
UNSPOKEN INCLUSIVE COMMUNICATION:

WEARABLE TECHNOLOGY FOR NEURODIVERGENT CHILDREN

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**Unspoken Inclusive Communication:
Wearable Technology for Neurodivergent Children**

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Image 1: Squishy Ball Vest Picture taken by Jennifer Lamont

HE LOOKS LIKE HIS PEERS IN HIS CLASSROOM,
HE TALKS LIKE EVERYONE TOO,
HE WORKS ON HIS WORK LIKE EVERYONE, BUT
HE CAN LOOK DISTRACTED.
HE MIGHT TAKE LONGER TO DO A QUESTION,
HE MIGHT NOT SPEAK,
HE MIGHT SCREAM AND SHOUT, BUT
NO ONE KNOWS HIS LITTLE SECRET.

THEY MIGHT THINK HE'S WEIRD OR EVEN BAD,
THEY MIGHT THINK HE'S DUMB
THEY MIGHT THINK HE'S NOT BEHAVED,
THEY MIGHT THINK HE'S OUT OF CONTROLLED
BUT NO ONE KNOWS HIS LITTLE SECRET.

HE MIGHT NEED A HUG
HE MIGHT NEED A QUIET PLACE TO CALM DOWN
HE MIGHT NEED TO TAKE A WALK
HE MIGHT NOT BE ABLE TO SAY WHAT'S WRONG
HE MIGHT THROW AN OBJECT
BUT NO ONE KNOWS HIS LITTLE SECRET.

HE SEES THE WORLD IN REPEAT
HE TALKS WITH A STUTTER
HE MIGHT NOT LOOK AT YOU
HE MIGHT BE SLOWER PACED
HE IS SMARTER THAN YOU MIGHT THINK
HE MIGHT NOT GET THE CONTEXT OF YOUR STORY
BUT HE HAS SECRET
HE IS AUTISTIC.

POEM

Emily Carr University

I would like to acknowledge that we are gathered on the unceded territories of the Coast Salish peoples, including the Musqueam, Squamish and Tsleil-Waututh nations. Unceded means that this land was never surrendered, relinquished or handed over in any way.

Home/School District

I would like to acknowledge the traditional and unceded territory of the Stó:lō Peoples, the Sumas first nations (Semá:th) and Matsqui First Nation (Mathxwí).

TERRITORIAL ACKNOWLEDGEMENT

DEDICATION

To my beautiful son, who inspired me to take on this
this thesis topic.

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ABSTRACT

Neurodivergent children often face challenges with their self-regulation. Many of their peers and educators lack the necessary tools to comprehend this disorder. Despite often having high intelligence, these children need support to thrive in today's educational system. As a fashion designer, I developed clothing with integrated therapeutic devices to aid in self-regulation. These discrete items were designed to merge seamlessly into everyday ready-to-wear clothing, allowing neurodivergent children to blend in amongst their peers.

Phase one of my research includes an in depth investigation and observation of the current education system. There are significant political and bureaucratic obstacles. My research leads me to understand that the current system is not meeting the needs of these children, and existing standards of support and care are ineffective. Many private and public institutions have commonly failed to achieve design inclusivity for people with ASD (Willis, K. S., & Cross, E., 2022). Hypersensitivity and hyposensitivity to stimuli are also common in people with ASD who can be particularly sensitive to changes in light contrast and air quality, that would usually be ignored by the neurotypical (Willis, K. S., & Cross, E., 2022). The best option now is to find a way to collaborate with educators and build an effective catalogue of tools and resources.

Wearable technology would be a helpful tool and/or a resource to assist instructors and educational assistants in recognizing when a child is entering an elevated state of stress or frustration. This technology could include garments that can detect a heightened state of temperature and or an increase in pulse-rate response in their body. For instance, when an educator is writing a lesson on the board, with their back to the class, and a student who is wearing one of these garments is becoming stressed, the garment this student is wearing is equipped with technology that can send a discreet notification to the educator through an app on their phone or computer, letting the educator know they need to quickly address this student's altered state.

Garments with therapeutic devices or wearable technology connected to an application (app) can notify or alert an educator when a student is experiencing heightened emotions. An open-source device built-in or attached to a garment in sensory areas can be positioned to connect with this application. This approach aims to provide more timely support and eliminate any guesswork in identifying critical cues.

GLOSSARY

Neurodivergent whose brains function outside what is considered "typical" (Gov't of Canada, 2024)

Neurotypical common or typical brain functions

Autism a neurodevelopmental designation that causes differences in self-regulation and communication.

Biometric Indicators body movements that manifest when a situation or altered state is presenting itself non-verbally.

Occupational Therapist a healthcare professional that specializes in preventive and corrective measures to assist individuals attain a more productive life within society.

