teachers and learners to become more equipped in dealing with different bullying situations.

Furthermore, additional research is needed on evidence-based classroom intervention strategies, appropriate interventions for learners with special needs, factors linked to bullying victimization, and the effectiveness of the Anti-Bullying Survival Kit in minimizing or ending the pervasive issue of bullying.

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Research Articles and Essays

The Virtual Shift: Early Childhood Intervention Therapies for Pakistani Children with Down Syndrome During COVID-19

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Abstract

The paper aims to discuss the impact of Karachi Down Syndrome Program (KDSP)'s virtual Early Childhood Intervention (ECI) service, comprising of speech and language therapy, occupational therapy and physical therapy clinics, on children with Down syndrome and their parents in Pakistan during the COVID-19 pandemic from March 2020 to August 2020. The results yielded many positive outcomes of the virtual shift and allowed for continuous innovation in empowering parents and transforming the developmental outcomes of children with Down syndrome.

Keywords: Down Syndrome, early childhood intervention, Pakistan

Down Syndrome

Every cell in the human body has chromosomes containing DNA that determines an individual's characteristic traits. Typically, each cell contains 23 pairs of chromosomes. Down syndrome occurs when an individual has a full or partial extra copy of chromosome 21. This additional genetic material alters the course of development and causes the characteristics associated with Down syndrome. A few of the common physical traits of Down syndrome are low muscle tone, small stature, an upward slant to the eyes, and a single deep crease across the center of the palm – although each person with Down syndrome is a unique individual and may possess these characteristics to different degrees.

According to the World Health Organization (WHO), out of every 700 babies born around the world, 1 will have Down syndrome. The condition affects people of all ages, regardless of race, religion and economic situations (What Is Down syndrome, 2021).

About The Karachi Down Syndrome Program

The Karachi Down Syndrome Program (KDSP) is a non-profit organization, launched in March 2014 by a group of concerned parents and passionate individuals who due to limited support and resources available locally, realized a need for a platform for those with Down syndrome. KDSP was formed with the mission to advocate the value, acceptance and inclusion of people with Down syndrome living in Pakistan and aims to provide them with the opportunity to lead independent and fulfilling lives. This is done through KDSP's 6 areas of service:

1. Khandani Sahara – Family Support

   Family Support provides families of individuals with Down syndrome emotional, financial and informational support.

2. Agaahi – Awareness

   Awareness aims to raise awareness and perpetuate the correct perceptions in society through public events and digital media avenues.

3. Sehat – Healthcare

   Healthcare at KDSP is provided by partnering up with leading hospitals across Pakistan to provide high quality healthcare at subsidized costs through the organization's support.

4. Hunar – Enrichment and Skills Development

   Enrichment and Skills Development aims to equip individuals with Down syndrome with important, life-long skills that they can utilize to achieve self-fulfillment. The department runs 17 programs that include skills like swimming, fitness training, cooking and baking, arts and crafts as well as virtual reality integrated games.

5. Taleem – Education and Training

   Education aims to integrate children with Down syndrome into mainstream schools. There are 4 programs running at KDSP to educate and prepare young children aged 0-14 for formal schooling ahead. Simultaneously the department works with external institutions to train them in inclusive education practices catering to individuals with Down syndrome.

6. Ibtidayi Bunyaad – Early Childhood Intervention

   Early Childhood Intervention at KDSP comprises of occupational, physical and speech and language therapy; delivered to children between the ages of 0-7 in order to help them fulfil their necessary developmental milestones.

Innovating Through the Pandemic

The outbreak of COVID-19 initiated in December 2019 in Wuhan, China, and soon after spread rapidly across the globe. On January 30, 2020, the World Health Organization (WHO) declared the coronavirus outbreak as the sixth public health emergency of international concern (PHEIC), and on March 11, 2020, it was announced a pandemic. The WHO warned Pakistan that the country with its estimated population of 204.65 million, could encounter great challenges against the coronavirus (Khadijah Abid, 2020). Soon the first case was reported from Karachi on February 26, 2020, and by March 2020, major cities went into complete lockdown.

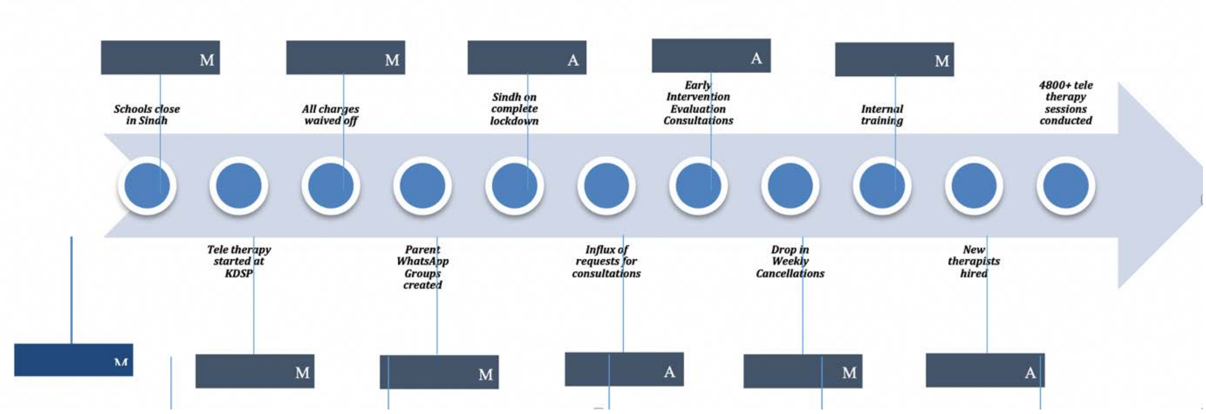
In the wake of the rapid spread of the virus, KDSP decided to convert all in-person services for children with Down syndrome and their parents, to virtual services in order to safeguard their lives because children with Down syndrome tend to have low immunity accompanied by a number of underlying health conditions which could be triggered due to exposure to the coronavirus.

KDSP's 6th area of service, i.e., Early Childhood Intervention (ECI), focuses on early intervention and the necessary occupational, physical and speech and language therapy crucial for the development of a child with Down syndrome. Early intervention can help in many ways. During the first three to four months of life, for example, an infant is expected to gain head control and the ability to pull to a sitting position with no head lags and enough strength in the upper torso to maintain an erect posture. Appropriate physical therapy may assist a baby with Down syndrome, who has low muscle tone, in achieving this milestone. Early intervention can also prevent a child with Down syndrome from reaching a plateau later on in development. Thus, the goal of early intervention efforts is to enhance and accelerate development by building on a child's strengths and by strengthening those areas considered weaker, in all aspects of development (Programs: Early Childhood Intervention, 2021).

The following paper, will be detailing the initiatives, events, outcomes and results of KDSP's ECI virtual therapies and supporting efforts during the pandemic for sustained growth and development of children with Down syndrome.

Figure 1

A timeline of events since March-August 2020



Virtual therapy

The first years of life are critical in a child's development. During these early years, they achieve the basic physical, cognitive, language, social and self-help skills that lay the foundation for future progress. These abilities are attained according to predictable developmental patterns (National Down Syndrome Society, 2021).

Since children with Down syndrome typically face delays in certain areas of development (National Down Syndrome Society, 2021), early intervention helps make sure those delays aren't prolonged. Considering this, it was crucial that the children enrolled with KDSP continue to receive regular therapy. This was achieved by adopting virtual therapy practice, conducting one-on-one sessions online via WhatsApp video and audio calls with 170+ children with Down syndrome enrolled in the ECI clinics. These calls were made based on pre-set schedules and each one lasted for a minimum of 20 minutes, while the maximum went on for above 45 minutes. Therapists would divide their time engaging directly with the children and counseling parents/caregivers, training them to follow along the therapist's instructions.

Therapists set up resources online and used engaging techniques to make children as well their parents/caregivers comfortable with the new mode of therapy. It was also decided to waive the charges for all therapy sessions until June so that the parents/caregivers could ease through the process of adapting to the new normal.

Since 14th March when operations moved online, an average of 181 virtual therapy sessions were successfully conducted weekly leading to a total of 4800+ virtual therapy sessions conducted digitally since the lockdown (until August, 2020), with children showing signs of progress as they received regular support from the therapist as well as their parents/caregivers.

Case in Point:
Narrated account by: Maha Khan, Occupational Therapist at KDSP

> *My client Mustafa [K.] is 2 years old and has shown progress while taking virtual therapy. Initially it was challenging to figure out the best way to engage with him and his mother, and we went through a trial and error period.*
>
> *We started off with video calls but saw that Mustafa was distracted very easily by the phone, and the mother had to keep him at bay which did not help with my goals. We switched to audio calls with the mother only but soon observed that there was no*

progress in Mustafa. Finally we agreed to use both the audio and video features and divide the time of the session effectively into 3 parts-I dedicated the first 10 mins to speak to the mother on audio call where I shared my plans with her, explained the activity, the sitting arrangement needed for it and the delivery techniques to be used, as well as the possible hindrances that could arise during the activity.

The next 25-30 mins were spent on video call where the camera was hidden from Mustafa and I would only observe the mother carrying out the activity with him without passing on any instructions to her or taking any questions from her. In the 3rd part, I would get on audio call with the mother again for the last 5-7 mins and give her feedback according to my notes and address her questions. This proved to be a very effective strategy and we were able to see progress in Mustafa as he was able to focus on the work being done and slowly became used to the phone being near him without getting distracted by it.

We also had to find our way through the challenge of not having any therapy and activity material at home. We used household items like cardboard, kitchen supplies, *toys, colors, etc. to prepare activity material for Mustafa-I used pictures and videos to show the mother what she had to make and then spoke to her in detail over the phone as she prepared the material.*

Overall, our combined efforts helped Mustafa tremendously and we observed an improvement in his fine motor skills. His sitting tolerance increased from 1 minute when we started to Mustafa being able to sit and work for 20-25 minutes at a stretch now.

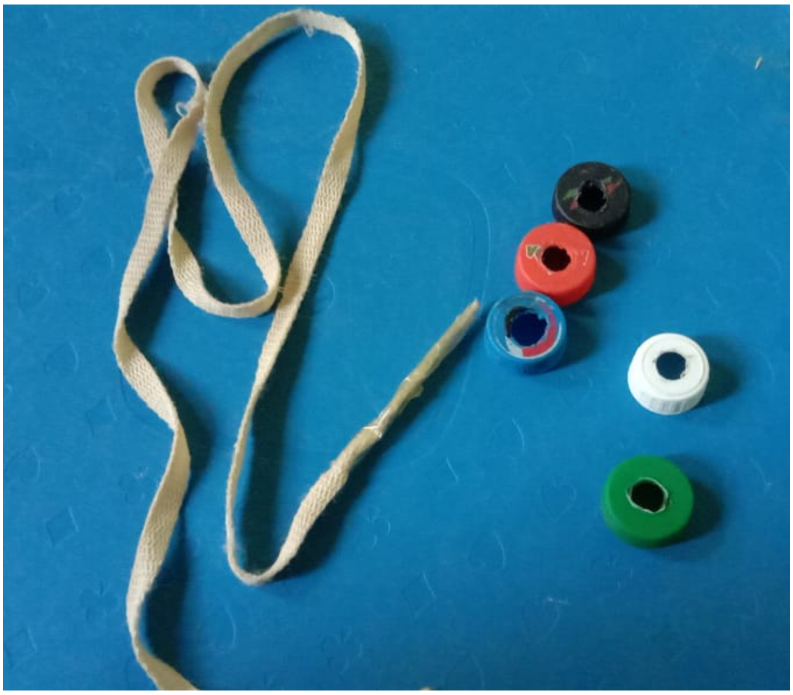
We also got a great opportunity to work on his toilet training. This was not possible earlier (pre-virtual shift) because the mother would be busy and Mustafa would be engaged in other activities during the day. Now that the mother found more time during quarantine, she was able to dedicate time to train Mustafa and the results came soon!

Mustafa's progress can be attributed not only to the fact that his mother has more time now, but also to her new-found sense of responsibility. Previously when Mustafa

> *used to come to KDSP, I would give the mother home plans, but she would not be able follow them; however, now after she has had the opportunity to physically engage with Mustafa herself and see the results hard work can bring in, she has become quite proactive and is always sending me videos and pictures of her working with Mustafa, asking how to improve what she is doing. It is beautiful to witness this!*
>
> *Such progress is not just observed in Mustafa, but in several other clients as well. There is an overall shift in the sense of responsibility that parents are now carrying towards their children and with our support they are able to channel it to achieve the best outcomes for their children.*

Figure 2

Set of lacing beads made from bottle caps and shoe laces.



Staying Connected

In an attempt to connect with the parent community and offer support in the wake of unsettling times, personalized phone calls were made to parents of children enrolled in the ECI clinics. As a result, while some parents got a chance to express their concerns and share their changing needs, others took the opportunity to pass on their gratitude to the organization for going the extra mile for their children.

Furthermore, dedicated WhatsApp groups were set up with parents/caregivers for each therapy faculty i.e. Occupational Therapy (OT), Physical Therapy (PT) and Speech and Language Therapy (ST). These groups served as platforms to help stay connected with the parent community and to share resources that would help them engage their children meaningfully in activities and exercises at home. These groups continue to be active to date with several resources shared on a weekly basis with the parents.

Internal Training

In order to share resources further internally within the organization, a virtual training experience was launched. Each therapy department developed and conducted a workshop on their area of expertise and trained their colleagues from various departments in the organization on the basics of Occupational, Physical and Speech and Language Therapy. To date four such experiences have been organized and attended by a total of 50 participants.

Literature Review

Common factors associated with Down syndrome are physical and cognitive developmental delays. Children with Down syndrome achieve certain milestones later on in life or require specialized, dedicated help in developing their abilities (Vicari, 2006).

Hindrances in activities like walking, sitting properly, being able to communicate can in turn have adverse effects on multiple other aspects in the child's life, ranging from their confidence and self-perception to their ability to learn and employ various skills to sustain independent life. If unaddressed, these psycho-social factors can further lead to more detrimental mental health conditions like anxiety or depression (Wales, Skinner & Hayman, 2017). To overcome the challenges posed, early childhood intervention is a crucial factor in shaping the development of these children. The delivery of essential therapies sets the basis for skills and behavior development all the way into adulthood. Majority of the brain's capacity for higher functions is formed around the age of 3-5 and children learn at much quicker rates in their youth than adulthood (Tufail, 2011). Despite the developmental delays in Down syndrome, biological processes develop and age at a typical rate thus emphasizing the need to act in the early stages of life i.e. 0-7 years. During this sensitive age, children require a great deal of care and attention so they can function better in terms of behavior and well-being (Smees & Sammons, 2017).

The prevalence of intellectual disabilities is quite high in Pakistan which coupled with the lack of awareness regarding conditions like Down syndrome, exhibited by both parents of children with Down syndrome and doctors in small scale and public hospitals proves to be a detrimental combination. In a study conducted by Ahmed et al (2015) it was found that most diagnosis for Down syndrome were done much later in the life of the child, after the age of early intervention had passed. Even when doctors could diagnose Down syndrome based on physical features, they were unable to name the condition correctly and miscommunicated it to parents who as a result were unable to find proper resources and support for their children when health and social complications arose. In the face of this knowledge gap, the primary concern of parents was regarding the quality of life their children would lead and their mental development, demonstrated through poor speech and language skills. For effectively improving the outcome of life of a child with Down syndrome, it is crucial to provide therapies soon after birth. Efforts should also focus on empowering parents and providing them with the basics of coping with their children's needs.

Primary care services are scarce in Pakistan, the few hospital providing child development services are expensive, simultaneously high in demand, yet difficult to access. Even if services exist, they remain unregulated and unsupported, therefore proving grossly inadequate (Khan et al, 2017). For developmental delays in Pakistan, prevalence is at an estimated 15% for children in middle-income households and 30% for children from impoverished backgrounds (Durkin, Hassan & Hassan, 1995). Majority of the population cannot access or afford to seek medical care from the few specialists available in the country. Studies have demonstrated that socio-economic backgrounds have a significant effect on the child's ability to learn and pick up on new techniques. While the learning environment is a more important factor, the socio-economic status of a family, does contribute to the amount of time parents spend with the children, the resources they can access and the kinds of activities they focus on practicing with their children (Law et al, 2017). During 2020, the severity of the pandemic meant a lot of instability for parents and additional financial constraints. Many people lost their sources of income and their lives were displaced, forcing them to face a plethora of new challenges. While being placed under strict lockdown further prevented people from accessing the regular services they availed. In the face of such adversity, parents shifted their focus and parents with multiple children had greater difficulty in managing the individual needs of every single child (Smith and Barron 2020). Parents who had children with special needs were even more worried about the negative impacts on their children as they were unable to attend their childcare services (Pascal et al, 2020).

In a study conducted by Feinberg (2012) exploring the link between racial backgrounds and access to crucial early intervention services, it was found that discrepancies arose in availing services when developmental delays were a part of the equation. Certain races also belonged to lower income backgrounds. In Pakistan there too exists a disparity in socio-economic backgrounds with approximately 40% of the population reduced to living below the poverty line in the wake of the pandemic (UNDP, 2020). This disparity affects accessibility to early intervention services between urban and rural areas as well as communities from different provinces.

In contrast, the occurrence of the pandemic opened up an array of opportunities for some. Means of digital transformations have become increasingly common in many industries, not evident in the healthcare industry. While there are many aspects to this discussion, involving the nature of the healthcare industry and the sensitive information and patient care involved, current circumstances have made apparent that adopting digital platforms are among the best solution to thriving ahead. Hermes et al (2020) stated how remote and on-demand healthcare can be beneficial in providing easy and convenient services at a larger scale. Customers can utilize 5G, cloud computing and a variety of apps to avail their preferred services. At the same time healthcare providers can use the same tools to provide information and guidance. The article emphasizes how digital means can help empower customers as they play a more active role in their healthcare provision.

Wilson & Waddell (2020) noted that in cases where therapy practitioners were able to utilize digital means of communication, new benefits emerged. Whereas earlier many parents had to endure long waiting lists before receiving support, now therapists had the capacity to deliver sessions in greater quantity. The success of this model was however dependent entirely on the flexibility of services delivered and the adaptability of the service providers. For some the provision of therapy digitally also reduced costs and time barriers that otherwise prevented them from availing services.

Another useful tool that also emerged was through parents now recording sessions. In a study conducted on physical therapy services, recordings made were shared with the therapists who could monitor the parents delivering the sessions, identify and improve delivery of therapy and maintain a progress record of the child's development. This helped determine the efficacy of specific therapy techniques. The documented videos could further be shared with other parents as examples of the methodology to employ in their own households, thereby saving time that the therapist would have to otherwise allot to each family (Rao, 2021). The lockdown period gave practitioners ample time to experiment with digital therapy delivery methods and devise family centric and home based therapies. Parents were pushed to seek alternatives for professionally utilized tools..

While therapists deliver in-person sessions, the role of the parents is usually reduced.

As most therapies conducted aim to achieve independent functioning of young children, the primary caregivers take a step back. It is important to note that parents were found to play the most influential role in the lives of the child and can connect better with them. Regarding physical developmental milestones, the most favorable results of early interventions were achieved when parents were able to engage more responsively with their children, playing a more interactive role rather than observational (Mahoney & Wiggers, 2007). This finding was consistent with studies conducted across a multiple developmental disabilities including Down syndrome (Mahoney & Perales, 2006). In speech and language therapies, parents using infant directive, responsive speech can reinforce several skills from differentiating the sound of words, to assigning meanings to these sounds and words and even associating emotions with the words used (Axford & Albers, 2018). Increased involvement of caregivers in therapy delivery could promote quicker, long term results through a more nurturing environment. However that does not imply that parents can take up the sole responsibility of delivering therapies. Manfred (2000) observed that parents felt more supported as the members of the family involved in early childhood intervention process increased. The research further stated that caregivers felt dissatisfied if therapists lagged or held back in communication, concluding that regular feedback meetings, documentation and progress tests increased parent satisfaction and therefore child-parent interactions. It was confirmed that parents were willing to accept more responsibility and involvement in their child’s therapy, they were unable to do so due to time and schedule constraints (Sayers, Cowden & Sherrill, 2002).

In another study conducted prior to the pandemic, the impact of digital delivery of therapy and psychological treatments was explored, with the findings emphasizing on blended methods of treatment as the best course of action. These treatments relied both on caregivers as well as therapy practitioners, incorporating support lent by supervising sessions that were conducted digitally, with the clinician taking a step back to advise on how best to deliver a treatment and then ensuring that it is conducted properly. This same study also identified several challenges arising from cultural context, including the Indian region whereby the pool of therapists was already scarce and many people did not know about the therapies required. The researchers were hopeful that incorporating digital means into their routine therapies would help surpass this barrier as the therapists would face less constraints without great physical involvement (Fairburn & Patel, 2017). Through COVID-19 this practice has been put to the test.

The pandemic has demonstrated that adapting to the changing situations around is crucial in succeeding and fulfilling goals. The framework of care has shifted to have increased involvement of parents of children with disabilities. Despite the introduction of unique psychological stressors that now plague households, parents spending more time together might mean that caregivers are able to allocate more attention to the development of their children. Fairburn & Patel (2017) also discussed that certain aspects of therapy, require a more hands-on approach, and for years, pediatric care has emphasized the need of a family-centric approach to child development with significant evidence depicting the increased satisfaction of all members regarding the services as well as the ultimate results. The paper further recognizes the need for alternate methods of delivering therapies for individuals with disabilities due to the increased risk of infection accompanying their low immunity.

Due to the fact that such programs are rarely found in the South Asian region, there is a lack of data pertaining to the socio-demographic of the Pakistani population. While the resources available can differ across regions, children with Down syndrome from all parts of the world must fulfil similar developmental milestones on their way to adulthood. Therefore, they must receive similar early childhood intervention therapies that are customized to their individual needs.

Methods

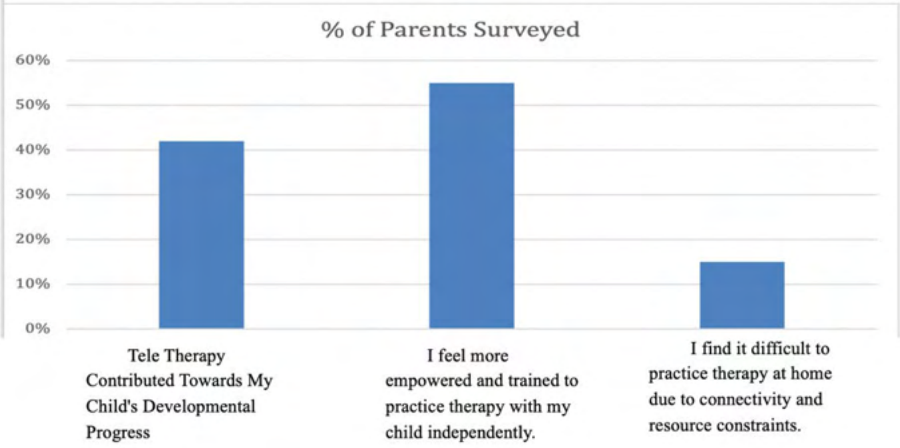
The impact of the interventions conducted during the lockdown, discussed above was assessed using internal monitoring tools and reports, collecting one-to-one feedback from parents and therapists through phone calls and conducting a telephonic survey with parents of children enrolled in virtual therapy at KDSP. The latter was administered through a questionnaire with 100 parents, who were selected at random from a pool of parents of the 170+ children with Down syndrome enrolled in virtual therapy at KDSP. Their responses were recorded, tabulated and analyzed by using Microsoft Excel tools.

Results

Results from studying the monitoring records, speaking to parents and therapists and looking at the results of the telephonic survey revealed that the shift to offering virtual therapy services and virtual support to parents had a significant impact on the gross motor, fine motor and speech language development of children with Down syndrome. There was a demonstrated increase in parental involvement, the organizational team was pushed to focus on innovation and allowed KDSP to expand its reach to children with Down syndrome beyond Karachi as well as a drop in the number of cancellations of sessions.

Figure 3

Results of survey, 100 parents of children with Down syndrome enrolled in virtual therapy at KDSP



Increased parental involvement

Going virtual with therapies for children enrolled in the ECI clinics pulled parents into action, more effectively than ever before. This change came in because the therapist was now at a distance, passing on instructions through video. The parents were the ones who were involved with the child physically, assisting him/her to follow through and later taking notes from the therapist on what exercises to carry on at home and how. The team found this change particularly exciting because over time it could bring in positive results in the child's progress. It was noted that a direct result of increased parental involvement in therapy was that children's toilet training has picked up pace and their performance on ADLs (Activities of Daily Living) like brushing teeth, changing clothes and cleaning around the house, has improved.

Additionally, it was observed that the relationship between the therapist and the parents grew stronger as result of greater involvement. Interestingly even the parents who used to be involved only passively during physical sessions or would not accompany their child into the therapy room, prior to the pandemic, were now taking on a more active role.

42% of parents surveyed reported that virtual therapy sessions contributed towards their child's developmental progress.

Innovations introduced to support parents practice therapy with their children at home

Innovative strategies were employed to keep the children and their parents engaged. A number of therapists began to use dolls to demonstrate exercises. Similarly, some therapists brought in digital games and used the support of applications like Zoom to make the interaction more engaging for their clients.

They went the extra mile to support parents in creating resources and tools needed for therapy with material available at home. For example, using tape to mark lines on the floor for the child to follow and practice their walking, utilizing a stool in place of a walker, creating a parallel bar set up at home using PVC pipes and other innovative and cost effective ideas.

Additionally, many therapists started encouraging parents to record videos and pictures of their children while performing assigned tasks and exercises. While this helped the therapists visually track better the child’s progress and identify areas of concern, it also allowed for parents to become actively engaged as they regularly sent videos and pictures to their child’s therapist. Furthermore, these became resources that therapists were then able to share (with consent) with other parents as their source of learning. As a result, 55% of the parents felt more empowered and trained to practice therapy independently with their child at home.

In Speech and Language Therapy particularly, the team incorporated play into their practice and encouraged, and trained parents, to use the same. This proved to be beneficial in allowing the parents to establish stronger connections with their children and see visible progress in their communication. For example, one of the clients enrolled reported to have developed new vocabulary recently as a result of constant attention by the parent and the therapist.

Drop in Cancellations

Previously cancellations for sessions were recorded when a scheduled therapy session did not take place because the parents were unable to attend the session or the therapist was unable to attend to them at the allotted time or the session did not take place due to unforeseen circumstances. Since virtual therapy sessions did not require parents to commute to the clinics and they could benefit from the service from the comfort of their homes and setup convenient schedules for themselves, there were fewer cancellations recorded from March onwards.A 28% drop in cancellations was recorded when comparing average weekly records from November 2019 to February 2020 (pre-pandemic) and March 2020 to June 2020 (during pandemic).

Expanding KDSP’s reach beyond Karachi

Another impact of virtual shift was that it allowed KDSP to extend its reach far beyond Karachi, as physical barriers such as commute, in-person interactions and payments were removed. A large number of parents of children with Down syndrome who lived in other cities of Pakistan, especially rural Sindh and Punjab, as well as a few from outside the country, began requesting virtual therapy services as soon as these were introduced and were subsequently enrolled. A 26% increase was recorded in out of city therapies scheduled due to ease of access and 19 new children with Down syndrome from outside of Karachi were enrolled in therapy.

Additionally, as the message spread further, parents of children with Down syndrome even above the age of 7 years sent in requests for consultations and senior therapists were engaged to address the incoming needs through early intervention evaluation consultations via audio/video calls-they heard the parents' concerns, assessed the child's developmental needs and provided the parents with a basic plan on how to work on the same while at home. Early intervention evaluation consultations were audio/video call consultations provided once to a family, over a period of 3-6 months, with the aim to address their most urgent questions regarding their child's development and to provide a basic therapy plan for them to follow with their child at home. Since March, a total of 21 additional early intervention evaluation consultations have been conducted, including those from areas outside of Karachi.

Limitations

The research elements in this paper were based upon responses and data collected from the population of children with Down syndrome between the age of 0-7 years residing in Pakistan and more specifically in Karachi. Therefore the results and the process as well as the impact of the interventions discussed in this paper cannot be generalized to apply to the entire population of children with Down syndrome in Pakistan or around the world or to those above the age of 7 years.

Additionally, the sample surveyed and studied for the purpose of this paper was based on convenience and comprised only of children enrolled in Early Childhood Intervention services at KDSP. In order to obtain a more accurate representation, a study must be conducted with a larger sample.

Since the recipients of early intervention services at KDSP span people of different backgrounds, hailing from different areas of the country, the access to resources for at-home and remote therapies was also very varied. Despite the innovations introduced by therapists as well as the efforts to deliver therapies consistently, the results have been influenced by confounding variables affecting the parents like strength of internet connections and hardware (cell phone, smart phone, and laptop) utilized during virtual therapy, including camera and microphone qualities.

Discussion

At a time of drastic changes, KDSP shifted its services to the virtual realm to continue providing constant essential services to children with Down syndrome. As a new exploration of capacities and therapy method, there was a great deal of learning and room for innovation involved. Each intervention planned and executed in response to the pandemic since March, has been a need based one, meaning that it is drawn from insights collected and concerns identified from among the parents involved with KDSP, who avail one or more of the services provided by KDSP. This enabled the team to keep their energies focused and offer support to the family network in ways that proved to be meaningful for both. The decision to move therapy services online and temporarily waive off subsidized therapy fee was taken to ensure that children enrolled in the ECI clinics could continue achieving their developmental milestones at an unhindered pace, and to offer a safety net for parents/parents who were financially impacted due to COVID induced job losses.

The aforementioned efforts made by KDSP, along with several others including providing early intervention evaluation consultation, staying connected with distressed parents and going the extra mile to support them in taking on a more active role in their child’s therapy, lead to increased parental involvement, pushed the team of therapists and parents to focus on innovation, allowed KDSP to expand its reach to children with Down syndrome far beyond Karachi and brought a drop in cancellations.

Despite these positive outcomes, a number of challenges also surfaced. One immediate challenge the team faced after going virtual was that time boundaries were blurred. The therapists took some time in adjusting to new schedules and parents found themselves reaching out to their therapists at odd hours or at unscheduled times because they had missed their designated time slot and were eager to connect with the therapist to address their pressing concerns and questions. Both the therapists and the parents were setting up to navigate through a new space and its associated challenges as well as the emotional stress that comes along with those. Fortunately, by establishing firm time boundaries and adjusting schedules for those parents who were not able to meet their previous commitments, this challenge was overcome to a great extent and the additional pressure for the therapists was removed so that they could focus wholeheartedly on their clients while taking care of themselves.

Since a number of parents associated with KDSP come from humble backgrounds and from areas that are far off, they did not have access to reliable internet services and thus connectivity come up as a challenge as the team has moved forward with the virtual shift. 15% of the parents surveyed as part of this research reported finding it difficult to practice therapy with their child at home due to connectivity issues and/or a lack of resources at their disposal.

In order to overcome this however the team was able to identify those parents with no or very poor internet access or those that do not own a smart phone and offered them therapy services via regular phone calls. This way, although the therapist was unable to see and interact with the child directly, they were able to connect with the parents and guide them on how to work with the child, while asking for regular updates and staying connected through text messaging. At KDSP, no one is left behind.

Additionally, connectivity issues also played in at times during otherwise smooth interactions via WhatsApp video calls. Electricity outages, no data or simply weak connections often caused calls to break and as a result children lose attention and at times parents tend to become agitated as well. This is a difficult challenge to overcome fully, however therapists made up by giving extra time to the client in the next session or reconnecting with the parent again at a different time during the day.

Since the country-wide lockdown was imposed almost overnight and operations moved online within a few days after, parents did not get a chance to fully equip themselves to practice therapy at home. Additionally a number of parents could not afford to invest in basic therapy material and equipment like gym balls, parallel bars, flashcards, functional objects, etc. This meant that their children's therapy could be hindered, however the team of therapists at KDSP supported parents in helping them learn how to use items easily found at home to practice therapy with their children, including plastic cups and saucers, dolls, stools, etc. Some parents were even taught how to build their own resources, one parent of a child enrolled in Physical Therapy who was required to practice his walk regularly, were trained to set up a parallel bar system in their house using PVC pipes and duct tape which was cost-effective and ingenious. Similarly a number of parents were trained to build their own equipment and make the best use of all resources at home in order to ensure that their children continue to receive support.

With an influx of requests coming in for virtual therapy and early intervention evaluation consultations from all over the country, in addition to serving the existing clientele, coupled with the constant need of learning from and adapting to a changing environment, the team of therapists found themselves stretched for time and energy. They had to stay constantly connected with parents, train them extensively and support them emotionally as well. In order to avoid burn-outs and enhance capacity, support was brought to the team in the form of close supervision and guidance from the Head of Departments, training opportunities on how to maneuver through the online realm and efficient scheduling to ensure that all therapists get a break during their otherwise packed day. Additionally, 2 therapists were newly hired during this time to increase the department’s internal capacity and cater to the clients waiting for their turn to begin virtual therapy.

Conclusion

Although the virtual shift has brought in its own set of unique challenges, it has also opened up several new opportunities for innovation and progress. Increased parental involvement and deeper connections forming between parents and therapists were observed as initial successes among others. A positive outcome of this was in the form of progress among children taking virtual therapy.

Moving forward, KDSP can introduce a new system and improve the existing ones to support the family network including, offering temporary financial aid to parents who are adversely effected by the pandemic, creating a digital guidebook containing a vast array of activities and exercises parents can use with their children at home, introducing capacity building programs for therapists and parents/caregivers, and enhancing e-health services available for children with Down syndrome. Regardless the pandemic has opened up a plethora of possibilities to try out and maintain even in regular times that will allow for KDSP to reach out to more children and parents in need of early intervention services, and offer them more efficient therapies with increased beneficial results.

Focusing on such innovative and accommodating strategies can improve the provision of early intervention services across the country at a more macro level to reach more children who require these necessary services. As restrictions have shown to be reduced and parents more willing to make efforts and cooperate, it is up to the healthcare industries to come forward and apply these learnings in order to grant more children with developmental delays, access, especially in an environment comfortable for them while being conducive to their progress.

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Appendix

Quotations

Ms. Arshia A., the proud parent of a very active client, Sarah A., reached out to the management soon after the virtual shift took place and shared how she was grateful for the support extended to her and her daughter. She wrote, "I can never thank you enough for the wonderful phone calls to Sarah. At a time like this, these phone calls are like a breath of fresh air for me!"

While commenting on how they stay connected with their child's therapist, Ruhaab F.'s parents were quite excited to share:

"We send new videos to the therapist regularly for feedback and her response is very helpful."

While talking about the most helpful interventions introduced to support parents, Anabia R.'s father immediately mentioned the dedicated WhatsApp groups created for parents to stay connected with the team of therapists. He added, "This is brilliant because it lets us see different activities and then practice the same with Anabia...we would like more activities to be shared on there, along with more local examples."

Ayra H.'s mother shared how she finds the video calls very helpful. She mentioned that she is able to follow the therapist's guidelines clearly and if she has any questions those are promptly and sufficiently addressed by the therapist.

Research Articles and Essays

Literature Review on the Relationship Between Employment and Autonomy of Individuals with Mental Illness

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Abstract

Four themes were identified from the literature review as factors of autonomy in the employment process of people with psychiatric disabilities. The results indicated that support for increasing autonomy might be basic and common to different interventions and its specific techniques are issue to be pursued in future research.

Keywords: autonomy, employment support, psychiatric disabilities

Current Status of Employment for Individuals with Psychiatric Disabilities in Japan

Since 2018, employing individuals with psychiatric disabilities has been compulsory for Japanese companies, subject to their size. Thus, the number of people with disabilities working in general business fields that are not welfare-oriented is increasing. According to a report on the current status of employment of people with disabilities published by the Employment Security Bureau of the Ministry of Health, Labour and Welfare (Japan, 2017), the number of new applications for jobs by people with psychiatric disabilities to the Public Employment Security Office increased from 22,804 in 2007 to 85,926 in 2016, a 3.8-fold increase. Job placements have also increased from 8,479 in 2007 to 41,367 in 2016, a 4.8-fold increase (Ministry of Health, Labour and Welfare, Japan, 2018). However, the estimated number of people with psychiatric disabilities employed in Japan is about 200,000 (Employment Security Bureau of the Ministry of Health, Labour and Welfare, Japan, 2019), which is only 10% of the 2.28 million people aged 20 to 65 in FY2017 (Cabinet Office, Japan, 2019). There are still some challenges remaining for people with psychiatric disabilities in obtaining jobs.

The Significance of Employment for Individuals with Psychiatric Disabilities

The efficacy of employment for the recovery of individuals with psychiatric disabilities has been recorded in several studies. Strong (1998) argued that work helps overcome illnesses and provides a place to be. Employment provides a structure for acquiring a new sense of self through opportunities to contribute to society by facing challenges and experiencing success. Work creates and facilitates changes in the self-concept and self-efficacy of people with psychiatric disabilities beyond the limitations of their disability (Strong, 1998). Provencher et al. (2002) indicated that employment was an opportunity for individuals with psychiatric disabilities to challenge the recovery process, promote self-empowerment and provide a conduit for overcoming uncertain recovery. Dunn et al. (2008) reported that working improves self-esteem, provides opportunities for coping with psychiatric symptoms, promotes independence from the family through economic benefits, and improves the overall quality of life for people with severe psychiatric disabilities.

Support for the Autonomous Motivation of People with Psychiatric Disabilities

Motivation is a factor that enhances the occupational functioning of individuals with psychiatric disabilities in employment (Choi et al., 2013). Patients with mental illness who feel that they are making autonomous choices have better treatment outcomes (Michalak et al., 2004). Autonomous motivation is an essential factor in the treatment of addiction (Foote et al., 1999). Moreover, autonomous motivation effectively increases health behaviors in interventions for patients with lifestyle-related diseases (Halvari et al., 2017). Therefore, support for increasing autonomy influences an individual's involvement in treatment and promotes recovery from illnesses.

On the other hand, Heerings et al. (2020) reviewed the literature on supporting the development of autonomy of people with psychiatric disabilities and reported a dilemma for supporters between respecting the decisions of their patients and avoiding harm to their recovery when they make decisions interfering with their recovery. Also, this dilemma might become a conflict on the equal relationship between patients and professionals. However, there is no research focusing on how supporters overcome these conflicts or the type of support that enhances people's autonomy concerning the process of employment support.

Purpose of This Study

This study was designed to clarify factors identified in the literature as enhancing the autonomy of the process of recovery and employment of individuals with psychiatric disabilities. The study was a preliminary step in examining specific support methods that would enable people with psychiatric disabilities to increase their autonomy, make their own choices, work as they wish, and recover themselves from illness.

The research questions of this study included the following:

(1) How does the promotion of autonomy relate to the employment of people with psychiatric disabilities?

(2) What factors in work motivation autonomy related to the employment and job retention of people with psychiatric disabilities?

Method

Selecting Literature for the Review

A literature review was conducted by searching MEDLINE and PsycINFO (Ovid), PubMed, and CINII (Japanese literature) between December 7-8, 2019. The study method was referred to Rodgers' concept analysis (Rodgers, 2000). The search terms were set as "autonomy" and related terms, "self-determination," to conduct a broad investigation of people with psychiatric disabilities' employment autonomy. The studies to be reviewed were retrieved by using the following keywords: "self-determination" or "autonomy" or "autonomous" or "motivation" and "employment" or "work" or "job" and "mental" or "psychiatric" or "schizophrenia."

First, the literature retrieved from the database that was not relevant to this study was excluded after reading titles and abstracts. The entire text of the relevant literature was then checked according to the eligibility criteria to determine the literature to be reviewed. The eligibility criteria were as follows:

(1) The literature is about people with psychiatric disabilities, excluding intellectual and developmental disabilities.

(2) The variable investigated in quantitative studies is autonomy or self-determination in employment.

(3) The qualitative studies include the relationships between employment and autonomy or

self-determination from the perspective of individuals with psychiatric disabilities.

(4) The studies must be original.

Descriptions of autonomy in the literature were extracted and categorized into qualitative groups and organized by the type of employment support.

Definition of Autonomy

Self-determination theory (SDT) "refers to the theory of motivation as it relates to the development of human behavior and personality, as proposed by Deci, E.L. and Ryan, R.M." (Nishimura, 2019, p45). Autonomy is an integral part of intrinsic motivation in SDT and the key to understanding the quality of self-regulation (Deci and Ryan, 2000: Ryan and Deci, 2006). “Within SDT, autonomy retains its primary etymological meaning of self-governance, or rule by the self” (Ryan and Deci, 2006, p1562). SDT organizes the stages from extrinsic motivation to more autonomous motivation, i.e., the intrinsic motivation integrated with self-worth (Deci and Ryan, 2000). Intrinsic motivation, or autonomous motivation, is formed by fulfilling the need for autonomy, feelings of competence, and relationships that result from interactions with peers, family, and others (Nishimura, 2019).

Results

Literature Search Results

A total of 285 studies were identified through MEDLINE and PsycINFO (Ovid) through their titles and abstracts. As a result, 251 studies were excluded. 4 studies were added by searching PubMed. These 38 full-text documents were assessed for eligibility for the review, and 30 studies were excluded because they did not match the eligibility criteria. Finally, the remaining 8 studies were included in the review (Table 1). The literature reviewed consisted of 3 quantitative studies and 5 qualitative studies. Of the quantitative studies, 2 were cohort studies, and 1 was a survey, all of which were conducted in the United States. The qualitative studies were conducted in the United States, Australia, New Zealand, Norway, and between the United States and Finland. Thirty-two Japanese studies were retrieved from the database, but 30 were excluded based on their titles and abstracts. The remaining 2 Japanese articles were also excluded after verifying their content based on the eligibility criteria. As a result, no Japanese studies were included in this review. Table 1 shows a list of the studies reviewed in the present study.