Context Blindness information in which it is framed may not be comprehended in original means.

Wearable technology garments that incorporate technology to record or detect certain receptors and transfer them to a mobile device.

Open-Source technology that is accessible and allows anyone to view, modify or distribute as creative commons componentry

Capsule collection a clothing collection with specific design in a limited series.



Image 2: Squishy Bot Vest. Picture taken by Jennifer Lamont



Image 3: Capsule Collection. Picture taken by Jennifer Lamont



Image 4: Wearable technology prototype. Picture taken by Jennifer Lamont

POSITIONALITY

My position on this thesis is I have a twelve year old neurodivergent son who is on the autism spectrum. Seeing my son have major struggles with self-regulation in the classroom and the barriers for educators with assessment to help him. My experience as a parent, educator and designer has given me the experience to research areas that sometimes may have been overlooked due to a perspective not experience in real life. I can look at this topic and see both the parent and educator's perspective and the designer aspects to develop wearable technology that could potentially be used to help children in the classroom.



Image 5: Family photo of Jennifer and her son. Picture taken by Jennifer Lamont

FRAMEWORK OF RESEARCH

Given the advancing ubiquity of modern technology, like open-source software and complimentary hardware platforms, it is unexpected that the design of therapeutic aids has not progressed at a similar pace. Affording different product development technique and manufacturing practices, computing, electronics, clothing and textiles could work together to develop such technological products (Wood, 2018).

From primary product surveys and my own casual observation, I find that therapeutic clothing designed for children with autism and/or neurodivergence remains bulky and resists adaptation to current trends and fashion, critical aspects of garment design that could assist these children in integrating with their peers at school. Having a background in working with neurodivergent children, the primary goal is to delve deeper into the development of garments that will address some of these challenges, and secondary to that are discovering pathways for overcoming obstacles and barriers within the educational system. Tackling the whole educational system all at once, would be impossible; however, breaking it down into micro levels would be manageable. The obstacles and barriers include but not limited to, approval from the district occupational therapist, resource allocation and funding and cooperation of resource aids and faculty.

I modified various aspects of my previous patterns and constructions related to significant design and assembly issues. My latest iterative designs are also driven by a in response to superficial garment bans in schools, like weighted garments.

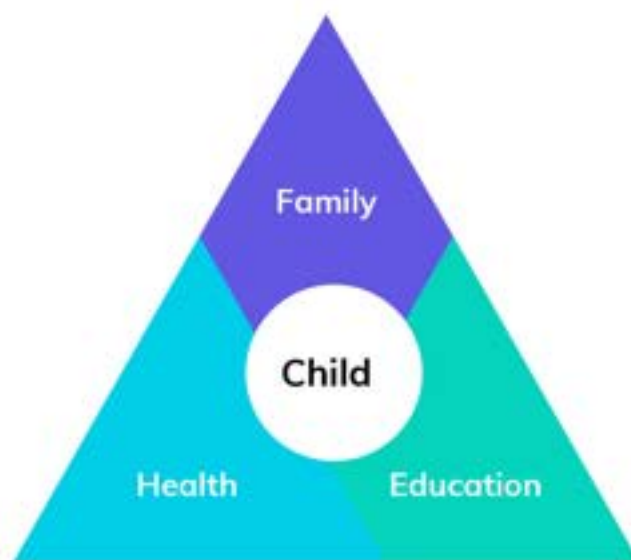


Fig.1: Triangular Team

Local schools limit or restrict the wearing of weighted garments in the classroom. Through trial and error, iteration and prototyping, I understand that even with these improved modifications I had planned, an Occupational Therapist would still need to approve the changes for use in schools.

In my review of available literature, it shows that gaps exist between family, education and health regarding neurodivergent children. This triangular group must work together to get the necessary resources to the child. There are gaps on all sides and when it comes to the children, each child has different reactions and triggers to social and environmental situations. No two children are the same, let alone two neurodivergent children. This brings an added dimension to the responsibility of educators that is not always adequately expressed within training in their teaching candidacy.



Image 6: Capsule Collection, Picture taken by Jennifer Lamont



Image 7: Capsule Collection, Picture taken by Jennifer Lamont



Image 8: Capsule Collection, Picture taken by Jennifer Lamont

REFLECTION OF PRIOR WORK

To understand how this all started. In my undergraduate studies, I designed and constructed a collection with therapeutic devices built into the clothing. This collection consisted of spinners, pop-its, weighted beads and more. It was so seamlessly incorporated into the garments that most people didn't even realize it was any different than every other garment. This collection had prototypes in each article of clothing such as, pants, t-shirts, sweaters and jackets. Each piece had strategically placed devices within, such as weighted beads, teething beads, pop its and more. This is where our story of the thesis starts. I wanted to take what I had created with this collection and see if I could actually move it towards technology and if the school districts would be open to it.