Table 1: A List of the Reviewed Studies

Author	Year of publication	Country	Research methods	Objectives of the study	Number of samples
Iwanaga, K., et al.	2019	USA	Survey	Investigating the influence of Autonomy, Outcome Expectancy and Vocational Rehabilitation Engagement on the relationship between Working Alliance and Stages of Change for Employment	277 (breakdown) Sensory or physical disability: 43%. Psychiatric disability: 35%. Developmental disability: 22%.
Croft, B., et al.	2018	USA	Cohort study	To investigate whether self-direction is useful for obtaining and maintaining independent housing and employment	Program participants: 403 Non-participants: 12,209
Macias, C., et al.	2009	USA	Cohort study	To investigate the impact of participation in non-preferred vocational programs on employment outcomes	177 Withdrawal: 3
Ellingsen-Dalskau, L. H., et al.	2016	Norway	Qualitative study	Understanding the experiences of people with psychiatric disabilities who participate in Green Work	Program participants: 10
Malmanche, J. & Robertson, L.	2015	New Zealand	Qualitative study	Understanding the employment experiences of people with psychiatric disabilities who have participated in KAIMAHI (Group Based Occupational Program)	Program participants: 6

Tanaka, K, & Davidson, L.	2015	USA Finland	Qualitative study	Exploring the meaning of a work ordered day (WOD) for clubhouse participants and its contribution to recovery	Program participants: 102 Staff: 25
Moran, G. S., et al.	2014	USA	Qualitative study	Exploring the motivations for working as a mental health peer worker	Peer worker: 31
Urlic, K. & Lentin, P.	2010	Australia	Qualitative study	Exploring, from the perspective of people with schizophrenia, (i) the subjective experiences associated with participation in occupations, (ii) the factors that contribute to participation in occupations, and (iii) the value of occupations	Workers with support: 6

The Relevance of Autonomy for Employment Outcomes

A cohort study of participants and non-participants in Florida Self-Directed Care (Florida SDC) by Croft et al. (2018) indicated that program participants were more than twice as likely as non-participants to obtain and maintain independent housing and work significantly more days in paid employment. The Florida SDC is a program emphasizing self-selection by participants with psychiatric disabilities. The participants in the Florida SDC can decide how to use its service with the support of a coach, within the program's policy guidelines. Participants can relate purchases of goods and services, such as transportation or dentistry services, to housing and employment-related support, to specific recovery goals in plans developed by putting themselves in the center. The study results suggest that the individuals with psychiatric disabilities who choose these services on their own initiatives might increase employment outcomes. A study by Iwanaga et al. (2019) indicated that autonomous motivation functions as a mediator between the working alliance and stages of change for employment. These studies suggested that promoting autonomous motivation might improve employment outcomes.

Effects of Preferences and Autonomy of People with Psychiatric Disabilities

Macias et al. (2009) offered two types of employment support and randomly assigned participants to one of the two programs: the Program of Assertive Community Treatment, or the Clubhouse model. They examined the difference in employment outcomes of being assigned to an employment support program that was not the participant's preference and that was preference. The results showed that the percentage of participants who did not find a job increased when they were assigned to the program they did not prefer, they might have lost their interest in working. On the other hand, participants who were assigned to an employment support program they did not want, if they decided to participate in the support program, found a job, maintained employment longer and were more satisfied with the program than those assigned to their preferred program. This was possible because their commitment to work was enhanced when they chose to accept and pursue the assigned service, even though the program was not their preference. These results suggest that promoting autonomous motivation for effortful engagement to achieve objectives, regardless of the preferences, improves employment outcomes and satisfaction with the employment process.

Factors Increasing Employment-related Autonomy

The literature review identified two categories of factors that increase the autonomy of people with psychiatric disabilities in working: “Autonomous Motivation Through Supportive Relationships with the Supporters” and “Autonomous Motivation Through Experience as a Worker”. Rodgers' concept analysis found 4 themes, namely, “Personal Relationships with Supporters,” “Structures Created by Working,” “Significance of Work,” and “Access to Self-selection Opportunities”. A brief description of each concept was provided below:

1. Personal Relationships with Supporters

Good relationships with supporters affect the autonomy of people with psychiatric disabilities. A better interactive relationship between supporters and their clients could lead to the acquisition and maintenance of employment.

2. Structures Created by Working

Work-related structures such as time and rules create a rhythm and order to life, which provides a basis for discovering interests and developing self-confidence.

3. Significance of Work

Direct, work-related relationships with coworkers and customers, and positive feedback from them, bring a sense of fulfillment and meaning to work and lead to the discovery of self-identity. These experiences promote intrinsic motivation and increase autonomy.

4. Access to Self-selection Opportunities

The opportunity for self-selection is essential. Self-selection includes solutions to symptom related concerns and hygiene issues, removal of physical barriers such as housing and commuting, compensating for the lack of background and experience as a worker, and flexibility in the workplace and activities.

Autonomous Motivation Through Supportive Relationships with Supporters

As an example of the first concept, “Personal Relationships with Supporters,” an article by Iwanaga et al. (2019) was relative. They suggested that employment outcomes for people with disabilities, including psychiatric disabilities, are associated with working alliances, with autonomous motivation being one of the mediating variables. Working alliances do not directly affect employment outcomes. Nevertheless, they are enhanced through multiple SDT-related mediators, including autonomous motivation. Therefore, good personal relationships with supporters might be associated with autonomy and improve employment outcomes [Personal Relationships with Supporters]. Hereafter, brackets [ ] indicate themes mentioned above.

Autonomous Motivation Through Experience as a Worker

The experience of employment increased the work autonomy of people with psychiatric disabilities. The factors increasing the autonomy of work motivation through experience as a worker identified in previous studies are described for each employment support method.

Group approach.

Malmanche et al. (2015) conducted a qualitative study of people with psychiatric disabilities who participated in a group-based vocational program in a New Zealand fruit orchard. The program consisted of two weeks of training with mental health support, followed by approximately three months of paid seasonal employment in a kiwifruit packing house, with support to obtain further employment. The autonomous motivation factors derived in this study included support to overcome physical barriers to employment, such as commuting options and developing a work history through experience gained in the program. These factors were described as contributing to a broader range of employment options and increased self-determination opportunities for people with psychiatric disabilities [Access to Self-selection Opportunities]. Tanaka et al. (2015) also conducted a qualitative study of the nature and meaning of the "work-ordered day" (WOD), a central component of the Clubhouse, and the relationship between recovery and autonomy. The results showed that the essential elements promoting autonomy included acquiring a daily rhythm through work, gaining a sense of rest [Structures Created by Working], developing self-confidence, discovering the occupational identity [Significance of Work], and acquiring work skills [Access to Self-selection Opportunities]. The participation in structured situations where meaningful but straightforward tasks were undertaken seemed to lead to the recreation of order and a rhythm in daily life, the discovery of interests and strengths, and an increase in self-confidence, which increased work motivation autonomy.

Furthermore, Ellingsen-Dalskau et al. (2016) conducted a qualitative study on the experiences of people with psychiatric disabilities participating in green work in Norway. Green work is vocational training that involves agricultural activities together with the usual workers in commercial farms. Ellingsen-Dalskau et al. (2016) analyzed the interview data from the perspective of SDT and found that the presence of work structures based on set hours and rules was useful for developing autonomous motivation [Structures Created by Working]. Providing activities with flexibility and diversity of choice was an essential facilitator for recovery [Access to Self-selection Opportunities], as it brought significance to work, such as interest, challenge, and growth [Significance of Work]. Understanding, approval, friendly guidance, and positive feedback from coworkers on the farm were critical factors in promoting autonomous motivation. The experience of helping others in a group setting leads to a sense of fulfillment, high-quality relationships, and psychological well-being [Significance of Work].

Peer work.

In recent years, supportive work as peer workers and vocational rehabilitation facilitators has been offered as a new vocational path for people with severe psychiatric disabilities (Moran et al., 2014). In order to understand how autonomous motivation develops, semi-structured interviews were conducted with paid peer workers. Moran et al. (2014) described peer workers' motivations to work by categorizing them into intrinsic and extrinsic motivated as conceptualized in SDT. The results described autonomy, competence, and relatedness, such as feeling significant in one's own way, consistent with the values of connecting with other peer workers and clients and helping others, and gaining confidence [Significance of Work]. Also, instrumental reasons for working, such as earning an income and building a work history, motivated peer workers [Access to Self-selection Opportunities]. Moran et al. (2014) concluded that the life experiences of people with psychiatric disabilities became part of their work histories through peer work, which facilitated the integration of work and illness experiences and enhanced their autonomy.

Supported employment.

Supported employment is a vocational rehabilitation method that has been used since the 1980s, based on the "Place-Train" model. The "Place-Train" model means promptly providing job placement, followed by job training and support, rather than job training and then job placement (Anthony and Blanch, 1987; Becker and Drake, 2003). Urlic et al. (2010) analyzed the meaning of "work" in the daily lives of people with schizophrenia by interviewing and observing six clients (three in supported employment and three unemployed) of an Australian outreach team that provides supported employment services. The results suggested that getting a job creates a purpose and a structure in the daily lives of people with schizophrenia [Structures Created by Working], brings rewards [Access to Self-selection Opportunities], and improves self-esteem [Significance of Work] as factors that increase autonomy. In employment support for people with schizophrenia, it is essential to help remove barriers related to basic life needs, including finance, food, and hygiene. Urlic et al. (2010) argued that it is necessary to first increase support for people with schizophrenia for accessing self-selection opportunities to provide opportunities to participate in employment.

Discussion

The Behavior of Supporters for Enhancing Autonomy

Four themes were identified by the literature review regarding facilitators of autonomy that affect finding and maintaining employment by people with psychiatric disabilities. These four themes indicated increasing autonomy in the following areas: support for symptom management, daily living needs, maintaining good relationships in the workplace, and motivational interviewing.

Fear of the inability to cope with psychological symptoms is a barrier to self-selection opportunities. Many people with severe psychiatric disabilities feel powerless in controlling their symptoms and the problems in their lives resulting from their illness (Davidson et al., 1997). Difficulties in coping with symptoms by people with psychiatric disabilities can limit their prospects, including finding a job (Urlic and Lentin, 2010). Therefore, the first line of support is to assist them with their psychiatric disorder and help them manage their symptoms. The ability to control symptoms might increase autonomy because it provides better options for self-determination in one's life. Moreover, increased autonomy can improve treatment outcomes (Michalak et al., 2004). People with psychiatric disabilities who experience poverty face significant barriers concerning their vocational needs and obtaining food, health, and social services. Therefore, it is necessary to ensure that they can participate in meaningful occupations by providing adequate food, housing, and medical services. (Urlic and Lentin, 2010). On the other hand, a study on the Florida SDC, which offered self-selection-oriented support from the early onset of mental disorders (Croft et al., 2018), indicated a positive impact on finding and maintaining housing, and employment, by people with psychiatric disabilities. Developing a better interaction among increased autonomy, symptom management, and access to food and housing is expected to increase vocational participation opportunities for people with psychiatric disabilities.

Moreover, the structure and meaningfulness of work afforded by occupational participation opportunities are expected to create a better interaction with autonomy. The meaningfulness of work is greatly influenced by relationships with managers, colleagues, and customers (Ellingsen-Dalskau et al., 2016; Moran et al., 2014). It is expected that people with psychiatric disabilities will also require support in adjusting their relationships with people in the workplace. Frequently, the wishes of people with psychiatric disabilities are not accepted due to different external factors related to employment activities and working life. It is crucial to support them to maintain their autonomy even in these situations in which their wishes and preferences are not accepted. Motivational interviewing, which is based on client-centered therapy, can promote intrinsic motivation and increase autonomy (Ryan and Deci, 2008) and provides an effective method of achieving the goal of supporting them to maintain their autonomy.

Hospitalizations due to mental illness result in a lack of autonomy in people with psychiatric disabilities. People with psychiatric disabilities want to recover their autonomy and independence in the process of transition to the community; however, they also need consistent support. Also, they may not be able to engage in meaningful activities on their own due to a lack of self-efficacy. Their supporters must provide them with opportunities and encourage them to participate in activities while respecting their autonomy (Mutschler et al., 2019). Specifically, support for people with severe psychiatric disabilities requires respecting them as people who can create a life for themselves. Research for identifying factors contributing to their recovery should be based on the experiences of people with psychiatric disabilities themselves (Davidson et al., 1997). However, the behavior of supporters that are able to ensure the autonomy of people with psychiatric disabilities for employment has not been identified to date, and this issue should be examined in future research.

Suggestions for Employment Support Focusing on Promoting Autonomy

There are various methods of employment support for people with psychiatric disabilities. In a Cochrane review (Suijkerbuijk et al., 2017), employment interventions were categorized as "Prevocational Training," "Transitional Employment," "Supported Employment," "Augmented Supported Employment" that is supported employment augmented with other interventions such as Cognitive Skills Training, and "Psychiatric Care Only." Conversely, the same article states that most randomized controlled trials have focused on supported employment and extended supported employment, narrowing the view to other and new interventions. Autonomy is an issue that is common to all employment support methods. The results of this study show that increased autonomy was mentioned in all forms of employment support. The results also indicate that autonomy improvement is a common support issue even in countries with different welfare systems. This suggests that support for increasing autonomy might be a basic intervention common to different employment support methods. It is suggested that the development of autonomy in patients with mental illness seeking employment should be pursued as a point of departure for developing new intervention methods.

Significance and Limitations

This study identified four themes in the literature on factors promoting autonomy in people with psychiatric disabilities in employment. However, the results' validity is limited by the shortage of studies on this topic and the small number of studies that were extracted based on the eligibility criteria of this study. Notably, there was little evidence of specific factors related to the behaviors of supporters that affect autonomy. Further studies should continue to explore autonomy-related factors that enhance people with psychiatric disabilities' employment outcomes. It is necessary to clarify the supporters' specific behaviors and relationship styles that enhance autonomy. It is also necessary to examine and demonstrate consistent support collaborations using experiences pertaining to people with psychiatric disabilities, from the onset of the illness to their working life, by focusing on issues related to promoting their autonomy.

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Research Articles and Essays

Learning Crisis (1) School Closure and Learning Crisis of Special Education by COVID-19

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Abstract

The COVID-19 pandemic caused a "Learning Crisis" for children with disabilities, which deprived them of their learning motivations and opportunities to continue learning. This project surveyed special education schools in Japan to identify practical issues they experienced during the school closures at the height of the COVID-19 pandemic.

Keywords: COVID-19, special education, school closure

COVID-19 impact on learning

COVID-19 has not only affected people's health and economic activities, but it has also had a serious impact on children's learning. At the end of February 2020, the Japanese government requested schools throughout the nation close (Prime Minister's Office of Japan, 2020). Schools were reopened at the end of March that same year, as a response to a decrease in the infection rate in Japan. However, a declaration of a state of emergency was ordered in early April and schools were once again forced to close for an extended time.

Although the national closure of schools was enforced under the premise of protecting children's health, the sudden closure of schools caused a great deal of confusion and shock because all schools, households, and children were impacted by the decision. In particular, the school closures presented many challenges such as the need to cancel major school events (e.g., graduation and/or entrance ceremonies), and/or to develop school assignments that would allow children to study at home, given that they could no longer study at school. Families where the parents/caregivers were effectively absent from home due to work commitments were also forced to adjust their work schedules and working methods so that children could stay at home (JIJI Press Ltd., 2020; KYODO NEWS, 2020)

It should be noted that in Japan, graduation ceremonies are held in March and the new school year (i.e., the move to the next grade) starts in April. Children were, thus, forced to adapt to major shifts in their learning curriculum at this particular turning point in the academic year. They were, as a result, deprived of an opportunity to start learning at the very moment that they were ready to start afresh and had high expectations for new academic year (47 NEWS, 2020).

There is further evidence that special needs schools, as places of learning, were most negatively affected by the COVID-19 pandemic (Anderson, 2020; Hill, 2020; Libreri, 2020; Kamenetz, 2020). Currently, Japan provides support in the following areas for children with disabilities for the purpose of "providing appropriate guidance and support in diverse places of learning by such measures as having a class with a small number of students and special curricula" by 1) offering transportation to special needs schools or special needs classes attached to elementary and middle schools, and 2) establishing a format that enables students to attend regular classes while receiving special guidance at certain times in accordance with their disabilities (Central Council for Education, 2012). However, the challenges for children in Japanese special needs schools were not widely publicized, therefore many people were not aware of their learning crisis under COVID-19. This current study was, thus, conducted to identify practical issues that special needs school across Japan had experienced during the school closures at the height of the COVID-19 pandemic.

Methods

This research conducted a survey of approximately 1,244 special needs schools across Japan. In this survey, special needs classes were not included. The main subjects of the study were special support schools that provide highly specialized education to children with relatively severe disabilities.

The respondents were asked to complete an online survey using Google Forms and, where necessary, Microsoft Word; a printed questionnaire was also sent to the respective schools to ask for their cooperation. The survey consisted of four parts that covered questions related to, "The state of the school during the long-term school closure," "The state of the school after the national school closure," "Lesson/learning status by subject," and "Other situations pertaining to school children." In total, the survey consisted of 32 items. Requests for cooperation with the survey were sent out at the end of August, 2020 and focused mainly on the Tokyo metropolitan area and other ordinance-designated cities. Responses were received up until December 2020. The survey was conducted with the cooperation of special needs schools nationwide, and data were collected from a final total of 196 schools (response rate: 15.8%).

Results

Outline of special needs schools under COVID-19

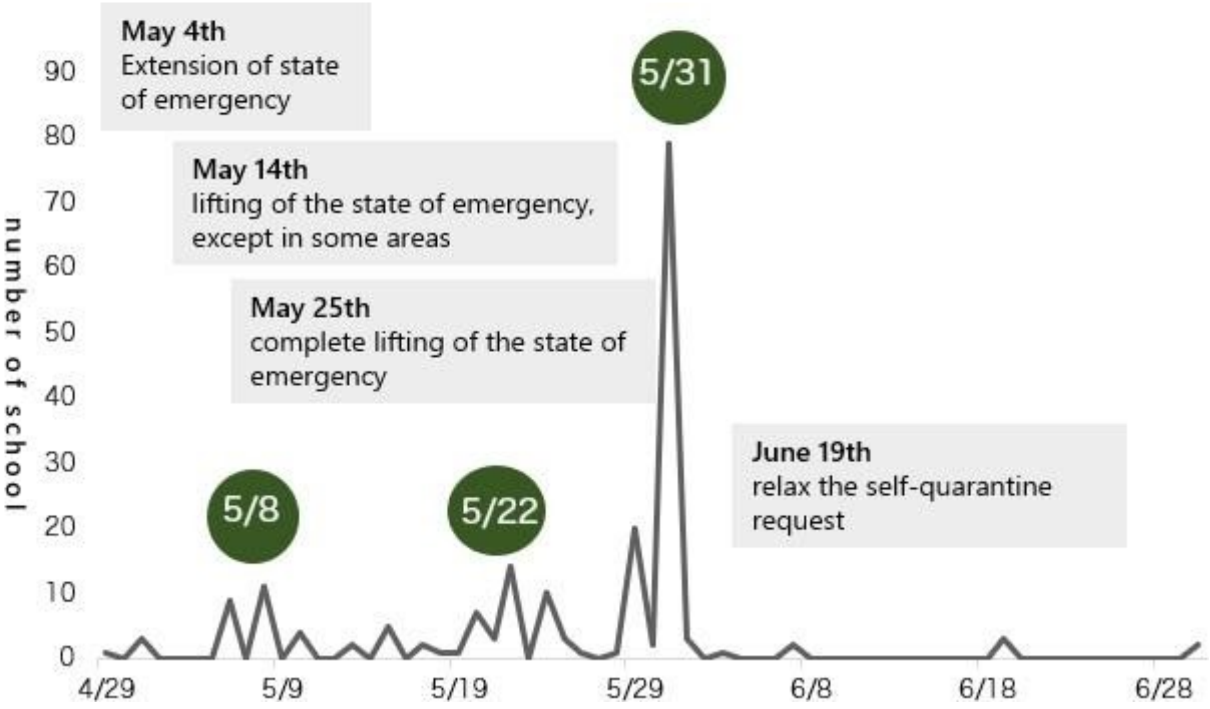
The surveyed schools included prefectural schools (80.7%), the most common operation format, followed by national schools (9.1%), municipal/ward schools (7.6%), private schools (2.0%), and other (0.5%).

The most common type of school among those included in the survey was those specializing in intellectual disabilities (55.4%), followed by physical disabilities (20.2%), deaf and hard of hearing (10.3%), blind and visually impaired (9.9%), and other illnesses and developmental disorders (4.3%). The survey was primarily completed by teachers in managerial positions (e.g., vice principals, 44.7%) and full-time teachers (43.0%).

The cooperating schools were asked when their period of long-term school closure ended. The chart maps out, in the form of a line graph, the timelines for when each school ended its long-term school closure. Overall, three peaks were confirmed. (See Figure 1.)

Figure 1

A Japanese special needs school's trend of the period of long-term school closure ended



The first peak can be seen around May 8, when the consecutive holidays were over. The second peak is evident around May 22 and was likely influenced by the May 14 "lifting of the state of emergency, except in some areas” (Kyodo News, 2020). The third peak appears around May 31 is associated with a general understanding that the end of May would be a good time to end school closures (i.e., specifically after the "complete lifting of the state of emergency" on May 25) (Prime Minister of Japan and His Cabinet, 2020).