I wanted to build on the idea of creating something that could help both a neurodivergent student and the educators that they spent their school days with. Taking what I knew from the capsule collection and how things could fit within the individual garments, I knew that there could be a way to incorporate some type of technology within the garments. The capsule collection had a great foundation and patterns to work from to start my prototypes into wearable technology.

Moving towards the thesis, I didn't want to just take what I had done prior and change the therapeutic devices and substitute it for technology. I wanted to build on it and continue to develop these garments by researching the child, the educational environment and how certain sensories could depict where these technologies would be placed within the garment.

INTRODUCTION

ASD In The Classroom

Children thrive on curiosity about the world around them. While some may ask numerous questions or seek answers through research, others excel in typical learning environments at school. However, children who are neurodivergent or on the autism spectrum may have unique and varied learning styles. This can be particularly true for people with Autistic Spectrum Disorders (ASD, Autism) who have a distinct way of perceiving and processing information (Willis, K. S., & Cross, E., 2022). Despite the high-level intelligence and their ability to process information extensively, neurodivergent children typically require some assistance with self-regulation in their school activities. This means that they often feel confused and unsure of how to behave in a given space, thus limiting their ability to integrate with others (Willis, K. S., & Cross, E., 2022). Neurodivergent individuals are described in the Oxford English dictionary as having mental or neurological functions that differ from what is considered typical or normal. (OED, 2023) The Canadian government describes an individual who is neurodivergent as someone whose usual functions of the brain fall outside what is considered "typical" (Gov't of Canada, 2024)

What I Learned From My Child

My journey starts as a mother of a 12-year-old boy, who has a designation of autism. With this designation many support resources became available and yet many more obstacles remain. A persistent block is the educational system and how it perceives children like him. Children like him that are designated as autistic typically have a harder time with self regulation and it can sometimes be misinterpreted as having behavioural issues. Having certain therapeutic devices with them in the classroom can help with moderation. Throughout my son's elementary education, there were implicit barriers to the resources for him and also for his teachers.

If it was miscommunication amongst administration or just downright ignorance of what resources are accessible or available, knowing that when my son had an outburst he would be labeled as a disruption to the classroom and sent to the principal's office as behavioural concern. At the very limits of what was available as a resource within the system, without addressing the underlying issue, the situation was truly disheartening.

While pursuing my undergraduate degree, a Bachelor's degree in fashion design, I had taken on a critical analysis of a compression vest that was designed for children with autism. As a parent of a child with autism, I asked my son if he would wear something like this to help him self regulate. Without hesitation, he answered absolutely "no!" - It's too bulky and would stick out like a sore thumb amongst his peers. After asking more probing questions, I eventually understood that the real answer was that he just wanted to fit in with his peers.

Designing For ASD In The Classroom

Knowing this would be a challenge and that there would be a lot of supportive interest in the topic as well as a lot of pushback - I was committed to designing a capsule collection of therapeutic garments. I would have to do research beyond the typical undergraduate preliminary discovery and development of a fashion collection - I had to set forth along a rigorous timeline. I knew that I could only do so much within a limited time frame and would need to set manageable expectations for the outcomes. In the end, I was able to construct a collection that looked like a series of everyday ready to wear garments with integrated therapeutic built in. This was achieved without any participatory research informing the construction.

This was the catalyst for my thesis here at Emily Carr University. I wanted to take what I had done from my Bachelor's and delve into both the wearable therapeutics and the educational aspects. From my personal experience with the educational system, and its strong aversion to any risk and exposure of the kids in the classroom - I knew that I had to develop a clever means to validate my research. The Research Ethics Board would be challenging and my fear was that I wouldn't have enough time to complete a capsule collection to test. I wanted my research at the end of my time at Emily Carr University to serve as the foundation to what would be the start of another collection that could integrate and include children's participatory workshops and testing.

In my final year of my Bachelor's, I designed a capsule collection focused on integrating therapeutic devices into more familiar ready to wear garments and street fashion. This led to incorporating technology into garments as an innovative but evolving discourse with challenges and reservations from both educators and health care providers. The development of products with wearable technologies faces difficulties through a complex market positioning, as there is interaction with more than one industrial sector and consumer type (Wood, J. (2018). The introduction of new concepts for adaptive clothing to assist and support children in self-regulation and/or emotional monitoring can be an innovative breakthrough though technical uncertainties about the manufacture of wearable therapeutic products are numerous, and changes and developments in production processes are frequent (Dehghani & Kim, 2019). Designing garments with these considerations in mind does not devalue the necessary development of technology that can assist educators to recognize the crucial cues of a child's escalation phase to an altered state, lessening or preventing their destructive behavior.

I went on to create the capsule collection of garments that integrated therapeutic devices into everyday ready-to-wear clothing for neurodivergent children. This collection focused on discreetly incorporating therapeutic devices while maintaining a trendy, casual look for the child. The goal was to enable children to blend in with their peers without drawing attention to their neurodivergence. Designing a collection to assist neurodivergent children was a personal mission as an apparel designer.

"Is it possible to incorporate wearable technology, specifically created for neurodivergent children to aid in self-regulation, into the existing educational system?"

CONTEXT BLINDNESS

The Experience Of Autism In The Classroom

While researching autism in the classroom, I came across the concept of clinical context - context information processing is dependent upon indirect associations. Neurotypical children process context through understanding these indirect associations beyond situational awareness (Skovles JR, 2011). Autistic children process information in the classroom differently. For instance, they will be sitting staring at the teacher, just like their classmate and situationally aware, but their mind will be thinking about other things at the same time. This does not mean they will not be listening to the teacher, but processing the new information along with multiple other things at the same time. Context is not always the first thing that is thought of when thinking about education, wearable technology and neurodivergence. To fully understand the concept of designing a product or garment integrating wearable technology, one must understand how a neurodivergent child may perceive their educational environment and its setting. Layout of the classroom will also play a role in a neurodivergent child's sensory triggers. The layout of the desks, to clutter on the walls and positioning that child is to the classroom door.

In Peter Vermeulen's book, *Autism as Context Blindness*, (2009) he states that "intuitively everyone knows what it [context] means, when you look at the actual definitions, you will find that they differ quite a bit from each other" (Vermeulen, 2009). When defining context, one must figure out what context it is being used for. All the more relevant when you have two students, one neurotypical and the other neurodivergent. The lesson they learn in the classroom will be the same for both; however, they may not understand the context of the lesson in the same way.

Vermeulen states that, "What is typical for autism is not another way of thinking, but another way of subconscious information processing" (Vermeulen, 2009). This can be true when a neurodivergent student is given the lesson but other students in the classroom are loud and are disruptive, that student may have gaps in their information processing. Leaving this student to try and figure out the missing information and missing the context meaning.

Context can also be in the details of a conversation and how an individual with autism perceives that detail. Understanding sarcasm requires the ability to interpret indirect and non-literal language, recognize vocal cues, understand social context, and have a grasp of the speaker's intent (Moller, R, 2024). For example, when someone is being sarcastic, there are slight tone differences in the person's voice. However, a neurodivergent person may miss that detail as it is a context detail. Sarcasm often involves a mismatch between the literal meaning of words and the intended meaning, making it a complex form of communication to decipher (Moller, R, 2024). When the details are set so deeply in context, an individual who is neurodivergent or autistic may become elevated and become stressed or frustrated by the lack of processing of that information. Neurodivergent individuals are detail-oriented people who can recall the smallest detail of something but find it hard when context plays a significant role.

This is where the context and concept of designing wearable technology garments intertwines. Understanding that a neurodivergent child will not change as to how they process context but giving them tools to help regulate and give indicators when they miss those context details.

DESIGN LED INQUIRY

Participatory Experiments

Participatory research, in my opinion and in relation to this research, is key to finding the knowledge and the familiarization with the structures of political bureaucracies that we find within the educational system. Neurodivergent children are the focus of this thesis; however, I did not want to unnecessarily expose vulnerable individuals to the research before there was a solid foundation of primary research, designerly iteration and a finished prototype. Combined, my research at Emily Carr University over the past three years forms that key foundational research, giving way to design plans for additional research in the future that hosts participatory research with children, but not before.

Participatory research requires several components all working together, such as: participants, Research Ethics Board approval and qualitative and/or quantitative resources. When it comes to people participating in a research project or workshops, a participant must find some value in it and share an interest in the topic. They will want to know that their voice will be heard and can contribute to the process of the research. Having the Research Ethics Board approval gives the research being conducted a solid backing and that the research that is being done is following the ethics set out by the board. Lastly, defining the research of how the quantitative or qualitative will impact the participant and/or community.

Two studies done in development of this thesis were targeting education professionals through a pair of surveys. The first was called the Educators Survey, it was sent to teachers and educators, and focused more broadly on discovery of what is more common knowledge of neurodivergence in the classroom. The second survey was a follow up to determine more broadly what is common knowledge of Biometric Indicators. These surveys were conducted anonymous through SurveyMonkey.