During the school closure period, many schools engaged in "distributions of assignments and print-outs" and "checkups and guidance provided by telephone and fax." There were some schools that offered "home visits" or "set school days." Among all the participating schools 57.9% of the schools provided online support, which indicates that more than half of these schools were engaged in online education. Specifically, schools conducted online education used their websites to distribute videos and assignments, attempted interactive initiatives using Zoom, Skype, and Google Meet, and provided education using the YouTube social media platform.

Many media reports have noted that there is a disparity between households in their use of the information and communication technology (ICT) environment (Asahi

Shimbun Digital, 2020; AERA dot., 2020). This study’s survey also discovered such disparities, however, these disparities were not limited to the ICT environment. In many cases, parental cooperation was found to be essential for children’s effective online education. From this perspective, the schools’ varied success in "obtaining parental cooperation in relation to online education" seems to be related to "discrepancies between households." In many families, parents or guardians were not able to spend sufficient time with their children during the period of long-term school closure. As a result, a few schools provided childcare options for families who could not look after their children during this period. Some schools reported that approximately a third of their students came to school every day.

Many respondents further highlighted the stress suffered by the children during the school closure period. There were reports of "symptoms such as decreased appetite, constipation, and allergies" and children "showing less expressions of emotions or being unable to control their emotions" during the periods of school closure. From participants’ responses, it appears that the increased time spent with their families led to some children accumulating stress, particularly in relation to parents’ over-engagement in their schoolwork, and/or children with heavy disabilities becoming unstable as a result of not being able to understand why the schools were closed. There were also many respondents who noted that the children's daily routines had been severely disrupted. Some respondents also indicated that children who had a general tendency toward refusing to attend school lost the opportunity to attend school.

Stress in children was further noted after the schools had re-opened. In addition, some respondents indicated that some children suffered from body contractures immediately after the schools re-opened. Such contractures are commonly seen directly after the summer holidays; however, the contractures seen after the end of the school closure period were deemed to be more severe. In addition, respondents indicated that, upon returning to school, some children were not able to adjust effectively to the rhythm of the school day, some would not get on or off their school buses, and some panicked at any sudden change in daily routine. There were also indications that the children tended to experience or display more problematic behaviors than usual, that children had lost sight of their goals due to the cancelation of school events and/or club activities, that some children had become mentally unstable due to not having a place to release their excess energy, and that some children felt unwell despite not being sick.

In addition, the survey gathered data related to COVID-19 infections. There were reports that some children were highly sensitive to reports on the changes in the daily number of infected people, with some becoming very anxious when the number of new cases increased in comparison to the previous day. There were also reports that wearing masks as a countermeasure against COVID-19 infections caused some children to be anxious because they could not read other's facial expressions. In extreme cases, this in turn led to such behaviors as pulling out their hair.

Analysis I: the period in which the long-term school closure ended

As confirmed previously, the period of long-term school closure could be divided into three groups. Therefore, an analysis was conducted to compare the differences that emerged depending on the period in which the long-term school closure ended. For this analysis, the period in which the long-term school closure ended between April 29 and May 14 (i.e., the earliest period) was designated as Group 1; the period in which the school closure ended between May 15 and May 25 was designated as Group 2; and the period from May 26 onward was designated as Group 3. The difference between these three groups was then compared.

The baseline dates for the various groupings was May 14, which was when the initial "declaration of a state of emergency with the exception of some areas" was lifted, and May 25, when the "complete lifting of the state of emergency" was issued.

Schools' decisions to end the school closure period are believed to have been based on the COVID-19 infection rate of the region in which their respective schools were located; however, depending on the individual school, it is possible that children from a wider area (e.g., beyond the prefectural border) also commuted to the school. As a result, a clear difference in the trends among prefectures could not be determined. A trend was, however, confirmed in which metropolitan areas had a generally longer period of school closure, while rural areas ended their long-term school closures earlier.

First, this project examined the analysis results related to the relationship between the degree of long-term school closure and the practice of online education. In Group 1, those who responded that their long-term school closure had ended by May 14, 10 schools (32.3%) provided online education. Conversely, 31 schools (69.9%) provided online education in Group 2 (long-term school closure ended by May 25), and 76 schools (60.3%) offered online education in Group 3 (school closure ended after May 26). (See table 1.)

A chi-square test was conducted in order to analyze the relationship between schools’ long-term school closure and the implementation status of online education. This test indicated a significant difference (p=0.002). In particular, schools in Group 1, whose long- term school closure had ended by May 14, tended not to conduct online classes (adjusted residual: 3.3).

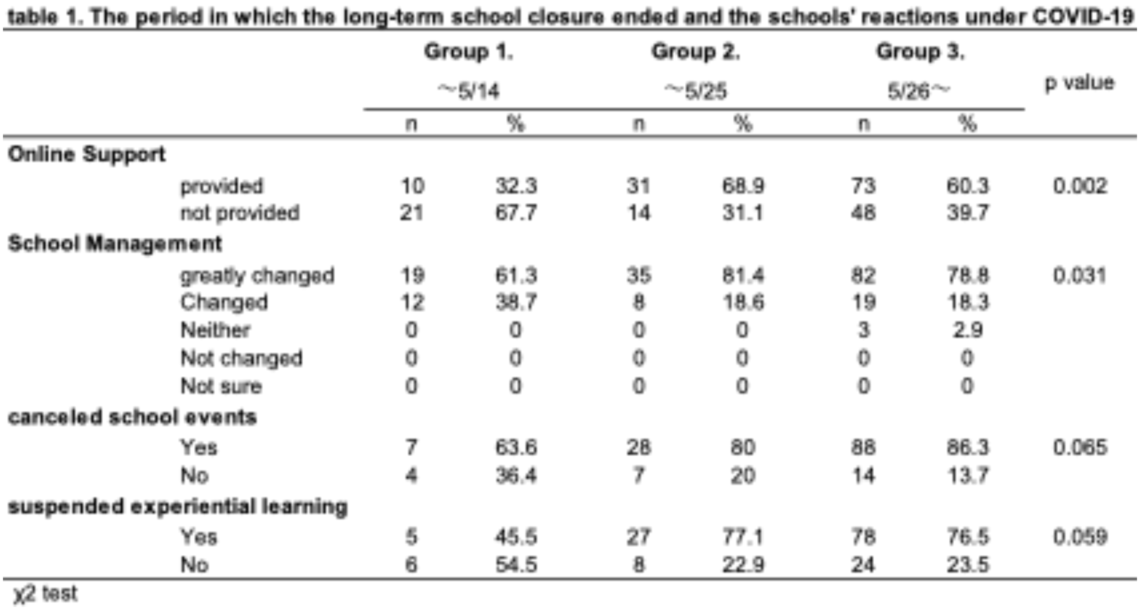


table 1. The period in which the long-term school closure ended and the schools' reactions under COVID-19

		Group 1. ~5/14		Group 2. ~5/25		Group 3. 5/26~		p value
		n	%	n	%	n	%	
Online Support								
	provided	10	32.3	31	68.9	73	60.3	0.002
	not provided	21	67.7	14	31.1	48	39.7	
School Management								
	greatly changed	19	61.3	35	81.4	82	78.8	0.031
	Changed	12	38.7	8	18.6	19	18.3	
	Neither	0	0	0	0	3	2.9	
	Not changed	0	0	0	0	0	0	
	Not sure	0	0	0	0	0	0	
canceled school events								
	Yes	7	63.6	28	80	88	86.3	0.065
	No	4	36.4	7	20	14	13.7	
suspended experiential learning								
	Yes	5	45.5	27	77.1	78	76.5	0.059
	No	6	54.5	8	22.9	24	23.5	

χ2 test

Regardless of the period of long-term school closure, schools in all three groups recognized a need for online support to improve their ICT and online environments. Schools in which the long-term school closure was more prolonged were more inclined to provide continuous online support. This particular finding suggests the possibility that such schools recognized new issues and accumulated more practical know-how than schools that were closed for a shorter period of time.

Next, an analysis was conducted in respect to the relationship between the duration of long-term school closure and changes in school management. In Group 1, the group that answered that their long-term school closure had ended by May 14, 19 schools (61.3%) answered that their school management was "greatly changed." Conversely, in Group 2, the group that answered that their long-term school closure had ended by May 25, 35 schools (81.4%) answered that their school management was "greatly changed," and in Group 3, the group that answered that answered that their long-term school closure ended after May 26, 82 schools (78.8%) answered that their school management was “greatly changed.”

A chi-square test was then conducted on the relationship between the long-term school closure period and changes in schools’ management. The test revealed a significant difference (p=0.031). Schools in which the long-term school closure had ended by May 14 were less likely to respond that their school management had "greatly changed" when compared to schools in which the school closures had been prolonged (adjusted residual: - 23).

These results indicate that schools with longer closures had to take on a greater burden or had to make more significant changes in terms of various school management aspects (e.g., human resources, understanding, and general resources). Such findings could also be interpreted as "schools with longer closure periods were better able to restructure and add ingenuity to their school management."

Next, an analysis of whether the state of school events and experiential learning were impacted by the degree of long-term school closure was conducted. In Group 1, the group that answered that their long-term school closure had ended by May 14, seven schools (63.6 %) had canceled school events, and five schools (45.5%) had suspended experiential learning. Conversely, in Group 2, the group that answered that their long-term school closure had ended by May 25, 28 schools (80.0%) had canceled school events, and 27 schools (77.1%) had suspended experimental learning; while in Group 3, the group that answered that their long-term school closure had ended after May 26, 88 schools (86.3%) had canceled school events, and 78 schools (76.5%) had suspended experiential learning.

A chi-square test of these factors found no significant differences in either the long- term school closure ending period and school event cancellation (p=0.065) or the suspension of experiential learning (p=0.059). However, while the chi-square test found no significant differences, a tendency in which experiential learning, in particular, could not be sufficiently conducted due to long-term school closure was found. This finding indicated the possibility that restricted class hours also caused reduction/suspension of active learning.

Analysis 2: Implementation of online education

As noted previously, this study examined the implementation of online education in schools specializing in special needs education during the period of long-term school closure in 2020. The results of this study indicated that 57.9% of the participating schools offered online education, while 42.1% did not. Although the number of schools that responded to the survey varied according to prefecture depending on whether more than half of the responding schools provided online education or not. In addition, no difference in either the school management format (i.e., prefectural, national, municipal/ward, private, and other) or school type (i.e., intellectual disability, physical disability, deaf/hard of hearing, blind/visually impaired, and other) was seen.

First, in this section of the data analysis, this study examined whether or not the practice of online education had changed school management. Among schools offering online education, 86 schools (83.5%) reported that their operations had "greatly changed," while 50 schools (66.7%) that had not offered online education said that their school operations were also "greatly changed." (See table 2.)

The results of the chi-square test on the relationship between schools' online education implementation status and changes in school management showed a significant difference ($p<0.001$); schools that had implemented online education were more likely to responded that their school operations had "greatly changed" when compared with schools that had not implement online education (adjusted residual: 4.8).

table 2. Implementation of Online Education and the schools' reactions under COVID-19

Schools provided Online Education

Schools not provided

Online Education p value

School Management						<0.001
	Greatly changed	86	83.5	50	66.7	
	Changed	15	14.6	24	32	
	Neither	2	1.9	1	1.3	
	Not changed	0	0	0	0	
	Not sure	0	0	0	0	
canceled school events						0.447
	Yes	75	85.2	48	80	
	No	13	14.8	12	20	
suspended experiential learning						<0.001
	Yes	71	80.7	39	65	

χ2 test

Based on respondents' written answers, there is evidence that circumstances within the individual schools (e.g., personnel, equipment, skills, etc.) had greatly contributed to differences in the implementation/non-implementation of online education. It is possible, therefore, that children's learning environments were influenced by whether or not there were sufficient human resources, understanding, and support provided by their respective prefectural governments.

Then, an analysis was conducted to establish if school events and experiential learning were easier to manage than when online education was practiced. In the online education group, 75 schools (85.2%) said that "school events were canceled" and 71 schools (80.7%) said that "experiential learning was suspended." Conversely, among the non-online education group, 48 schools (80.0%) said that "school events were canceled" and 39 schools (65.0%) said that "experiential learning was suspended."

With regard to the chi-square test results, no significant difference was found between the implementation status of online education and the cancellation of school events ($p=0.447$). However, there was a significant difference in the suspension of experiential learning ($p<0.001$). Schools that offered online education were more likely to respond that they had suspended experiential learning (adjusted residual 3.8), when compared with those that had not.

Large-scale school events were also generally suspended to avoid “close contact.” In some cases, schools that did not offer online education seemed to be able to offer experiential learning by limiting the number of participants or reducing the range of areas visited required for such educational activities. However, some of the schools that offered online education were found to have substituted and/or implemented school events and experiential learning via online platforms.

Discussion

Current state of Japan's special needs schools

The number of special needs schools in Japan has gradually increased over the past 10 years (Special Needs Education Division, Elementary and Secondary Education Bureau, 2008), with the number of students enrolled in such schools also increasing. In 2016, a nationwide shortage of classrooms in public special needs schools was reported; the shortage of classrooms was particularly serious in densely populated areas. In addition, the number of special needs schools established in each prefecture is currently limited, which means that many children who are in need of special needs education are often required to travel to schools far from their homes by school buses and/or other modes of transportation.

The location and quotas of children in special needs schools are believed to have significantly impacted schools' responses to the COVID-19 pandemic. Even in regions where the number of infection cases is small, social distancing still needs to be maintained as a measure against further COVID-19 infection. Many schools are now required to offer classes without direct contact and instruct students to avoid such contact, which has further exacerbated the shortage of classrooms. Furthermore, even in areas with a small number of infections, these lower numbers do not directly imply that children's education remained of the same quality as before the pandemic.

There is also, generally, only one school for the visually impaired and blind per prefecture, which means that there are quite a number of children with visual disabilities who must commute across a wide area or live in school dormitories, away from their parents' homes. It has been noted that the prejudice toward COVID-19 patients may be a reason why these children's commutes became more difficult during and after the long-term school closures studied in this research.

Relations with the Board of Education

School management was also found to be greatly affected by the policies created by the various boards of education and the efforts of local municipality governments. In Japan, prefectural governments are obligated to establish special needs schools (Shimizu, 2012). These governments maintain a stance of looking after children's growth by cooperating with local social welfare organizations in addition to, and in association with, the schools.

Conversely, it has been noted that a particular issue in the Japanese education system relates to how the discretionary power of each individual school is not easily recognized. For this reason, there are many cases where it is difficult for teachers at schools to make decisions. Therefore, it is possible that school's individual situation differed greatly depending on the policies and management systems implemented by the prefectural boards of education. During the COVID-19 period under investigation, the issue that teachers from local schools were not able to respond in the way they wished was highlighted. This current study also found that internet security policies tended to be strictly set, depending on the school, which prevented the implementation of the necessary online class support. As a result, teachers working from home could often not interact effectively with their students when using their home equipment.

Conclusion & Future Work

The outcome of our research showed schools with long-term closure tended to make significant changes in their management. Furthermore, online support implementation would have a notable impact on classrooms. And the ability to implement online support depended on school types and the locations of schools. Consequently, children's learning environment was influenced by each school's reaction and whether resources existed.

Much remains to be considered. In future work, we will focus further on disparities between schools by analyzing open-answers. This study recognized many teachers' attempts to overcome COVID-19. Future work will also focus on good practice in classrooms and will offer more detailed descriptions of the varieties of attempts to address this "learning crisis."

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Research Articles and Essays

Learning Crisis: Vocational Education for Students with Disabilities: From the Campaign of Essential Workers to the Concept of Essential Functions

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Abstract

The essay suggests that differences in public attitudes towards essential workers in Japan and the United States arise from differences between the vocational perspective between the two countries. The lack of knowledge about what job skills are important could lead to a vocational education crisis for students with disabilities in Japan; essay explores the possibility of using online tools to provide vocational education.

Keywords: vocational education, COVID-19, online education, Manakiki

Background

To prevent the spread of COVID-19, government officials around the world made the decision to lock down their nations. Officials urged residents to stay at home and work from there whenever possible. While the efforts of essential workers during this time of crisis have been widely recognized in the United States, where many businesses and people nationwide have publicly expressed their gratitude, the case in Japan has been quite different. Although essential workers have been crucial to maintaining Japanese society during the COVID-19 crisis, many essential workers in Japan continue to face discrimination despite heightened social media efforts to recognize their contributions (“Front-line Health Care Workers,” 2020).

Healthcare workers in Japan are among those facing discrimination. In addition to the challenges of their professional roles, many nurses and doctors have the additional burden of abuse, hysteria, and harassment from their fellow citizens (“Japan's Beleaguered Nurses,” 2020): ‘You work at the hospital, right?’ a group of mothers interrogated another nurse in a Tokyo Park. ‘We'd appreciate it if you stayed away.’ Shocked, the nurse immediately went back home with her kids. ‘It's as if they equate nurses with coronavirus,’ the nurse surmised. (“Japan's Beleaguered Nurses,” 2020).

Examining this, the following project suggests there are clear differences in the United States and Japan in public’s attitude towards essential workers. Our research focused on considering this difference in vocational perspective between the two countries. The project suggests that these differences add challenges to vocational training of students, particularly those with disabilities. The project offers a method of vocational education for students with disabilities in Japan.

Methods

Our research had two parts. First, we compared the American campaign for essential workers with the Japanese campaign to explain differences in public attitudes towards essential workers in both countries. We then used online action research in vocational education to develop a new method of vocational education for students with disabilities in Japan.

Differences in Vocational Perspective

Definitions of Essential Workers in the U.S.

The US Cybersecurity and Infrastructure Security Agency (CISA) developed an initial list of "Essential Critical Infrastructure Workers" to help state and local officials make decisions to protect their communities, while ensuring the continuity of functions critical to public health and safety, as well as economic and national security (US Cybersecurity, 2020). The CISA identified essential workers in 14 critical infrastructure sectors and defined essential workers as individuals who conduct a range of operations and services that are typically essential to continuing critical infrastructure operations (US Cybersecurity, 2020).

The U.S. Department of Homeland Security explained that "[p]romoting the ability of [critical workers] to continue to work during periods of community restriction, access management, social distancing or closure orders is crucial to community resilience and the continuity of essential functions" (U.S. Department of Homeland Security, 2020). Essential workers are expected to perform essential functions for the benefit of the community.

Referencing CISA's guidelines, many states published essential worker lists. For example, New York State divided the list of businesses allowed to remain open into 12 categories, explaining that “if the function of your business is not listed above, but you believe that it is essential or it is an entity providing essential services or functions, you may request designation as an essential business” (New York State, 2020). This required people to focus on the essential functions of the job to determine whether a person qualified as an essential worker.

Thanks to Essential Workers Campaign

In New York State, there is considerable debate about the definition of essential workers. This is evidenced, for example, in comments from bike shop owners, whose businesses were not deemed essential (Kuntzman, G. & Kessler, E., 2020). One bike shop owner said the following:

> By not including bike shops as essential businesses, Gov. Cuomo’s order compromises the health, safety, and jobs of tens of thousands of NYC delivery cyclists who depend upon bike shops to keep their bikes and e-bikes in good working order for safe travel. With mounting pressure on delivery workers to keep New Yorkers fed, some argued that the governor should ensure that delivery cyclists could keep riding safely by keeping bike shops open. (Kuntzman, G. & Kessler, E., 2020)

Clearly, in the United States, citizens understand the importance of the essential worker to the community and consequently show their appreciation. There are numerous examples of ways in which the American public expressed appreciation for essential workers. In Ilion, New York, people showed their support for essential workers by tying blue ribbons to telephone poles, street lamps, and houses (Scibior, 2020). In another example, students in Ashtabula, Ohio studied the skills used by essential workers. Students showed their appreciation by making signs to support not only their parents but all essential workers

("Kids for Positive Change," 2020). Clearly, students appear to have learned the importance of essential workers and have showed their appreciation.

Definitions of Essential Workers in Japan

While the word "healthcare workers" was featured in Japanese media, the word "essential workers" was not popular. This reflects that Japanese people interpreted essential workers as healthcare workers. The concept of essential workers is unfamiliar in Japan.

Public Attitudes towards Essential Workers in Japan

Consequently, there have been efforts to encourage people's positive attitudes about essential workers in Japan. In Saitama city, for example, the city's board of education wrote all school principals asking for cooperation with a plan to express gratitude to healthcare workers. In this instance, 100,000 students applauded to thank healthcare workers ("100,000 Students," 2020).

However, there are reasons to doubt how genuine these responses are. For example, a mother in her 30s talked about the clapping with her first-grade daughter. 'My daughter,' she said, 'seemed to clap her hands because she was told to do so. She did not seem to understand why she did it.' ("100,000 students," 2020). In contrast to American students, this suggests students in Japan have not yet learned the vital work of essential workers.

Difference of Vocational Perspective between the U.S. and Japan

There are differences in public attitudes towards essential workers in both countries. While most Americans pay attention to essential functions performed when discussing essential workers. Most Japanese people pay little attention to the important function performed by essential workers. This difference in attention to essential functions arises from the vocational perspective between the United States and Japan.