Educator Survey

In the summer of 2023, I distributed a survey for educators and support staff. With review and approval of the Emily Carr University Research Ethics Board (REB), It was distributed through email to elementary schools in School District #34 (Abbotsford, BC), with the exclusion of one school in particular to avoid any potential bias. The decision to exclude this one school was made because my son attends this school in the district and the research needed to ensure impartial responses without any connection to him. The survey consisted of twenty questions that typically took around thirty minutes to complete. It covered various aspects related to children with autism. Upon analyzing the diverse range of responses, it became apparent that there is inconsistent training and understanding concerning neurodivergent children. The survey research showed that the gap of initial one-on-one training for teacher candidates on children with autism and/or neurodivergence, it sets the educator up with limited tools to help them in the classroom. Yes, not every child who is neurodivergent will respond the same way to a theoretical practice; however, the foundation of the practice will give that educator the tools needed to assess and address the situation. It appears that significant changes will only occur if school districts implement more comprehensive policies for educators.



Fig. 2: Educator Survey 2023

Biometric Indicator & Wearable Technology Survey

Driven by the results of the previous survey I created a second survey, distributed in late 2024 and returned in Early 2025 this survey focused on knowledge and key understandings of Biometric Indicators that can inform the design of wearable technologies. It was conceived as a wrap up and consolidation of the research and introduces the idea of wearable technology that is attuned to a child's biometric indicators.

Biometric Indicators in the context of this thesis and the survey, is a way to express the visual and non-visual cues that are indicated when a neurodivergent child becomes elevated when they are stressed or frustrated. The results from the first survey indicated there were some gaps and barriers to addressing situations with neurodivergent children. With this new knowledge from the first survey, I was able to conceptualize specific questions in relation to sensory and cognitive indicators that one might not think of when in a classroom and frame them within the biometric indicators and wearable technology concept.

The survey was set up very similar to the previous survey and was also anonymous. The survey was distributed to the full list of elementary schools in the school district #34 (Abbotsford, BC). [At the time of this survey my son was no longer in the elementary school system, so no longer had any concerns of conflict of interest or bias.] This survey had twenty questions. It introduced wearable technology in garments for neurodivergent children and how it would alert the educator of an increase or elevated stress and frustration within the child. The responses were open and showed an interest in the innovation. With any interest, there are hesitations and skepticism towards the unknown.

One emergent theme in this survey was a question of who would monitor the information gathered from the alerts and signals from the technology, would it be the parent or the educator and could this lead to imbalance in labour relations of data records or other recordings could it be used against them if action wasn't taken before the child has an outburst.

Q2 Biometric indicators are a key physical presentation when a child or individual is becoming stressed or frustrated. Please select which ones you think are biometric indicators (select all that apply and there is no wrong answer).

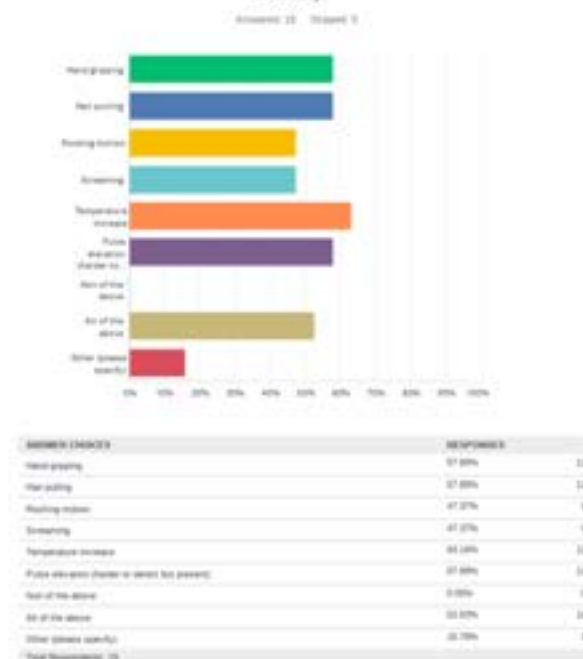


Fig. 3: Biometric Indicator Survey 2025

Survey Analysis

With the surveys conducted anonymously, participants were able to be vocal and elaborate in their answers. Many voiced their barriers and needs within the classrooms. I felt that with the survey being anonymous, these educators did not feel like they would be retaliated or outed if someone saw their answers. With the biometric indicator survey, many were interested in the innovation of wearable technology in the classroom, but training was high on the list of worries of a product like this being launched. Within both surveys, the main barrier was the need for more educational assistance and one-on-one interaction with the child. Even though it was not a topic in the surveys, it was a common response. From both surveys, there was a great deal of information given from the educators and their needs.