Vocational Educations Crisis in Japan

When hiring people with disabilities, most Japanese companies provide reasonable accommodations for people with disabilities but ignore the concept of essential functions. Essential functions is an unfamiliar concept in Japan's system of hiring people with disabilities. In Japan, we realized that the lack of awareness regarding those skills that are important for a job could influence what is taught in vocational education for students with disabilities.

Prior to the COVID-19 crisis, schools for special needs education in Japan put effort into social skills training (SST) and workplace experience (on-the-job training) to teach students through vocational education. Students acquire communication skills through SST, and they learn skills that are essential functions-of the job through workplace experience.

Temporary school closures are a ‘new normal’ and this changed the ways in which students are taught. Most schools for special needs education in Japan decided to cancel workplace experiences because students were finding it difficult to arrange physical visits due to the pandemic. Counter Learning Crisis Project reported that 76.5% of special-needs schools have canceled experiential learning during the temporary school closures (Counter Learning Crisis Project, 2021). This means that students with disabilities cannot learn the skills that are essential parts of the job.

In Japan, very few websites provide clear job explanations for students with disabilities. Major websites have problems which are difficult to read using a screen reader. Consequently, it is difficult to learn the essential functions of the job. For example, Gakken provides a job explanation website for children (Gakken, 2021). Gakken describes the job of a programmer as follows:

> This profession is highly recommended for… A person who has physical strength, who stays positive, and perseveres toward goals, person who is-methodical. (Gakken, 2021)

This website also provides tips for those interested in becoming a programmer, saying that this is a "Job with no qualification required. It is common to become a programmer after learning knowledge and skills at a technical high school, a vocational school, or a university" (Gakken, 2021). Students with disabilities often have difficulty learning through a website which skills are essential functions for a job.

This leads us to consider the "Vocational Education Crisis." In Japan, to tackle this crisis, we need to focus on the essential functions of the job and develop a new method of vocational education for students with disabilities.

Results and Discussion

The Counter Learning Crisis Project website (Manakiki)

We posted an article on the Counter Learning Crisis Project website, Manakiki, entitled "Special Feature about Thanks to Essential Workers." In this article, we provided an explanation for students with disabilities, of the jobs of essential workers and appealed to them to learn the importance of essential workers' roles in the community.

After learning about essential workers' jobs, students with disabilities tied

navy blue ribbons on a window to honor essential workers. By providing a description of the essential skills of different jobs performed by essential workers, students with disabilities learned which skills were essential.

Online Workplace Visit

In Japan, additionally, we held an online workplace visit. We held a Zoom meeting that featured three employment leaders, Sapporo Challenged, Social Good Roasters Chiyoda, and Odamaki Koubou, as good examples of workplaces for persons with disabilities. In Japan, Sapporo Challenged encourages people with disabilities to make use of computers to achieve their full potential. Social Good Roasters Chiyoda is located near the heart of Tokyo’s coffee hub, Jimbocho. The cafe is staffed by baristas and roasters with disabilities. Odamaki Koubou is a welfare studio for people with disabilities. People who work in Odamaki Koubou weave bags and other decorative accessories. Each panelist joined the meeting from their workplace and introduced their job.

Students could see people, with disabilities, at work. They could ask questions about the essential skills of each worker. In this Zoom event, students were able to learn what the possible jobs they might have and skills they will need ~~in~~ for their future careers. This reinforces that students with disabilities can learn which skills are essential functions of a job through the internet.

Conclusion

The purpose of our project was to develop a new method of vocational education for students with disabilities in Japan, considering the differences in vocational perspective between the United States and Japan based on the differences in attitudes of people in both countries toward essential workers.

The results of this study indicate that the COVID-19 crisis made it difficult for students with disabilities to receive vocational education, but it made it possible to focus on essential functions and the possibility to learn about the skills that are essential. Even if students cannot receive face-to-face vocational education, they can obtain practical work experience through online workplace visits. In Japan, there were organizations that utilized the concept of essential functions to enable people with disabilities to perform their abilities even if organizations' managers were not aware of it. Our study showed a new way to receive vocational education with a focus on essential functions online. It is unfortunate that our study did not include a large-scale study or quantitative data. More detailed analysis will be needed to come up with a complete solution to the vocational education crisis.

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Research Articles and Essays

Biculturalism in Action: Opening Teachers' Hearts and Minds

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Abstract

This article reports on a New Zealand Aotearoa study of a graduate program, developed and taught by two tertiary lecturers who endeavored to work in a partnership as espoused in Te Tiriti o Waitangi. Findings highlighted ways in which the students' thinking shifted as a result of the program.

Keywords: bicultural, tertiary, teacher education

Bicultural teaching practice is viewed in education in Aotearoa New Zealand as a strategy towards addressing social inequities and as a pathway to social justice (Jenkin, 2017; Lourie, 2016; Stewart, 2018). The study contributes to the small body of scholarship which examines bicultural practice of those in tertiary institutions, who teach teachers. The setting for this study is a graduate qualification for in-service, infant and toddler teachers that was taught in a teacher education institution in Aotearoa New Zealand. For the purpose of clarity in this article, the teacher educators will be identified as lecturers and the students in the program who were qualfied early childhood education teachers will be identified as teachers. Two of the authors of this study are lecturers, who endeavored to uphold the principle of partnership as espoused in Te Tiriti o Waitangi, the foundational document between the British Crown and Māori the Indigenous peoples of Aotearoa New Zealand.

This focus of this article is the impact of a co-teaching arrangement whereby two teacher educators from differing cultural backgrounds (Sandra Pare Tuhakaraina is Māori and Lesley Robinson is of European background) endeavored to present a balance of Indigenous and Western knowledge ensuring that Indigenous knowledge was not subjugated by Western knowledge. We were particularly interested if the co-teaching by the lecturers, within a bicultural model, led to new understandings and learnings for the infant and toddler teachers.

The article is presented in three parts. Part one provides context for the study, locating it within the literature of biculturalism and teacher education and provides details about the qualification on which the study was carried out. Part two details the methodology and includes the research questions that were the focus for the study. Finally, part three outlines the key findings and discussion. The context of this article is professional learning for teachers but we believe that this study has relevance for all those teaching teachers, that is those teaching in initial teacher education (ITE), graduate and post-graduate courses.

Biculturalism, Social Inequities and Te Tiriti o Waitangi

The re-claiming of Indigenous knowledge in education is part of a global movement to counter the effects of colonization (Hart et al., 2012). Education as a key site of colonial power inevitably reflects the power dynamics in society. Whilst the movements to re-claim Indigneous knowledge differ according to the specifics of each particular context, the authors maintain that Indigenous knowledge is always competing with dominant Western knowledge and hence always located in a 'space of tension' (Hart et al., 2012). Accordingly, in Aotearoa New Zealand the hegemony of Western thinking in education has been evidenced in the education sector at all levels (Buissink et al., 2017; Durie, 2013; Fitzpatrick & Berman, 2016; Ritchie & Rau, 2010). In relation to tertiary education, there have been some improvements which have led "to the point where a palpable Indigenous dimension can be felt both within and beyond the sector" (Durie, 2013, p. 1). However, in spite of these improvements, it is widely acknowledged that the history of power imbalance between Māori and Western world views is still very much 'alive and kicking' in education, including tertiary education in Aotearoa New Zealand.

The notion of biculturalism in Aotearoa New Zealand is rooted in Te Tiriti o Waitangi (The Treaty of Waitangi), the overarching document which frames the relationship between government and Māori. This foundational document signed by the British Government and a large number of Māori chiefs in 1840 signalled the colonization of Aotearoa New Zealand by the British Crown (Bishop, 2003). The dispossession of land, culture and language led to a strong sense of aggrievement and Māori have engaged in an enduring struggle with government for justice in light of historical injustices arising from Te Tiriti. According to Ritchie and Rau, "the impacts on Māori childhoods are so pervasive as to be incalculable" (2010, p. 358). Even though Te Tiriti was signed before the middle of the 19th century, it was not given kudos by succeeding governments until the middle of the 20th century. Increasing calls for the terms of Te Tiriti to be honoured led to an increased awareness of its significance and led to it becoming ‘centre-stage’ in the 1950s (Belich, 2001). This foregrounding of Te Tiriti and this development contributed to the rise of the discourse of biculturalism which has become a dominant discourse in Aotearoa New Zealand education policy since the late 1980s. The discourse refers to the parallel development of Indigenous Māori and Pākehā (European settler) worldviews.

There has been critique of biculturalism and its promise to narrow the achievement gap between Māori and non-Māori. Lourie argues that “while biculturalism policy might symbolise fairness, in practice, biculturalism is a complex and contested concept” (2016, p. 640). Lourie (2016) contends that the policy oversimplifies the demographics of Aoteaora New Zealand, that particular communities such as Asian, Pacific and other non-British are excluded by the policy and that exaggeration of the ‘promise’ of biculturalism results in insufficient attention to socio-economic factors and that the notion of biculturalism inherently fixes Māori as the lesser partners with the colonizer. The term was first used in 1968 when it was defined by anthropologist Eric Schwimmer as the “conscious confrontation and reconciliation of two conflicting value systems both of which are accepted as valid” (Schwimmer, 1968, cited by Lourie, 2015, p. 133). Different conceptions of biculturalism have developed over time which has contributed to contradictions and lack of clarity in policy documents. Lourie (2015) maintains that this has contributed to teachers being unclear about what the term means for their practice.

We are aware of concerns of some scholars regarding use of the term biculturalism based on the view that it does not convey the political aspects of the relationship between Pākehā and Māori. Jenkin (2017) states a preference for the term Tiriti-based practice over biculturalism, seeing it as more directly capturing the power relations between Pākehā and Māori. The term biculturalism, however, remains common parlance in our teacher education institution and in many areas of early childhood education and for these reasons we have chosen to use the term in this article. Moreover, we do concur with Jenkin (2017) that power relations between Pākehā and Māori are critical to inequities in education and for this reason have selected a definition of the term which embodies these power relations. Thus the definition of biculturalism utilised in this article is the "ambition of establishing Māori and Pākehā as groups of equal standing rather than one being subjugated by the dominance of the other" (Spoonley, 1985, as cited in Jenkin, 2017, p. 3). In spite of critiques, the bicultural education policy has continued to have had broad appeal in the education sector.

Teacher Education and Biculturalism: The National Policy Context

The importance of a Māori/Pākehā Te Tiriti partnership whereby efforts are made to foreground both worldviews has been endorsed and communicated through a number of government institutions and policy documents. Government's responsibilites as a Tiriti partner in tertiary education and the important role of teacher educators in relation to mātauranga Māori (Māori knowledge) are outlined by the Tertiary Education Commission, a funding entity tasked with administering Government funding to tertiary organizations. The *Tertiary Education Strategy 2014-2019* outlines the expectations for tertiary educators stating "TEOs [Tertiary Education Organizations] will be contributing to the achievement of this strategy when they work in partnership with Māori and iwi [tribe] to:

- provide culturally relevant teaching and learning
- contribute to the growth of mātauranga Māori research" (2014, p. 21).

Likewise, the Teaching Council of Aotearoa New Zealand, which sets out the Government's expectations for teachers, highlights the requirements for all teachers in relation to Te Tiriti in *Our Code, Our Standards* (Education Council, 2017). Te Tiriti is positioned centrally in the document; Māori values and concepts are foregrounded, and the Te Tiriti o Waitangi partnership is the first of six standards in the document. This commitment is echoed at a teacher education level in the *ITE Programme Approval, Monitoring and Review Requirements* (Teaching Council, 2019) which now expects teacher education provider programmes to assess students' knowledge of Te Tiriti, students' use of Māori concepts and to monitor students' growth in the Māori language over the course of their program.

The Government strategy for teachers of Māori learners is laid out in *Ka Hikitia: Accelerating Success 2013-2017* (Ministry of Education, 2013); this document is designed to shift teachers from a deficit to a credit approach to Māori learners. Te Tiriti o Waitangi is one of five principles and tertiary education is one of five key areas identified as critical for success in education for Māori. The document states that "tertiary education has an important role to play in sustaining and revitalizing Māori language and mātauranga Māori" (Ministry of Education, 2013, p. 43).

Resources such as *Tātaiako: Cultural Competencies for Teachers of Māori Learners* (Ministry of Education & Education Council, 2011) is designed for those who are teaching in early childhood education and schools although it is described as an important resource for ITE. Teachers are expected to have knowledge of Te Tiriti and understand what this means for practice and to have "the tools and strategies to develop successful relationships with Māori learners, whānau [families], hapū [extended family], iwi [tribe] and communities" (Ministry of Education & Education Council, 2011, p. 6).

It could be argued that these latter two documents 'other' Māori learners and families as these resources fill a gap that is not filled by the current status quo. If English medium education truly included Māori learners and families, culturally relevant content and processes would be woven through curriculum rather than presented in separate documents. In some sense, these documents attempt to retrofit the expectations and requirements for teaching biculturally. The early childhood curriculum document is possibly an exception as it was designed from the onset as a bicultural curriculum, as will be discussed later.

It is likely that a range of factors impact on the effectiveness of Government policy in relation to Te Tiriti. Hetaraka (2019) raises broad concerns about education policy such as *Tātaiako* (2011) and *Ka Hikitia* (2013) pointing out that a more radical and structural approach is required for any transformation. Hetaraka (2019) maintains that the overlay of Māori concepts to what is inherently a colonial framework will not be effective and that "there remains a serious need for the issues and implications of education success of Māori, as Māori, within the context of our colonized society to be examined critically from a Māori perspective" (p. 159).

Lourie (2015) maintains a lack of a shared understanding of what biculturalism means for practice has contributed to teachers being unclear about what the term means for their practice. Different models of biculturalism implicit in policy documents have developed over time which has contributed to lack of clarity. Whilst biculturalism is part of the education landscape in Aotearoa, there does not appear to be a visible, shared understanding or commitment to it across the sector.

Whilst there is a clear expectation for teachers at all levels to foreground mātauranga Māori and to be familiar with Māori language and Māori customs and values, it is evident that this expectation is not always reached 'on the ground' both in ITE and in ongoing professional learning. Anecdotal evidence suggests that the level of Māori content is left to the passion of individual organizations or indeed individuals.

Teacher Education and Bicultural Education: Research Findings

In 2005, Kane carried out a major report into ITE and reported that there was a critical need for those teaching in ITE to critically examine their practices in relation to Te Tiriti o Waitangi, Māori language and inclusion. Kane (2005) warned against the adding on of courses in Māori language and Māori customs and values as opposed to Māori content being woven through all papers as potentially this former approach could reproduce inequities that they sought to overcome.

Teacher educators face some barriers as they endeavor to support the bicultural development of both student teachers and in-service teachers. Research shows that attitudes and beliefs in relation to diversity and social justice can be deeply rooted and resistance to change. McMillan et al. (2017) carried out action research on their training teacher program for early childhood education students, with a view to increase students' knowledge and use of Māori language, customs and values and Māori epistemologies. Findings revealed that students identified three elements as being crucial to their gaining the confidence to using Māori language: importance of repetition of Māori language; for the same language Māori to be introduced across all courses; for the Māori language to be used by all teacher educators (by those who are confident as well as those who are less confident). One outcome of the research was the decision to change the usual arrangement of Western theory being privileged over theories from Māori worldviews. There was a realization that "'Māori theory' was tagged on the end, so it appeared almost as an afterthought" (McMillan et al., 2017, p. 30). The research prompted a more complex and multi-faceted approach whereby Māori language, Māori values and customs and Māori epistemologies are now incorporated across this ITE program.

Gordon-Burns and Campbell's (2014a) longitudinal study explored the bicultural journey of two cohorts of early childhood students from their first year in an ITE program to the end of their first year as a qualified teacher. Findings showed that students had little understanding about the what biculturalism might look like in practice on enrolment in the program (Gordon-Burns & Campbell, 2014b). Self-assessments showed their confidence and competence in bilingualism and biculturalism did grow over the course of the program however students experienced considerable issues in maintaining their bicultural practice once they had graduated (Campbell & Gordon-Burns, 2017). The authors recommend curriculum content such as the history of Aotearoa New Zealand (including legislation) and second language theories be included in teacher education programs. The authors highlight the opportunities for teacher education programs claiming that "students' hearts can be warmed to biculturalism if all their classes engage with and promote bicultural programs" (Gordon-Burns & Campbell, 2014a, p. 27). The authors concluded by asserting that "it is vitally important for students to hear and see all tutors and lecturers, other than only Māori, speaking te reo Māori [Māori language] while positively and openly discussing and theorizing Māori cultural beliefs and practices" (2014a, p. 26).

Implementing a Bicultural Program for Teachers of Infants and Toddlers

In 2014, the organization for which the first two authors' work acquired an existing well-known qualification from another teacher education institution. The institution from which the program was acquired had decided to cease delivery of the program. The original qualification was well known and had a good reputation in the early childhood sector. However, the qualification needed to be revised so that it more closely aligned with the bicultural imperatives of the organisation and also to broaden the theoretical informants of the program as the qualification has hitherto been underpinned primarily with the theories of neuroscience and psychology. Two of the writers of this study collaborated together and rewrote the program. Thus the program was re-developed with aspirations to role-model bicultural practice and to enact the partnership as espoused in Te Tiriti o Waitangi. This was evidenced in co-designing and co-delivering the program, drawing on the strengths, knowledge and cultural expertise of each partner.

Efforts were made to balance Indigenous content and pedagogies with those emanating from a Western perspective. Ongoing conversations focused on what constituted a balance of content; the intention was to have an even balance of Indigenous and Western-based content. This meant consideration was given to the space alotted to content and to the positioning of content. It was hoped that a paralleling of Māori and Western content would disrupt the more usual privileging of Western knowledge and facilitate a more relativistic approach whereby diverse worldviews could be viewed alongside each other.

In designing the program, the national early childhood curriculum also needed to be positioned as a foundational source within the program. The bicultural nature of the first early childhood education curriculum document *Te Whāriki: He Whāriki Mātauranga mō ngā Mokopuna o Aotearoa: Early Childhood Curriculum* was lauded both nationally and internationally when it was disseminated in 1996. The document had two equivalent parts, one in Māori and the other in English but not translations of each other. It was heralded as an innovative and exemplary document, particularly, in relation to its acknowledgement of Māori and Pacific perspectives. The document's central metaphor of a 'whāriki' meaning a traditional Māori mat made from harakeke (flax), embodies beautifully the bicultural aspirations. The authors of this first curriculum explained that "the bicultural partnership between Māori and the so-named 'Pakeha' European settlers became the blueprint for developing the first genuinely bicultural curriculum in Aotearoa New Zealand" (May &

Carr, 2015, p. 316). It is recognised that early collaboration with Māori education and cultural leaders was powerful in that it ensured that "the final form of *Te Whāriki* had its beginnings in Māori pedagogical and philosophical beliefs" (Te One , 2013, p. 11). As would be expected, Te Tiriti o Waitangi is positioned centrally within the document and iterates the overarching importance of this foundational document of Aotearoa New Zealand for early childhood education.

This curriculum document was updated in 2017. According to the then Minister of Education Nora Kaye, the strengthening of a Māori world view in the document was identified as one of the key areas for the update. This was explained as a focus on "strengthening the bicultural framing, focus on identity, language and culture, and inclusion of all children" (Kaye, 2017, p. 6). The expectations for teachers were made more explicit than in the 1996 document. In essence, teachers are expected to normalise Māori, knowledge, language and culture, to address Māori expectations and to understand their responsibilities for working in a bicultural curriculum document.

Although a te ao Māori world view is foregrounded in *Te Whāriki*, it can be challenging for teachers to access and practice mātauranga Māori specifically in relation to infant and toddler caregiving practice. Currently, there is in infant and toddler settings, a dominance of theory and practice that emanates from a Western perspective. The "universal truths" of child development have held sway in infant and toddler pedagogy and have only recently begun to change. Furthermore, in recent years, there are been considerable interest in RIE (Resources for infant educators) which is a philosophy and practice that is inspired by Dr Emmi Pikler and her work with orphans after World War II in Budapest and in Magda Gerber who further developed Pikler's work later in California (Education Review Office, 2013). Professional learning opportunities in Aotearoa New Zealand and in Budapest on the

RIE/Pikler approach are influential and accordingly there has been significant interest and acceptance of the approach which had led to the uptake of RIE Pikler pedagogy in many infant and toddler settings.

Critiques of the hegemony of Western viewpoints in infant and toddler caregiving highlight the tensions between Western and Indigenous infant and toddler pedagogies in infant and toddler settings:

> *Western perspectives of infants and toddlers are not universal "truths" and there are tensions between those perspectives that have been espoused and normalised and the cultural practices of traditional Māori, and, in particular, Pacific peoples with terms of reference and worldviews that differ to those located within a Western educational paradigm* (Rameka & Glasgow, 2015, p. 137).

Rameka and Glasgow's study into the enactment of traditional caregiving practices by Māori and Pacific early childhood teachers support the need for bicultural progammes in ITE. They found that appropriate teacher training and professional development opportunities were key enablers of teachers implementing traditional cultural practices. The researchers concluded that "if teacher education and professional development provision are underpinned by Western values, theories and practices, it will impede teachers' abilities to deliver pedagogy and practices that reflect culturally authentic ways" (2015, p. 13).

The scarcity of literature on traditional infant and toddler caregiving practices is a further factor facing teachers in implementing traditional Indigenous practices. Rameka and Glasgow state that "unfortunately there is little research on Māori infant care that is informed by Māori and Pacific cultural practice" (Rameka & Glasgow, 2015, p. 4). The authors note that this lack of literature is in spite of the the growth of this growing demographic as more infants and toddlers enter group settings.

At the time the organisation acquired the programme for teachers of infants and toddlers, it was focused solely on teaching programs for early childhood education, although this has currently been extended to include primary education. The organisation has historically played a key role in leading the way in bicultural approaches to teacher education and early childhood education and is widely acknowledged as having strengths in the promotion of biculturalism across its ITE and post-graduate programs. This study focused specifically on a one year graduate qualification, namely, the *Graduate Certificate Infant and Toddler Wellbeing and Learning: Te Puāwaitanga ō te Rito*. This qualification was designed for those teaching or having aspirations to teach infants and toddlers in group settings. It was taught from 2014 – 2018 and has since been re-developed to become part of a Master's program. It appealed chiefly to those already working with infants and toddlers in early childhood education although graduates from related fields were eligible to apply. Access to an infant and toddler setting was a requirement of the program.

Methodology and Methods

The focus of the study was to explore the experience of teachers in the program. We were interested to know how teachers had experienced Indigenous worldviews, and the co-teaching.

- *What were the outcomes of a program with a balance of Western-based and Indigenous-based theories and pedagogies.*
- *How was this co-teaching arrangement experienced by teachers in the program?*

Kaupapa [content] Māori theory guided this small study. Kaupapa Māori theory is Indigenous to Aotearoa New Zealand (Smith, 1999) and arises to readdress power imbalances of Te Tiriti o Waitangi (Bishop, 2003). Kaupapa Māori was developed by Māori for Māori.

A principle of kaupapa Māori theory that we adopted is whakawhanaungatanga. Whakawhanaungatanga is the process of creating connections and relationships. This principle guided our engagements with participants. Within the principle of whakawhanaungatanga is aroha (love) and mana (respect) when interacting with people. Bishop (1996) states that whakawhanaungatanga has emerged as a kaupapa Māori research strategy as a way of allowing the voice of participants to share their encounters using qualitative and quantitative data. This principle highlights the importance of relationships and includes:

1. Establishing whānau (family) relationships
2. Participant-driven approaches to power and control
3. Researcher's involvement is a lived experience (Bishop, 2003)

The establishment of whānau (familial) relationships between lecturers and teachers started at the beginning of a one-year program with a two-day face to face learning on content and getting to know each other. This set the scene for connectedness, engagement and involvement in the weekly online program and a further three two-day face to face learning in the year. At the completion of the program some teachers retained a level of connection with lecturers. For example, one lecturer was contacted seeking advice on supporting a child and whānau in relation to the physical and spiritual wellbeing of child.

In terms of participant-driven approaches to power and control, researchers waited until the academic year had finished before contacting and inviting teachers to participate in the research. This also avoided potential conflicts of interests in the roles of teachers' and researchers. Researchers were respectful if teachers selected to participate in one or both modes of data methods. Researchers were guided by teacher's convenience as to when individual interviews would happen.

The latter element, researchers' involvement, is a lived experience acknowledges researchers bring their own worldviews into teaching and learning practices of biculturalism. Teachers were encouraged to bring who they are as "partners in the conversation of learning" (Bishop, 2003, p. 226).

The first and second authors, who designed and taught the program, were also those who gathered and analysed the data for the research after the program was completed. The third author acted as a critical friend throughout the conception and execution of the research, discussing ethical issues and being involved in the analysis of the data and co-generation of understandings. A critical friend is understood to provide a good balance in such research, countering the closeness of those researching their own practice to their data and participants with the questioning eye of an outsider and potentially bringing clarity to blind spots or grey areas (Stieha, 2014).

Participants

The research conducted was reviewed and approved by ethics committee of Te Rito Maioha Early Childhood New Zealand. Teachers who had been enrolled in a one-year program were invited to participate in this study. They were emailed written information to explain the focus of the study and how the data was to be collected. Teachers could select to participate in the online survey and/or semi-structured interviews. Six teachers who were all females agreed to participate. Four teachers lived in the North Island and two lived in the South Island. All teachers were working in early childhood settings in Aotearoa New Zealand at the time of the research. Two teachers identified as Māori and living in communities with a high population of Māori. Four teachers identified as Pākehā who worked in diverse communities.

Data gathering

The interviews were conducted after the survey was completed. Interviewing allowed the researchers to gain insights and knowledge through open questions that enabled teachers to share their ideas and thoughts. An online web conference was used to conduct three interviews and one interview was completed, face to face. The two researchers interviewed two teachers each and a set of questions were formulated and given to teachers prior to carrying out the interview. The interview was recorded with permission and transcribed by the researchers. The data was then coded using a thematic approach to explore themes and patterns in teachers' responses and allow their voice to be more evident in the analysis.

Findings and Discussion

Teachers' responses in this article are presented from the semi-structured interviews. The data was analyzed through a thematic coding process. Three main themes were generated from the coding: Hearing directly from Indigenous speakers: Cultural affinity and openness: Modeling the partnership.

Hearing directly from Indigenous speakers: "It really comes from the heart, I think"

A key pedagogical point that emerged from the interviews was that the teachers found it a powerful experience to hear about Indigneous knowledge and experience directly from Māori and Pacific people themselves. Being face to face (in the room or on skype), being able to interact with and hearing directly from Indigenous people was highlighted by teachers as significant in shifting their thinking.

Kerry, a Pākehā teacher commented:

> *When she* [an Indigenous academic/researcher] *was speaking she was really interesting to me as well. It really comes from the heart I think. When you are reading it as a student as someone looking for information but when you are listening to it- listening to the passion, to the heart and the knowledge behind it...it is completely different.*

Kerry is making a clear distinction between reading about Indigenous peoples and hearing directly from Indigenous peoples themselves. 'Heart' is mentioned twice, suggesting the teacher had had an experience which engaged her emotionally.

This experience of being personally touched by the speaker was similar to that of Joy who is another Pākehā teacher who appreciated the same presentation for similar reasons.

> *You know like...how different cultures look at it from a different point of view and it was really great for that to be put into perspective because we can always come up with how we interpret it as tauiwi* [non-Māori]. *We can come up with how we interpret some-one else's culture but to get that from a Māori perspective and from the research that was being done up North in those centres was really good to get them- what it is like for them...I think unless you have had that presentation from Māori on how that is...yet again, it can come across like an assumption of how this can be...*

Joy indicates that hearing it directly from the Indigenous person gives validity to what the speaker is saying. She has heard directly 'from the horse's mouth' and she has heard 'what it is like for them'. This suggests that she views the knowledge and experience that is being shared as authentic and trustworthy.

For Linda who is Māori, being able to hear directly from a Pacific academic had a different but not dissimilar effect on her approach to Pacific people.

> *The Pasifika perspective was most helpful. It helped that it actually came from an actual ...a Pacific Island person who was speaking from the heart, their experiences and from her research so to get the combined of those three things was the real thing basically. For me that was the Pasifika content.*

Furthermore, for Nora who is Pākehā and working in a Pacific (Samoan) early childhood education centre, the experience of hearing directly from Indigneous speakers Pacific and Māori was inspiring and validating.

> *And, it was good to have the speakers Diana Mara* [Pacific academic] *and Lesley Rameka* [Maōri academic] *was great. Like to have that personal communication with them particularly. I went back full of energy to share all information and things that my colleagues already know as they live it every day. Yeah, I enjoyed it so much the whole course, but the Pasifika and Māori focus made it better for me.*

The responses of all four teachers reflect emotional engagement rather than compliance. The importance of teachers being open and emotionally engaged is expressed by Ritchie (2003) who identified 'creating heart' as critical to fostering the bicultural development of teachers.

Cultural affinity and openness: "I opened up my eyes so much more to different relationships"

The emphasis on the cultural perspectives of infant and toddler wellbeing and learning appeared to create a space for teachers to extend their level of comfort with cultural diversity. Teachers commented on their different positioning in relation to diverse worldviews.

In the example below, Kerry re-evaluates her practice considering what she has learnt:

> *Once I had processed what we had been learning I thought oh my God koro* [grandfather] *is super important in that family and I was really able to reflect on koro's relationship with his mokopuna [grandchild] I could look at it so much differently and I think from there on in. I just changed I was able to see, I opened up my eyes so much more to different relationships and I just always thought I was OK with it but maybe this just really opened up my eyes so much more. I apologised to koro and he did not think I had done anything wrong but I still felt...most likely I wasn't rude (laughs) but I just thought i could have handled that much better...I think the course has enabled me to be far more cultural where I am working...I am far more accepting and respectful.*

As Kerry explains her changing perceptions of a grandfather's relationship with his grandchild, she realizes that she could have responded more respectfully to the grandfather. Kerry can shift her practice "to be far more cultural."

Joy, in her explanation below, shows how she is able to foreground culture more fully in her practice and able to see differing worldviews in a given situation.

> *It made me feel more comfortable to bring it up as a conversation with others especially in my team to talk about and say you know this is how Māori or Pasifika look at it and how we can make sure that we are including the culture as a normal part of our program. And that it is okay to do it with other children as well so say if we did have to carry a pēpi [infant]around…that it is…quite often in Western culture it can be interpreted is that we are just giving them somebody to lean on and doing/taking their independence away or you can look at in a different light…they*

> *[infants] are observing everything from a comfortable space with someone they feel comfortable with and getting emotional security.*

As a Māori woman who had grown up and been immersed in Māori culture, Linda admits that she has not always been responsive to Pacific families in the past:

> *Absolutely, now it's like they are included and just as important and every culture is important that what we do as ECE teachers. We have to acknowledge in our country we do have firm identities so to acknowledge our Pasifika up there alongside Treaty historical identities – they are up there too. We can put them up there too. Hey step back stop all the jandal jokes. Be more respectful. Pasifika is a very deep culture, and we need to get our act together people!*

It is evident that Linda is extending her comfort with Pacific culture as she now affords a new level of respect and openness to Pacific families and Pacific culture. She encourages those who also may have 'othered' Pacific families to step up saying "we need to get our act to together people!".

According to Ritchie (2003), when parallel perspectives are able to be viewed and appreciated this is not only a challenge to the superiority of Western knowledge but also the positivist view that there is one truth and in this way, space is opened up for further cultural perspectives.

Modeling the partnership: "I felt it was the only way"

The third key theme from the data is modeling the partnership. It appears that the teachers' experience of being taught in a bicultural partnership led to increased confidence and commitment to biculturalism.

Linda expressed that co-teaching of bicultural practices was felt to be the only way for teaching and learning:

> "*I felt it was the only way to present it. When you have a Pākehā teacher sharing that knowledge alongside a Māori tutor I feel that for Pākehā students even Māori students they see the importance of Māori culture. It helps to make them a little more open is what I am thinking…it is vice a versa for the Māori student when you have a Māori tutor sharing a Western perspective…we have got to know each other's culture… kind of helps the Māori to say okay open our minds and have a proper listen".*

Linda's comments were further supported by Kerry, a Pākehā teacher: "*I think we got it from both of you...you have your core strengths, but you can crossover."*

Data shows that both teachers were able to experience a shared teaching approach that modeled a live partnership of bicultural teaching in action. This showed to teachers that we, the lecturers not only worked alongside each other, we also crossed over into each other's cultural spaces. At times, Author would lead the prayers or songs or contribute to discussion of theory and research. When Author shared something about a Māori worldview, the teachers felt that this conveyed the importance of the Māori culture to the Pākehā teachers. At other times Author would teach one of the Western concepts or theories and Linda refers to this also, saying that when a Māori lecturer teaches Western content it helps the Māori teachers to be more open culturally too. The impact of Author and Author crossing over into others' spaces appeared to be dynamic and significant for teachers.

In response to a question about the co-teaching, Kerry indicates that seeing the partnership in action motivated Kerry to put the partnership into practice in her own setting:

> "*the right thing to do…we are Aotearoa – it is te ao Māori* [the Māori world]. *I am in a different place now because we put so much of that into practice. I thought it was fantastic. The course has enabled me to be far more cultural…my two-year olds are saying their mihi (introduction) we are talking and playing games in te reo Māori. I just got stuff up on the wall everywhere now. I think if you walked in here as Māori, you will see it! I was just enabled from the course to know this is okay."*

As early childhood teachers in our country we do have firm identities to acknowledge that every child has the right to know and enjoy the dual cultural heritage of Te Tiriti o Waitangi partners along with their own cultural heritage. Kerry appears to be clear and confident about affirming bicultural practices with infants and toddlers that includes mihi and games. A commitment to develop the use of te reo and tikanga Māori as shown by Kerry in her practice is a key indicator to meeting standard one of *Our Code Our Standards* (Education Council, 2017) as well as the strand communication in the early childhood curriculum of New Zealand (Ministry of Education, 2017). The data signals a sense of ethical responsibility, it "is the right thing to do."

The data above supports the research finding of Gordon-Burns and Campbell that "it is vitally important for students to hear and see all tutors and lecturers, other than Māori, speaking te reo Māori while positively and openly discussing and theorizing cultural beliefs and practices" (2014b, p. 26). Data findings assert that modeling the partnership or "walking the talk" in action as an effective way to giving teachers a model for how it could work in practice and this led to confidence and commitment to biculturalism.

Conclusion

Shifting the thinking of teachers from a Eurocentric view of teaching to one that is more inclusive of Indigenous culture is a perennial and challenging issue. Innovative approaches are needed as pre-service preparation and in-service teacher education are challenged to address the dominant and traditional culture in teaching (Glazier & Bean, 2019). The enactment of bicultural practice by lecturers provided teachers with an experience that supported teachers to re-evaluate their own bicultural practice. In effect, teachers are presented with a visible and tangible example of biculturalism in action. There is congruence between theory and practice as approaches which are advocated for in the program are enacted by lecturers. Hearing directly and being able to interact with Indigenous speakers gives teachers an actual experience which potentially engages their hearts and minds. The emphasis placed on cultural perspectives by lecturers leads the way for teachers to become emboldened and in earnest in their own bicultural practice with children and families. The modeling of bicultural practice demonstrates real and authentic possiblities for teachers to emulate. The usual power relations, whereby Western ways of being and knowing subjugate Indigenous ways of knowing and being, are disrupted in plain sight.

A critique of the Western hegemony argues that colonial processes have privileged Western knowledge and positioned Indigenous peoples as ‘other’ which has led to Indigenous peoples being ‘objects to be known rather that the knowers’. This results in “an unequal distribution of Western knowledge systems and approaches, characterised by ‘learning about’ Indigenous peoples and their knowledges, rather than ‘learning from’” (Hart et al., 2012, p. 14). The findings from this study indicate that when teacher educators model biculturalism and co-teach in ways that are authentic and that align with the partnership as espoused in Te Tiriti o Waitangi, that this helps to shift teachers’ thinking in relation to biculturalism and their own practice.

A Māori proverb, ‘ahakoa he iti he pounamu’ translates as even though it is small it is of importance. Even though the research reported on here was small in size it is worthy of consideration for all those who teach teachers and student teachers and emphasizes the need for more research in this area.

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REVIEW OF DISABILITY STUDIES: AN INTERNATIONAL JOURNAL
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Research Articles and Essays

Effects of Social-Emotional Skills Training Through Computer-Assisted Instruction for Young Adults with Intellectual Disability

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Abstract

Now more than ever, social emotional learning (SEL) is a major contributor to independence, productivity, and societal inclusion, especially for young adults with intellectual disability (ID). This research study examined the effects of social emotional skills training while using computer assisted instruction (CAI) to explicitly teach participants to identify overall emotions in themselves and recognize emotions in others while explicitly learning how to properly respond to those emotions. Participants in this study included five young adults with ID ranging in age from 18-25 also attending a college program in the southeastern United States. Results indicated a functional relation between the CAI and SEL taught with all five participants. Generalization measures of emotions collected at a variety of times throughout the day (e.g., job placements, internships, homework sessions, and campus activities) were also positive. Social validity data collected from relevant person-centered planning partners that met monthly with participants also suggested the CAI was useful and practical for teaching SEL to students with ID. Maintenance data also indicated positive results as it was collected three months after the study concluded.

Keywords: Social-emotional learning, computer assisted instruction, intellectual disability

Social-emotional learning (SEL) involves: a) acquiring and effectively applying the knowledge, attitudes, and skills to understand and manage emotions; b) set and achieve positive goals; c) feel and show empathy for others, d) establish and maintain positive relationships; and e) make responsible decisions (CASEL, 2013a, 2013b). SEL can include being emotionally self-aware and being able to recognize emotions in others, which can allow individuals to manage their own emotions and their reactions to others (Adibsereshki et al., 2016). SEL can be a major contributor to independence, productivity, and societal inclusion, especially for individuals with intellectual disability (ID). These skills are not innate for individuals with ID. For example, results from Owens et al. (2016) indicated a significant weakness in adults with ID ability to recognize and identify emotions in photographs, especially neutral, compassionate, and angry facial expressions compared to typically developing adults. Additionally, individuals with ID have significant impairments in intellectual functioning and limitations in adaptive behavior skills (e.g., personal care, managing money) that occur prior to age 18 (Schalock et al., 2010). These adaptive deficits can limit functioning in many activities of daily life such as communication, social participation, and independent living, and occur across home, school, work, and community. Individuals with ID have some of the poorest outcomes in these areas resulting in them being less likely to live independently, gain employment, and be engaged in their communities.

The National Longitudinal Transition Study (2012) found students with ID, compared to their peers with other disabilities, were less likely to obtain paid employment while in high school (25% vs. 40%) (Libscomb et al., 2017). Additionally, Anderson et al. (2011) reported only 15% of adults with ID were employed. Despite poor outcomes, researchers found the majority of individuals with ID indicated their top post-school goals included: (a) being able to live on their own, (b) being self-sufficient, and (c) obtaining employment in their community (Gray et al., 2000; Kelley et al., 2018; Migliore et al., 2007). Research indicates that a lack of SEL skills can impact employment for individuals with ID.

One identified barrier to employment includes job performance, as well as social and soft skills (Riesen et al., 2014). These skills are associated with gaining employment after high school (Cameto, 2005), retaining employment long-term (Elksnin et al., 2001), and participation in their community (Wagner, et al., 2005). Additional studies found employees lost jobs because of their inability to appropriately interact with their colleagues (Chadsey, 2007; Storey & Miner, 2001). Findings from several studies indicated a large portion of job loss was due to problems socially in the workplace (Bullis et al., 1993; Hagner et al., 1992; Johnson et al., 1990). Additional studies suggested employees with disabilities did not lose their jobs because they were unable to perform job tasks, but because they struggled to fit in socially on the job (Butterworth et al., 1994; Chadsey, 2007). Employers have indicated they value these skills over academic skills (Casner-Lotto et al., 2006) and reported the need for these skills to be taught to individuals with disabilities (Ju et al., 2012). Despite the need for instruction in this area, the majority of interventions to teach employment skills have focused on technical skills (Agran et al., 2016).

Researchers have also worked to identify predictors of post-school success for individuals with disabilities. Some identified predictors of post-school success for individuals with ID included having higher social skills (Carter et al., 2012), higher adaptive skills and independence (Carter et al., 2012; Siperstein et al., 2014), and fewer behavioral and/or emotional problems (Siperstein et al., 2014). These findings indicate the need for instruction on these skills for individuals with ID; however, there is limited research on interventions in this area.

One study, Adibsereshki et al. (2016), investigated the effectiveness of Emotional Intelligence (EI) training on the adaptive behaviors of students ages 14-18 with ID. Using a quasi-experimental design, the experimental group was given 22 intense EI training sessions four times a week for 45 minutes in groups of eight students while the control group did not receive intervention. The topics discussed throughout the intervention included: emotional self-awareness, self-respect, independence, self-assertiveness, empathy, interpersonal communication skills, problem-solving, decision making, goal setting, stress, aggression, anger, happiness, and optimism. Results indicated the experimental group had a substantial increase in their adaptive behavior, communication skills, and social skills scores compared to that of the control group. This study indicated that teaching emotional concepts can improve adaptive skills.

Two other studies, Clark et al. (2018) and Clark et al. (2019) investigated the effects on an intervention called UPGRADE Your Performance on employment soft skills for students with disabilities including multiple participants with ID. These two studies used technology aided instruction to teach soft skills for employment. The soft skills taught included attitude, cooperation, productivity, on-task behavior, reliability, quality of work, teamwork, and communication. Results indicated increases in employment soft skills for all participants across multiple soft skill areas, as well as generalization of those skills across settings. However, only some of the soft skills (e.g., attitude, communication) taught included elements related to SEL. Even though they might be related to SEL, none of the instruction included explicit instruction focused on emotions and emotional regulation.

One effective method for instruction for individuals with ID, includes Computer Assisted Instruction (CAI). CAI has been identified by the National Technical Assistance Center on Transition as a research-based practice for students with ID (Test et al., 2009). CAI has been defined as “the use of a computer and other associated technology with the intention of improving students’ skills, knowledge, or academic performance” (Okolo et al., 1993, p. 1). Other terms have been used to describe this practice including computer-based instruction, computer-mediated instruction, and multimedia instruction. CAI is interactive and can provide examples and feedback to students, as well as include graphics, photographs, audio, text, and video (Hutcherson et al., 2004). CAI includes the use of computers to deliver instruction and enhance an individual’s learning ability. CAI has become widely used in society, especially during the COVID-19 pandemic. As this technology advances, the need for software and resources accessible for young adults with ID increases.