PROTOTYPING & EXPERIMENTATION

Refocusing my research from secondary surveys to design-led inquiry and building off of past prototyping from my undergrad collection, in garment construction and technology, I was interested in investigating the apparel industry and how it is moving towards using technology. To adequately cover all bases in the research of neurodivergent children we would have to prototype and test on every child. This is not humanly possible; however, we have to take foundational aspects and use speculative methodologies to fill in those gaps. Looking specifically at the military and the motorcycle sectors of how they integrate removable elements to meet the standards of their industry, all designs prioritize the comfort and style of the wearer. This interest in these industries, not only comes from personal experience but as well as an article of a study by Vaughn et al, called "Modulation of attention and stress with arousal: The mental and physical effects of riding a motorcycle." (Vaughn et al., 2021). This was a study funded through a grant by the Harley Davidson Company. Understanding that the motorcycle industry is far from a neurodivergent child in an elementary classroom; however, hear me out. Using similar technology they used to conduct the heart rate receptors and calculate the stress rates before, during and after an occurrence while wearing specialized gear is where I was aiming for. This study gave me the jumping point to where I wanted to conduct some of my prototyping and experiments. The advent of portable, light-weight electroencephalography (EEG) systems has opened the doors to a new era of research, fostering ecological validity and exploration of system interactions (Vaughn et al., 2021).

The one garment that was specifically focused on in the prototyping and experimentation was the armored hoodie from the motorcycle industry. This garment correlates to the elements of the wearability factors and discreteness of hidden items.

Expanding on this new research focus involves delving into the fusion of technology and components from LilyPad data boards. LilyPad was the first set of widely available electronic components specifically intended for integration with nontraditional conductive materials and garments (Hartman, K, 2014). The LilyPad components will assist in delivering a viable proof of concept through my prototyping. This entails sewing specialized conducting thread into the fabric and connecting various switch boards and lighting receivers. The experiment's main goal is to provide a proof of concept and determine if it is possible to transmit a signal from a child wearing the garment to alert an adult discreetly in a classroom. Given my limited expertise in coding and technology, creating a precise and operational prototype proved to be a challenging endeavor, making the construction process more of a design exploration.

The first stage of prototyping and experimentation started with a series of experiments and iterative prototypes over the second term of my first year in MDES. One example includes a pair of fingerless gloves with squishy balls in the palms, developed as a wearable sensory calming accessory, the next iteration on the theme was a hat with earmuff style earplugs. All the while, collating resources about autism for educators. It was a bit of a random "rabbit hole" exploration period.

The squishy ball gloves were a slight alteration to a fashionable clothing accessory. During the graduate open studio showcase, they received positive feedback, with many eager to try them on and enjoy the tactile experience. This accessory is extremely discreet and slim, making it ideal for wearing under long sleeves. It seamlessly blends in without giving away its true purpose to anyone.

An alternative prototype of the weighted jacket, with substituting the weighted beads for the squishy balls. This iteration of the jacket that was made from the capsule collection was inspired by garments that could be worn both inside and outside of the classroom. The design was made to look like a quilted puffer vest. Replacing the weighted beads with the squishy balls, enhanced the tactile sensory feeling, giving that therapeutic resource for the wearer.

This prototype was assessed by the interim Occupational Therapist in School District #34 after meeting with one of the district learning specialists in 2023. They sent pictures and information to the Occupational Therapist, who then gave the necessary conditional approval. This approval comes with similar regulations as weighted garments. The regulations include but are not limited to: the weight of the garment cannot exceed 10% of the child's total weight, easily taken off if needed, and to be monitored by either the teacher or educational assistant.



Image 9: Squishy Ball vest illustration flat. Illustrated by Jennifer Lamont



Image 10: Front View of Vest. Picture taken by Jennifer Lamont



Image 11: Back View of Vest. Picture taken by Jennifer Lamont



Image 12: Side View of Vest. Picture taken by Jennifer Lamont



Image 13: Cut out pattern pieces of Vest. Picture taken by Jennifer Lamont



Image 14: Assembly of Vest. Picture taken by Jennifer Lamont

The hat, designed with earmuff earplugs to lessen noise for neurodivergent children, fell short of meeting the design criteria because of its bulky look like an outdoor winter hat. This idea will be reconsidered later, with a possibility of exploring options in the technology industry.

The second phase of my prototyping and experimentation involved delving back into garment design and construction. Specifically, I focused on the construction of motorcycle casual armored gear. While they belong to distinct areas of garment development, the fundamental principles of incorporating elements into them are alike, which is why researching these designs is crucial. Designing a hoodie where elements can be added or removed, and interchangeable devices was the key basis for this design. This design was successful as a prototype to build upon for the next phase of prototyping and experimentation of wearable technology. The foundation of this design leaves a good place to jump off.

This sector of the apparel industry is still at a very new and innovative stage. Knowing this can still leave some outside professionals skeptical of the integration of the two industries. Something to think about how a computer is at the palm of your hand in your phone and how the idea back in 2007 was such a far-fetched concept with the invention of the iPhone.

Biometric Indicators

Biometric indicators, as mentioned above, are physical and emotional cues of stressed or frustrated children. Wearable technology enables the communication of biometric indicators to resource aids or faculty in the classroom that a neurodivergent child is becoming elevated in stress or frustrations.