Although there is limited research available on the effectiveness of CAI with young adults with ID, there is enough evidence to support the overall benefits. Snyder and Huber (2019) conducted a systematic review of the literature and identified 22 articles investigating the effectiveness of CAI on teaching academic content to individuals with ID. The majority of studies utilized Microsoft PowerPoint for its customization ability and accessibility. Findings indicated CAI is effective for teaching academic skills to individuals with ID. However, results also indicated that individuals with ID may need additional support from instructors. They also found that instructors may need to develop behavior management strategies to ensure the individual with ID is gaining the most information possible. Lastly, results indicated there are a lot of studies focused on teaching foundational literacy skills in individuals with ID, but there is limited research regarding the teaching skills necessary for the workforce. More research is needed on the effectiveness of CAI instruction on teaching SEL and employment skills.

Another study, White et al. (2016) examined the effectiveness of two CAI programs designed for individuals with Autism Spectrum Disorder (ASD) including (a) a virtual reality program, Brain-Computer Interface for ASD (BCI-ASD) and (b) a psychosocial intervention, the College and Living Success (CLS) program. The participants of this pilot study included five males and three females that were diagnosed with ASD. Each participant was 18 years old or older, enrolled in full-time coursework, and was diagnosed with a co-occurring disorder. This group of eight students was divided into two equal subgroups and assigned an intervention. The results were inconsistent and concluded that further research should be developed on psychosocial and CAI approaches. The study determined that both CAI intervention plans were reasonable to implement, but does not always need to be substituted for the traditional teaching method.

Next, Larson et al. (2016) examined the effectiveness of CAI compared to one-on-one tutoring to teach vocational skills to individuals with ID. The specific areas taught included behavioral limits, rights and responsibilities, and alphabetical sorting. Participants included 15 adults with ID. Eight participants received CAI and seven participants received one-on-one tutoring. Results suggested that a repetitive, computer-assisted training program can produce similar learning outcomes in individuals with ID to those in one-on-one tutoring.

There was improvement in the areas of attentional deficits, stimulus processing inefficiencies, and cognitive load limitations. Despite promising results, CAI was delivered solely by a computer and there was not an instructor as part of the process.

Simpson et al. (2004) conducted a study to examine the effects of combining video and computer-based instruction to teach social skills to four students with ASD. The intervention was a computer-based program with embedded video clips of peers without disabilities displaying examples and non-examples of targeted social skills (e.g., sharing, following teacher directions, social greetings). Participants were required to decipher between examples and non-examples from the video clips. Results indicated all students improved in targeted social skills. Suggestions for future research included, using a multiple probe across behaviors design to target multiple behaviors and determine if participants can generalize their skills to other settings.

There is limited research regarding SEL skills training and CAI combined with explicit instruction for young adults with ID as many studies are commonly combined with young adults with ASD. Adibsereshki et al. (2016) discussed the need for finding instruments that assess social emotional skills in individuals with ID. Despite promising results on teaching soft skills, there was not explicit instruction on emotions and emotional regulation within soft skills training and the existing research was done with high school students (Clark et al., 2018; Clark et al., 2019). Findings from Simpson et al. (2004) indicated participants could learn social skills from computer-based instruction, but they were unable to target multiple behaviors and determine if participants could generalize to other settings. To address these limitations, the purpose of our study was to investigate the effects of CAI displayed through PowerPoint combined with direct instruction on the acquisition of SEL skills of young adults with ID (18-25 years old) attending an inclusive postsecondary education program (IPSE). The ultimate goal was to further increase the participants emotional self-awareness, and management of emotions, as well as their ability to recognize emotions in others.

Method

Prior to beginning the study, approval was obtained from the Institutional Review Board for research at the university where the study was conducted. Before starting the study, researchers explained and obtained the necessary student consents or parent consents and student assents. Participants proceeded with the study for one academic semester (15 weeks and a three month maintenance session) as necessary signed assents and consents were completed.

Participants

Participants included five young adults with ID between the ages of 18 and 25 attending an IPSE designed for individuals who had completed a high school certificate of attendance or career focused diploma track. All five participants had full access and participation in all college opportunities at the university. This program required participants to live on campus, attend college activities, audit courses with their peers, complete paid and unpaid job internships, and work on goals towards their two-year certificate of accomplishment. Participants in this study met the following inclusion criteria: (a) were between the ages of 18 and 25, (b) provided student consent if age 18 or older and declared their own guardian or parental consent and student assent if they were not their own guardian, (c) had a documented ID based on a psychological or medical assessment within the last five years, and (d) willingness and interest to learn about their emotions.

Carla

Carla was a 19-year-old, Caucasian female, with mild ID (IQ=58). Carla did not have any adaptive assessment results to report from her latest psychological report. Carla had recently graduated from high school in a career focused preparation track. This was her first semester attending the IPSE program. Carla’s teachers had noted her desire to learn in the classroom and have a paid job after high school. She had noted success from her teachers for being cooperative for a majority of time, but some noted discrepancies in controlling emotions or reactions with respecting others personal space in comparison to her same-age peers and authority figures.

Kandace

Kandace was a 20-year-old, Caucasian female, with moderate ID (IQ=48) and Down syndrome. According to her most recent adaptive assessment, overall skills fell in the below average (SS=80). Kandace had also recently graduated from high school in a career focused preparation track. This was her first semester attending the IPSE program. Kandace’s high school teachers noted her starting to “come out of her shell” more, but that she was still extremely shy in comparison to her peers. Kandace also has a harder time due to her shyness in fully expressing her emotions, stress, or frustration to others rather than responding with, “I don’t know” or crying.

Thomas

Thomas was a 19-year old, Caucasian transgender, with borderline ID (IQ=71) and a history of anxiety with clinically elevated scores for behavioral and emotional regulation of emotions. Thomas has recently graduated from a small private school. This was his first semester attending the IPSE program. Thomas's teacher and family noted auditory processing concerns and noted recommendations from continued work with therapy and mindfulness strategies.

Donald

Donald was a 20-year-old, Caucasian male, with mild ID (IQ=69), cerebral palsy, and anxiety disorder. No adaptive scores were included in his recent psychological report. Donald has been enrolled in the IPSE program and has participated in a variety of paid internships within office settings as well as outdoors with landscaping. This was his third semester in the IPSE program. Donald's teachers and family noted his desire to please others and pleasant demeanor among everyone he meets. They did also note his anxiety and tendency to have some short term memory loss and needing things repeated frequently.

Mark

Mark was a 25-year-old, Caucasian male, with a moderate ID (IQ=40) and Down syndrome. According to his most recent adaptive assessment, overall skills fell in the extremely low range with a general adaptive composite score of 56. Since graduation from high school, Mark has worked within the food service industry and attended some independent living programs prior to attending this IPSE program. This was his third semester in the postsecondary education program. Mark's family reported he had participated in counseling for several months prior to being admitted to college to further address some stress management techniques and past trauma. Mark reported he does experience sadness sometimes especially now with COVID and missing his family, but says he is happiest when he wakes up in the mornings.

Setting

All baseline, CAI lessons, generalization, and maintenance sessions were conducted at various locations on a public, accredited university campus in a rural area in the southeastern United States. The campus is housed on approximately 600 acres to more than 12,000 students. Out of this enrollment, over 400 students (3.3%) had reported and requested accommodations through the Office of Accessibility Resources. The campus includes 13 residence halls, 14 classroom buildings, seven performing arts buildings, 12 recreational buildings and fields, three dining and food courts, and 10 administrative support buildings. Additional campus locations included student centers, community convenience and retail stores, commercial restaurants, banks, and religious organizations. Most of the CAI lessons were delivered within one of the four IPSE program office spaces which commonly included a computer or laptop, whiteboard, markers, two chairs, a desk or table, and provided a quiet and less distracting location.

Materials

Teaching materials included CAI consisting of PowerPoint slides with digital photographs and videos of various emotions and facial expressions. Word cards of emotions with matching photos were also used during baseline, laminated, and placed on a small book ring for easier review. Photographs and video footage embedded within the scripted PowerPoint lessons were from Google Images and YouTube. CAI lessons were delivered by the first researcher through her laptop and recorded to be reviewed by the other two researchers for procedural fidelity and interrater reliability.

Data Collection

Dependent Variables

Data were collected on 12 emotional concepts and their distinguishing characteristics including facial expression, body language, and tone of voice. See Table 1 for 12 concepts and defining characteristics for each CAI lesson.

Table 1

Concepts with Emotions and Associated Facial Expression, Body Language, and Tone of Voice

Week and Concept	Emotion	Facial Expression	Body Language	Tone of Voice
1 Emotional Self-Awareness	Happy	Smiling	Relaxed	Upbeat
2 Self-Respect	Lonely	Frowning	Inward	Gloomy
3 Independence	Overwhelmed	Stressed	Tense	Intense
4 Assertiveness	Excited	Open Smile	Tensed	Enthusiastic
5 Empathy	Worried	Concerned	Hands Close to Mouth	Shaky
6 Problem Solving	Mad	Eyebrows Down	Tense	Angry
7 Decision Making	Confused	Raised Eyebrow	Not Confident	Perplexed
8 Goal Setting	Tired	Droopy Eyes	Relaxed	Slow
9 Impulse Control	Irritated	Glare	Tensed	Annoyed
10 Stress Tolerance	Motivated	Grin	Relaxed	Positive
11 Happiness	Sad	Frown	Head Down	Shaky
12 Optimism	Peaceful	Eyes Closed	Relaxed	Calm

The dependent variable collected was the matching facial expression, body language, and tone of voice description for each emotional concept. A correct response (3/3) identified and described all three characteristics (facial expression, body language, and tone of voice) of each emotion. A partially correct response (2/3 or 1/3) identified and described one or two of the three characteristics of the emotional concept, and an incorrect response (0/3) identified and described no characteristic of the emotional concept. Probes were collected and scored all at once during baseline for the 12 emotions and three characteristics for each. Probes during intervention were collected after lessons 3, 6, 9, and 12. Each probe was cumulative to include the previous lessons before the next three lessons taught and probed. In addition, setting/situation generalization data (Cooper, Heron, & Heward, 2007) were collected at minimum 2-3 times per week using an app called *Mood Ring: Your Emoji Journal* at a variety of campus events and activities. Maintenance data were collected three months after the CAI intervention lessons had ended.

Social Validity

Social validity data were collected from participants at the end of the study to evaluate the social acceptance of procedures (Wolf, 1978). Participants' perceptions were read and collected by a student support who was not associated or involved in the research study, but was familiar to the participants through a questionnaire to determine their level of satisfaction with using CAI and explicit instruction to recognize emotional concepts and characteristics. The questionnaire included a 4-point Likert scale (i.e., 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) given at the conclusion of this study. The questionnaire took less than 10 minutes to complete (see Table 2 for the social validity questionnaire).

Table 2

Participant Responses to the Social Validity Survey

Item	Ratings
The lessons helped me recognize my emotions better.	3.6
The lessons were easy to use and follow.	3.0
I learned more about how to tell others how I feel.	3.6
The lessons helped me learn how to control my emotions.	3.4
I would like to tell my friends about how they can control their emotions.	3.6
The way I express my emotions have improved since I have done this study.	3.4

Note: 1= strongly disagree; 2= disagree; 3 = agree; 4 = strongly agree

Additionally, social validity was gathered from student supports who worked with participants on a weekly and monthly basis with their person-centered planning (PCP) meetings. After having three monthly PCP meetings with the same students, the student supports were asked to complete a social validity questionnaire that also used a 5-point Likert scale (i.e., 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree) to evaluate the overall emotional skills displayed during the monthly PCP meetings to see if CAI paired with explicit instruction may have influenced their reaction to their emotions or others emotions during their monthly meetings during and after the intervention had concluded. This questionnaire was sent to student supports using Surveymonkey® with seven Likert scale questions and two open ended questions. Questions related to participants being able to identify, express, and control their emotions more regularly during PCP meetings and preparation times. Questions also inquired about their overall impulse control, assertiveness, problem solving skills, and improvement with taking criticism during these meetings (see

Table 3). The open ended questions asked about their observed areas of most and least growth areas related to emotions throughout the semester.

Table 3

PCP Partner Responses to the Social Validity Survey

Item	Ratings
The student showed improvement in **identifying their emotions.**	4.2
The student showed improvement in **expressing their emotions.**	3.2
The student showed improvement in **controlling their emotions.**	3.8
The student showed improvement in **impulse control.**	4.2
The student showed improvement in their **assertiveness**.	3.0
The student showed improvement in **problem solving skills.**	3.2
The student showed improvement in taking **criticism.**	3.6

Note: 1= strongly disagree; 2= disagree; 3 = neutral; 4 = agree; 5= strongly agree

Design

The experimental design was a multiple probe across behaviors design to evaluate the effects of CAI with embedded model, lead, test explicit instruction on emotional skills training across multiple participants.

Baseline

During baseline, participants were given word cards of 12 emotions and asked to describe the characteristics related to those emotions in regards more specifically to the associated facial expression, body language, and tone of voice. Participants were given two attempts and wait time of 15 seconds for each emotion to start defining their characteristics. If no response was given and wait time exceeded, the researcher moved to the next emotion and started over with the wait time. All cards were given at each baseline attempt and correct and incorrect responses were recorded. A new baseline was recorded in a new session or day rather than administered again or repeatedly in the same session or day.

Computer Assisted Instruction

All 12 concept lessons delivered through CAI followed a scripted lesson as well as PowerPoint format for each session. Each CAI lesson began with an introductory concept slide with the title, activity, review, and/or homework review from the previous lesson, and then introduced a new emotion of the week (with associated images and words to describe the facial expression, tone of voice, and body language) of that emotional concept. Once the emotions were introduced with characteristics, the concept was also introduced with an initial title slide followed by a discussion and definition or rationale of that concept's importance to that associated emotion. Typically a lesson then went into an interactive activity or video to apply that emotion and concept to a practical scenario. For example, with decision making, it was first defined, then a discussion followed about why making decisions was important followed by a video and list for making a pros and cons list. Guided practice continued for five practice scenarios (continuing to follow the model, lead, test format). One of the five practice scenarios given had the participant identify the emotion associated with the practice scenario and then what the emotion would look like in relation to the overall facial expression, body language displayed, and tone of voice. (e.g., How do you feel when you "make a good grade on your homework assignment?"). A participant might respond with the emotion identified as "happy" with the facial expression of smiling, body language as relaxed, and tone of voice being more upbeat. Once the scenarios were given and discussed, a probe was given after three lessons OR if not a time to collect probes, then homework was explained to prepare for the next session. Most homework included recording their emotions for the week and explaining a sentence for why they felt that way. Each lesson was one hour in length per concept.

Maintenance and Generalization

Maintenance and generalization data were collected to determine the extent to which participants continued to perform targeted behaviors after the CAI intervention had ended and to see if the emotional recognition skills taught would generalize to novel situations and settings. Maintenance data were collected on the 12 emotional concepts and characteristics three months after intervention had ended. Measures of generalization were collected weekly using the *Mood Ring: Your Emoji Journal* app for iOS devices. Emotions recorded were gathered at the beginning of each session and discussed. Each participant was asked to use the app to record their emotions several times per week across various settings and situations (at work, during homework, leisure, alone time in their room, and/or with friends). This was collected and discussed by the first researcher who also implemented the CAI lessons during their homework review times each week.

Interrater Reliability

Interrater reliability data were collected on 25% of the dependent variable by a second observer using the same type of scoring sheet used by the researcher. The second and third observers collected data on video probes collected after lessons 3, 6, 9, and 12. An agreement was recorded when observers identically scored the outcome as correct or incorrect (i.e., 0-3). A disagreement was recorded if outcomes of cumulative probes were not scored the same. The percentage of agreement for correct responses was calculated by dividing the number of agreements plus disagreements, and multiplied by 100. Overall interrater reliability was 100% during baseline, intervention, and maintenance. Interrater reliability was not calculated for generalization measures.

Procedural Fidelity

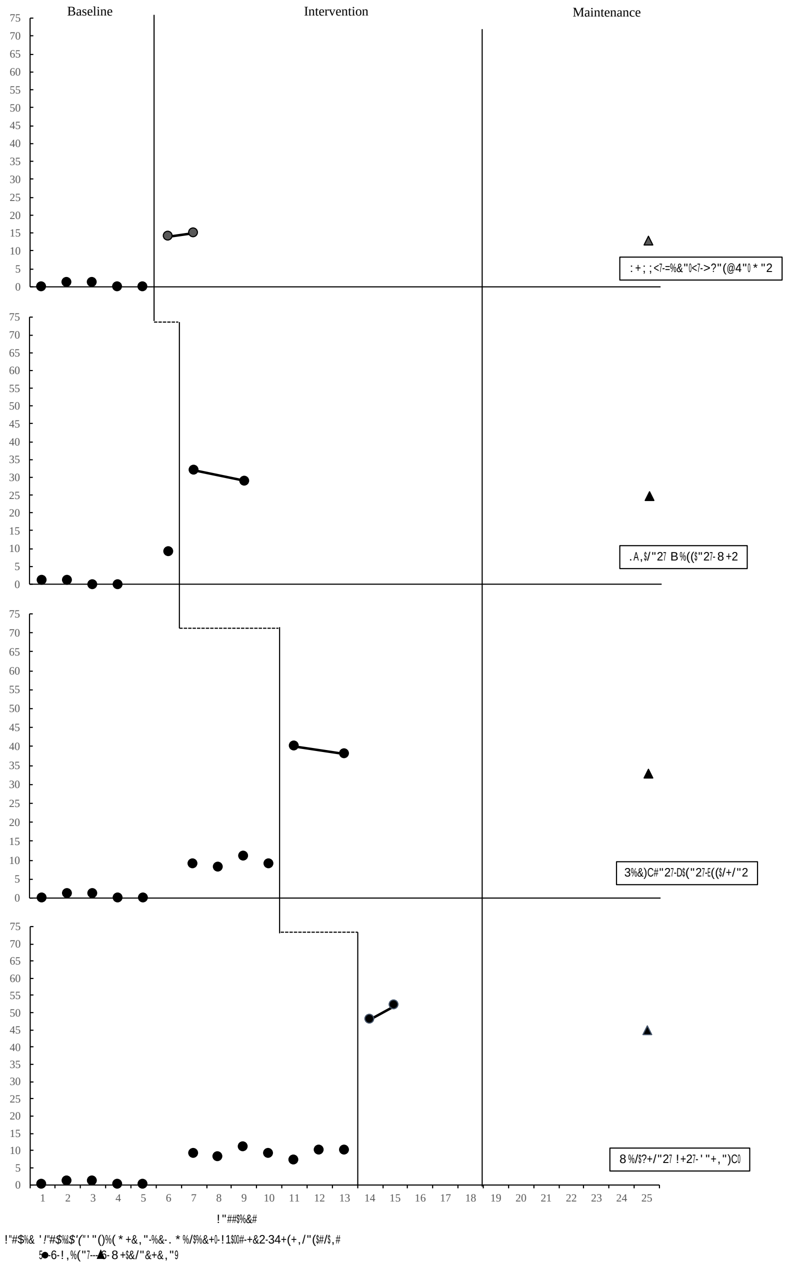
A procedural fidelity checklist was used for CAI lessons along with the training script for each lesson. Procedural fidelity data were collected for 25% of the sessions distributed across participants by all the researchers and one outside observer. Fidelity was calculated as the number of main ideas followed from the script and CAI lessons followed correctly divided by the total number of main ideas listed within the script and CAI lessons and multiplied by 100. Procedural fidelity was 100% across all sessions and phases.

Results

Figures 1-5 presents the percentage of correct responses for the emotions and associated characteristics (facial expression, body language, tone of voice). The *x-axis* represents the lesson probes (conducted after lessons 3, 6, 9, and 12) and the *y-axis* represents the percentage correct based on the 0-3 scoring scale described above.

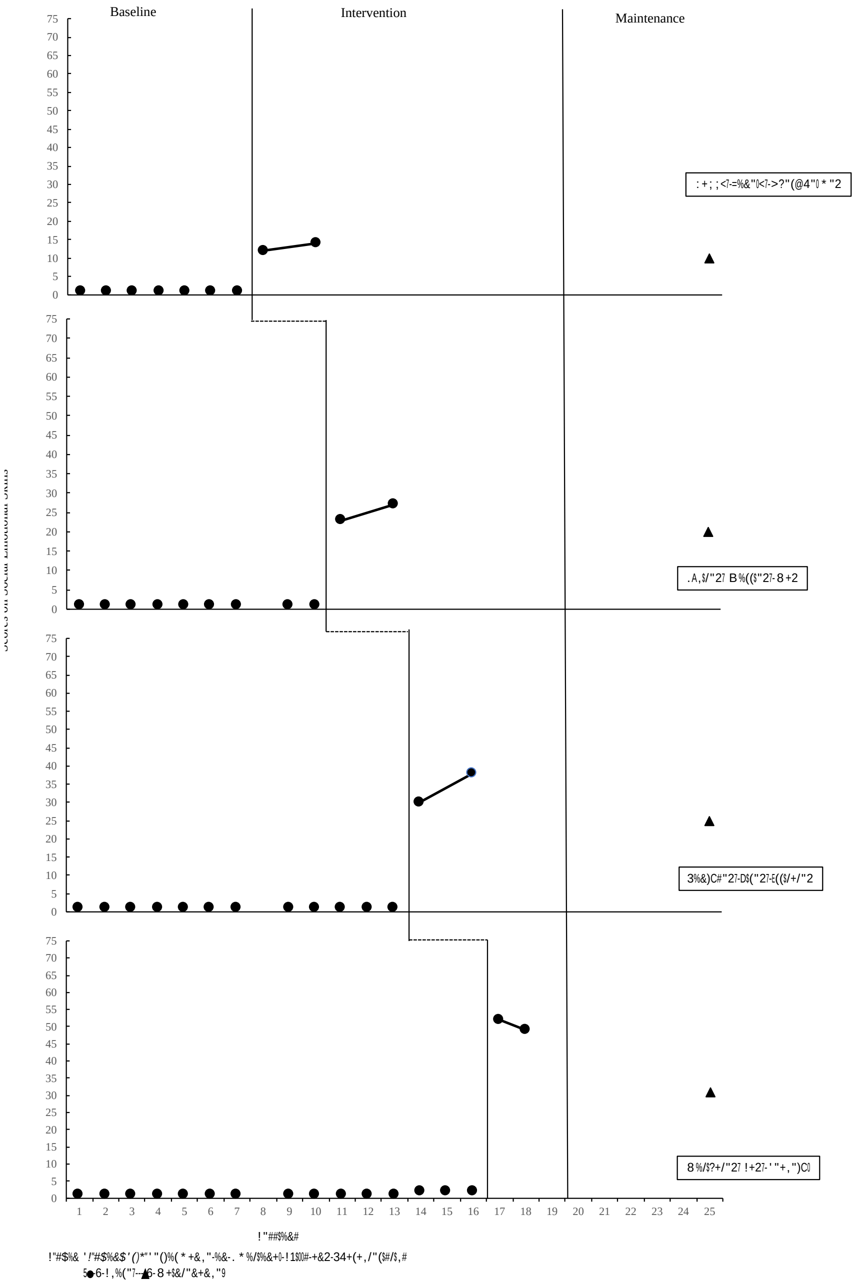
Carla

During baseline, Carla's performance was 31% for all 12 emotional responses and characteristics. During intervention, with Lessons 1-3 (happy, lonely, overwhelmed) Carla's level of performance was 83%. For the second probe with Lessons 4-6 (happy, lonely, overwhelmed, excited, worried, mad) Carla's level of performance was 89%. For the third probe (adding confused, tired, and irritated) Carla's level of performance was 74%. And finally, during the fourth probe (adding all previous emotions plus motivated, sad, and peaceful) Carla's level of performance was 72% (see Figure 1). During maintenance, Carla's performance on all emotional responses and characteristics identified after three months was at 63% During generalization, Carla was able to use the app with reminders one time each week.



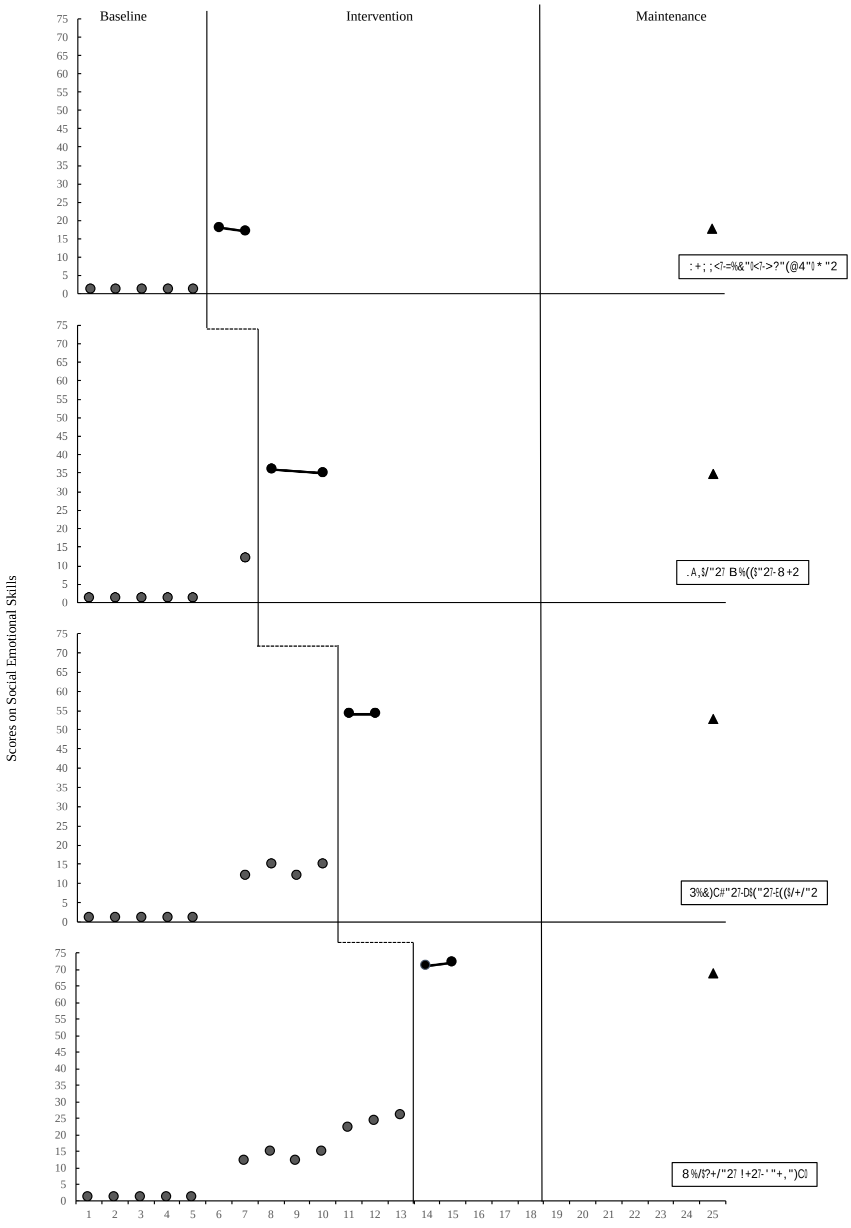
Kandace

During baseline, Kandace’s performance was 6% for all 12 emotional responses and characteristics. During intervention, with Lessons 1-3 (happy, lonely, overwhelmed) Kandace’s level of performance was 78%. For the second probe with Lessons 4-6 (happy, lonely, overwhelmed, excited, worried, mad) Kandace’s level of performance was 75%. For the third probe (adding confused, tired, and irritated) Kandace's level of performance was 70%. And finally, during the fourth probe (adding all previous emotions plus motivated, sad, and peaceful) Kandace's level of performance was 72% (see Figure 2). During maintenance, Kandace's performance on all emotional responses and characteristics identified after three months was at 43%. During generalization, Kandace was able to use the app or recording her emotions on paper with reminders on average zero times each week.



Thomas

During baseline, Thomas's performance was 72% for all 12 emotional responses and characteristics. During intervention, with Lessons 1-3 (happy, lonely, overwhelmed) Thomas's level of performance was 100%. For the second probe with Lessons 4-6 (happy, lonely, overwhelmed, excited, worried, mad) Thomas's level of performance was 100%. For the third probe (adding confused, tired, and irritated) Thomas's level of performance was 100%. And finally, during the fourth probe (adding all previous emotions plus motivated, sad, and peaceful) Thomas's level of performance was 100% (see Figure 3). During maintenance, Thomas's performance on all emotional responses and characteristics identified after three months was at 96%. During generalization, Thomas was able to use the app without reminders three times each week and continues to use the app to record his emotions.



Donald

During baseline, Donald’s performance was 47% for all 12 emotional responses and characteristics. During intervention, with Lessons 1-3 (happy, lonely, overwhelmed) Donald’s level of performance was 89%. For the second probe with Lessons 4-6 (happy, lonely, overwhelmed, excited, worried, mad) Donald’s level of performance was 97%. For the third probe (adding confused, tired, and irritated) Donald’s level of performance was 89%. And finally, during the fourth probe (adding all previous emotions plus motivated, sad, and peaceful) Donald’s level of performance was 83% (see Figure 4). During maintenance, Donald’s performance on all emotional responses and characteristics identified after three months was at 61%. Donald did not have an iOS device; therefore, he regulated his emotions on paper. During generalization, Donald recorded his emotions on paper without reminders two times each week.

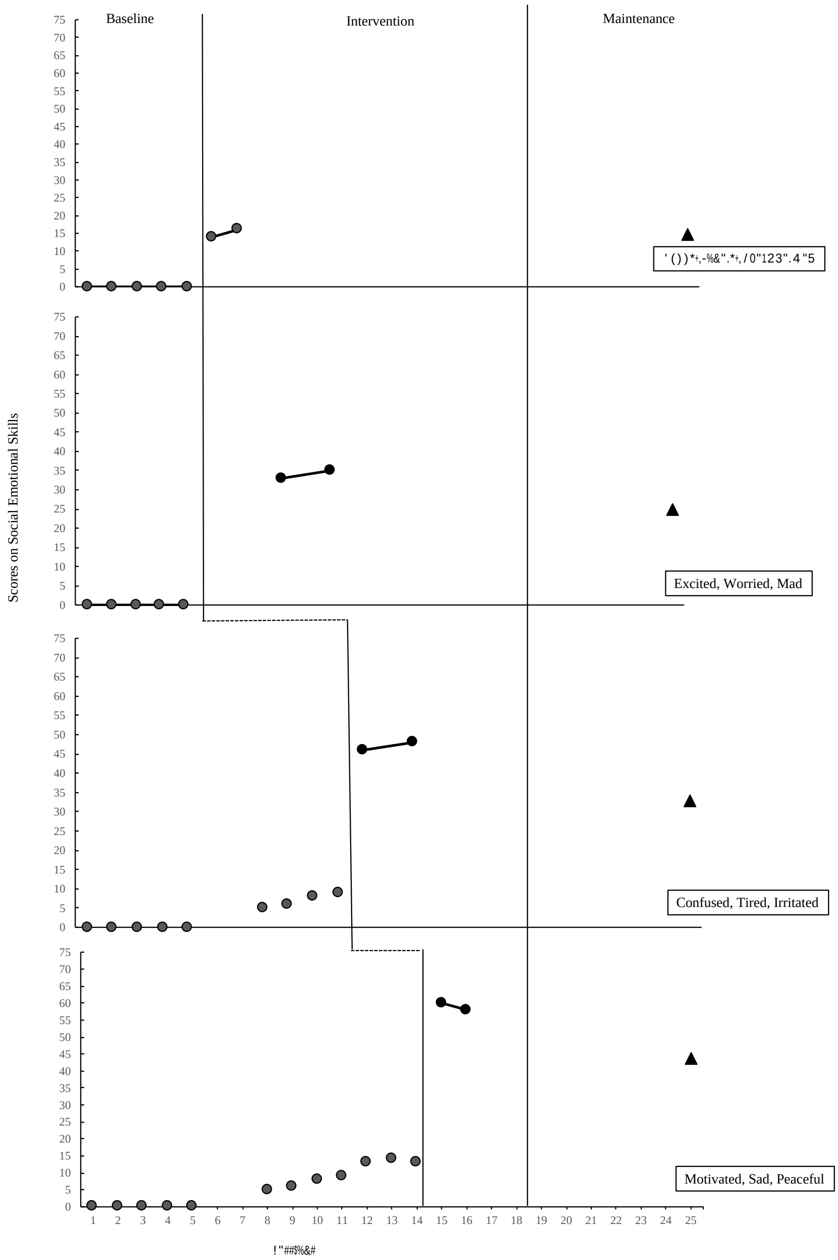
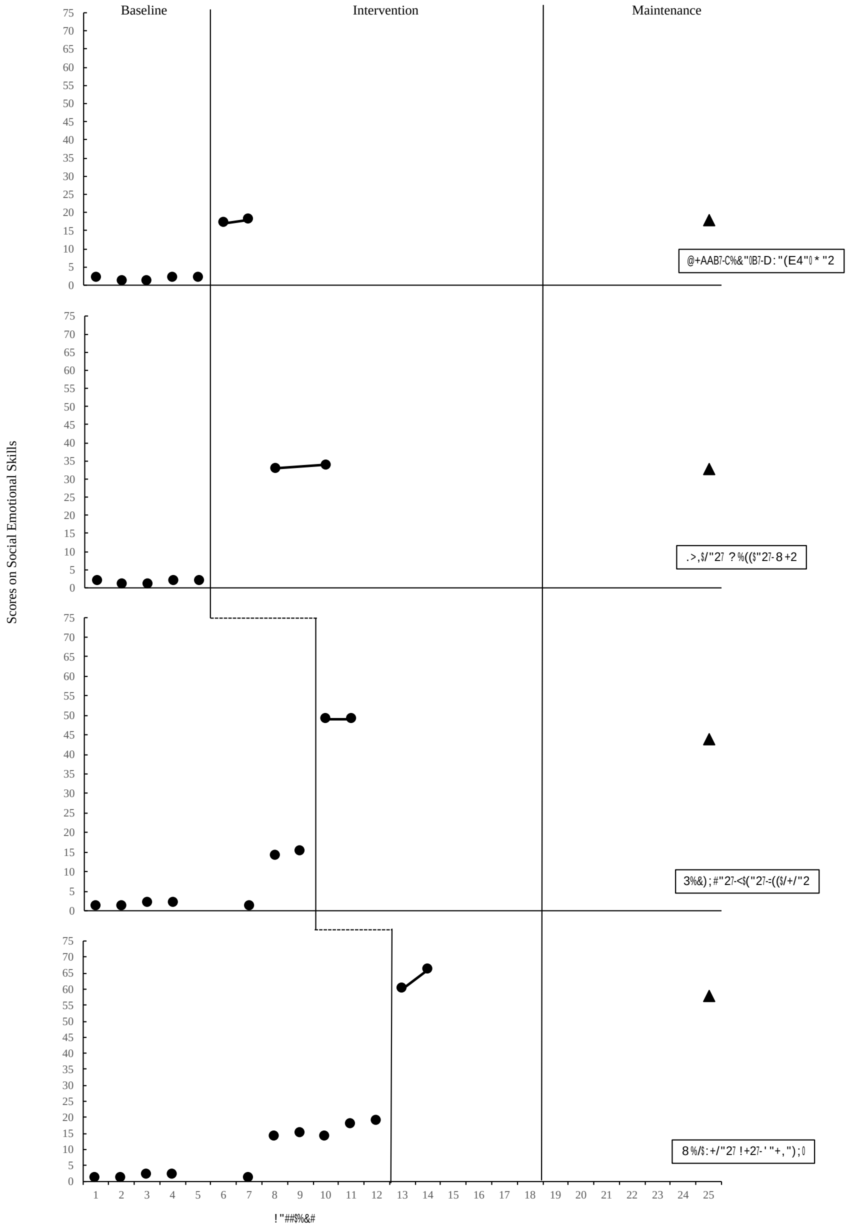


Figure 4. *Donald's* Performance on Emotional Skills and Characteristics
(● = Score, ▲= Maintenance)

Mark

During baseline, Mark’s performance was 53% for all 12 emotional responses and characteristics. During intervention, with Lessons 1-3 (happy, lonely, overwhelmed) Mark’s level of performance was 100%. For the second probe with Lessons 4-6 (happy, lonely, overwhelmed, excited, worried, mad) Mark’s level of performance was 94%. For the third probe (adding confused, tired, and irritated) Mark’s level of performance was 91%. And finally, during the fourth probe (adding all previous emotions plus motivated, sad, and peaceful) Mark's level of performance was 92% (see Figure 5). During maintenance, Mark's performance on all emotional responses and characteristics identified after three months was at 81%. Mark was able to use the app on his iOS device for the first two months and later record his emotions on paper the last two months. During generalization, Mark was able to regulate his emotions with the use of the app with reminders three times each week and on paper without reminders two times each week.



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Social Validity

Social validity data were collected from participants at the end of the study. The mean ratings ranged between 3.0 and 3.6 (i.e., agree or strongly agree). The lowest rating was the 3.0 (lessons being easy to follow) with mean ratings of 3.4 across all questions.

Participants were also asked two open ended questions related to what they enjoyed most and least about the CAI lessons. Participants indicated they liked the one-on-one time and being able to learn how to recognize and control their emotions. Participants indicated they did not like the homework, doing the baseline with blue word cards, and had a harder time showing their emotions behind a mask (due to the COVID pandemic).

In addition, social validity data were collected from five undergraduate students who served as monthly PCP partners to the participants in the study. These give students were paid to provide support to participants 10 to 15 hours per week and helped them reflect at least monthly on their individualized plans for college participation (IPCP). All five of them observed the participants during more critical times when they were planning or leading their own PCP meetings. At the end of the training, a 5-point Likert scale questionnaire was distributed to them through Surveymonkey® and evaluated for appropriateness of procedures, practicality, and relevance for using CAI to recognize their emotions. The mean ratings ranged between 2.0 and 5.0 with a range of 3.0 to 4.2. Most items were rated as agree or strongly agree. Areas of most growth from open ended comments were with emotions overwhelmed and motivated while areas of least growth with emotions were also motivated, excited, and worried.

Discussion

The purpose of this study was to investigate the effects of using CAI displayed through PowerPoint and use of explicit instruction (model, lead, test) on emotional skills training with young adults with ID (18-25 years old) participating in an IPSE program. Findings indicated a functional relation between the CAI and emotional skills training for all participants with changes in level and trend across behaviors and phases. All five participants increased their emotional skills knowledge by participating in this study and maintained some of these skills three months after intervention had ended.

Overall, results of this study support previous research related to emotional skills training and CAI. First, current findings from this study suggest young adults with ID can learn emotional regulation for themselves and others when explicitly taught as found in Adibsereshki et al. (2016). Second, this study extends previous research that used technology to teach emotional and problem solving skills needed for employment to college aged students (Clark et al., 2018; Clark et al., 2019). And finally, this study further extends the populations for increased generalizability as well as the evidence-base for using CAI paired with explicit instruction to further teach SEL skills to young adults with ID (Larson et al., 2016; Snyder & Huber, 2019; Simpson et al., 2004; White et al., 2016).

Maintenance data from this study were positive in comparison to the intervention phase ranging from 43% to 96% after three months without any further instruction beyond the intervention phase to identify, recognize, and respond to the emotional characteristics taught during the CAI lessons. Based on social validity data from participants, findings were positive across the participants and indirect consumers for increasing their SEL skills.

Limitations and Suggestions for Future Research

This study had several limitations and suggestions for future research. First, there is limited generalizability of findings since the intervention was delivered in a one-on-one format to minimize off-task behaviors. This was a time-consuming instructional intervention requiring 60 hours of teaching time. Future research could explore delivering the CAI lessons in small or larger groups to further compare results. It would also be good to expand research beyond young adults with ID (e.g., Autism, Traumatic Brain Injury). Second, since this study was conducted during a pandemic, the masks limited full facial expressions. Future research should continue to deliver and explore this instruction when not in a Coronavirus Pandemic with mask mandates. Third, participants in this study received other social skills instruction throughout their college experiences related to communication and emotion (e.g., counseling, peer mentoring, weekly social skills groups, and speech or recreational therapy). These opportunities could have influenced the progress made in this study in combination with the CAI instruction. Future research may be able to further control some of these outside influences. Fourth, using technology has some advantages for some, but not all. Generalization measures were limited in this study because some participants did not prefer to access the mood app (only an iOS app) to record their emotions in other settings. This makes some of the generalization measures harder to report with some resistance or limited access to technology. Future research studies could expand generalization of emotional regulation and offer more journaling across settings with and without technology. Finally, CAI lessons and the social validity measures were gathered from undergraduate paid supports for the program working directly with participants on a weekly basis. Therefore, these individuals reading the questionnaire were not neutral to the participants since they worked with them in other capacities. Future research could explore addressing this limitation of familiarity with collection of social validity measures.

Implications for Practice

There are several implications for practice. First, the lesson delivery even through

CAI was delivered intensely and one-on-one each week making it time intensive for the participants and instructor. Frequent breaks are encouraged in order to help minimize guessing and distractions during the lessons. Second, with the CAI lessons, more focus should be given on the specific emotional concepts linked to their emotions and distinct characteristics. The association of the characteristics could have potentially been memorized rather than being further applied. Third, if this were taught again, lessons would be revised to include less video instruction and more role-play opportunities to maximize teachable moments with identifying, describing, and recognizing emotions. Finally, as with many studies, increased opportunities for generalization in realistic places immediately following the weekly lessons would always be good to expand.

Teaching emotional skills regulation using CAI paired with explicit instruction appears to have promising results for identifying and recognizing emotions. When using CAI it is important that instruction remains age appropriate and interactive while keeping individuals engaged in problem solving and practical application “checkpoints” throughout the lessons. Although results from this study were positive, this is one of the first studies that has paired CAI and emotional skills training with individuals with disabilities.

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