What are biometric indicators and how does it apply to a neurodivergent child? When looking to define what these are, one must break it down individually and then reconnect them together.

Biometric - body movements and calculations related to human characteristics and features.

Indicators - Something that shows what a situation is like or presents.

When we put these two separate words together, we get a meaning of: body movements that show what a situation is presenting itself non-verbally. This relates perfectly as a neurodivergent child will present certain visual cues when they start to elevate in stress and/or frustration. This can present itself as hair pulling, yelling and screaming, throwing items, elevated heart rate and temperature, to name a few. Biometric indicators will present themselves differently among every neurodivergent child. Not one will be a standard among them all but there will be some commonalities. However, the thing with visual cues is that they can still be missed if they are not picked up in a timely manner, resulting in outburst or elevated aggression among the child.

If an educator is distracted while teaching their lessons and not focused on the individual child, they will miss the visual cues. This is not the fault of the educator and may also be the lack of additional training the school boards miss in their professional training courses. In the survey experiment, a common thread was that the main educator heavily relied on their educational assistance to handle a neurodivergent child as they will have the additional training to handle situations. Is this a barrier or lack of the teacher candidacy program at the university level?

Wearable Technology Prototypes

Going forward, the next phase in my prototyping and experimentation was with wearable technology and the LilyPad components.



Image 15: LilyPad components. Picture taken by Jennifer Lamont

Building off previous prototypes and replacing the elements with the LilyPad components and sewing with the conductive thread to see how this prototype could be constructed. These prototypes experimented with temperature boards, light receivers, and possibly larger flower receptors.

Constructing these prototypes, using a garment that every child is comfortable and would normally wear in a school day. Using a hoodie was where the prototyping started and using strategic placement of the LilyPad components. The first design uses a temperature sensor at the wrist and lights running up the sleeve in a decorative pattern.

When the temperature sensor heated up the lights would glow. It was simple and noninvasive. The issue with a prototype like this is that there is no real alert to the educator and could easily be missed. The second prototype was constructed with conductive fabric on the cuff of the sleeve and on the edge of the hood. When the two conductive fabrics connected through touching and/or placing the two together, they would send a signal to light up components on the sleeve or signal to an application. The cons about this prototype would be that if the child did not have the hood up or the conductive fabrics did not connect properly or even if the child did not have the biometric indicator of grabbing their hair. In theory it is a great idea but would need to be further prototyped. The third prototype was a pulse sensor located on the chest portion of the hoodie. The component was a bit trickier to get working and would need further testing and development. This prototyping would probably work best having it connected to an application to get proper readings of elevated pulse readings.



Image 16: Temperature prototype. Picture taken by Jennifer Lamont



Image 17: Heart/Pulse prototype. Picture taken by Jennifer Lamont



Image 18: Assembly of prototype. Picture taken by Jennifer Lamont



Image 19: Conductive fabric prototype. Picture taken by Jennifer Lamont

With any prototyping in garment construction, multiple renditions and revisions are needed to be conducted. With the addition of testing on multiple test subjects to see how feasible the product worked in an everyday environment. With the magnitude and limited time frame of this thesis, the process of testing on children was not feasible in this stage of research.

Adding an application that alerts educators when a child is showing signs of agitation or frustration in the classroom is crucial for the success of this prototype, alongside the LilyPad development. This app would function like a heart monitoring program where you can see mood elevation and send an alert depending on the device and software attached to the program. With the time limit left in the degree program, interface simulations will be as far as development at this stage.

When starting this process of wearable technology, I needed to know what areas of the individual's biometric indicators and where they have connections and/or placements in certain stressful situations.



Fig. 4: Applications simulations. Graphics on Canva & designed by Jennifer Lamont

Heart Monitors and Applications

Keeping on with the experimental and prototyping research, I wanted to explore the technology sector that is already out there for reading and detecting abnormalities in the body in the health sector. Focusing on monitors and detectors for heart and temperature, with application apps, and how they are detected among the body. I took four different monitors that took readings from the arm, finger, chest and wrist. These monitors are strategically placed to detect pulse rate and temperature increases in the body. Exploring these four different receptors and how placing them in these areas could increase or decrease the sensory comfort or discomfort. The monitors I used were: KardiaMobile, Powrlabs, SmartRing, and iWatch. For the purpose of this study, I was using Apple products to conduct the application connections; however, all corresponding applications are available through the Google PlayStore.

Conducting this study was done solely on myself (the researcher) and results could and most likely differ from person to person. The reason for the limited study was to start the process and to find a starting point for further research. When wearing these monitors, there were several elements that I was looking at; irritation or sensitivity, sensory reaction, connectivity to application reading, user friendly (reading results and wearability), and comfort of product long term. This experiment took place over a two-week trial (14 days) and readings were either in the morning before breakfast or evening after dinner. The reason for the difference in times was to see if the day of reading affected results and/or comfortability.

Starting the process of setting up the applications on my iPhone was very user friendly and easy to find in the AppStore. With any application download, there is a profile and/or account that needs to be in place for these applications to be downloaded. All of these applications were free of charge and did not need a monthly subscription to be activated with your devices. There were advanced options within the application to monitor and notification settings that require a subscription; however, for this experience, only the basic functions were needed for testing. Connecting the devices and monitors to the applications was almost seamless and there was no out of the norm set-ups. As long as the Bluetooth signal was on and the device was in range, the devices connected. After the initial set-up of the devices, whenever I went into the application, the device was automatically reading or connected.

KardiaMobile

The reason I chose this monitor was because it had great reviews online and easy to use. The product is not a wearable technology but a sensory product. There are two metal sensors where you put your fingers on and hold the position for thirty seconds. The device is connected to the application and will show you in real time your heart rate (BPM) and count you down until the reading is complete. In this application it will track and compare your previous results and chart them.

Connecting this device to the overall thesis, comes from the prototyping of the connective and conductive fabrics and how touch of these elements can detect certain elevations in heart rates or temperatures. Having a sensor like this in a garment could be helpful to see and track commonalities throughout the day.



Fig 5: KardiaMobile app display of Jennifer Lamont's heart rate
Due to copyright/licensing restrictions image has been removed.

Powrllabs

The Powrllabs monitoring device was one that I was looking forward to testing out. It was placed around the chest, just below the bust area. The device was light in weight and the elastic band was soft and flexible. It did not irritate any of my senses and after a while I forgot I even had it on. It was hidden beneath my clothing and didn't expose that I was wearing anything to anyone.

With my pectus excavatum of my chest, I was a bit worried that this monitor might not be as effective as the other monitors in this study. Situating the reading sensor I did have to place it a bit to the left (where the heart sits) to get a clearer reading. If I had the sensor placed center front, the signal would be spotty and didn't always read strongly. With that being said, this device was easy to use and very comfortable under my clothing.

Incorporating this style of device to wearable technology in garments for children, this device would be a great snap-in or insert to an existing garment. The one pitfall of this device is its sensitivity and accuracy when in use. If the device is not close in range to the application or if the device slips out of place on the body, readings may not be accurate.

SmartRing

The SmartRing for this experiment was an inexpensive version of the well known health ring that is advertised these days on tv. I chose this model as I did not need a subscription to use basic functions, unlike the well known brand. Knowing your ring size is needed when ordering this ring and even if you are slightly larger than the full numbered ring size (eg. 7 1/4) you need to go up in size. I went down to the size 7 and it was a bit snug and when my fingers were swollen in the mornings it was slightly uncomfortable.

The interface of the application was simple and easy to use. It also detected sleep patterns, O2 saturation and feminine monthly cycles. This application also keeps track of previous results, giving graphs and commonalities of the results.

Connecting this device with the thesis at hand, I would say that there would be a lot of good elements to draw upon; however, getting a child under a certain age to wear

jewelry might be a bit difficult if they are not used to it. There could also be an element of them losing it if it is not the correct size.

Apple iWatch

The Apple iWatch is one of the most known and possibly the most popular in health related detective monitor devices (in my opinion). For this reason, it was a natural choice to bring it into the experiment study. Pairing this watch to an iPhone is almost automatic as there is already a built-in default application on the phone and with your Apple account it sets up pretty seamlessly. This is one nice feature having all the same platform such as Apple or even all android, they will sync up with your devices without having to do a full initial set up.

With the Apple devices, there are two different applications that you can draw upon. One is the actual fitness app, that reads heart rate, steps per day and calories. You can set up daily goals and see commonalities for previous days or results. The interface is simple and fairly easy to use and read. The other application on the iPhone is the Health app. This application is a bit more complex in the way you get your results; however, one feature I really liked from it was that it could pull the results from the other application (KardiaMobile, PowrLabs, & SmartRing) and compare the results. You could see similarities and discrepancies from the different devices.

Analysis

The integration of artificial intelligence (AI) into mobile technology has marked a pivotal shift in how users interact with their devices and the overall functionality of mobile applications (Muthineni, S., 2024). This synergy between AI and mobile platforms has led to significant improvements in areas such as user experience, application performance, and the ability of devices to adapt and respond in real-time to user needs (Muthineni, S., 2024).

All four devices had their pros and cons and some were better suited for children and the dynamics of this thesis. This experiment gave me a path to what and where placement of technology within a garment should be, and what kind of application might be conducive to an educator getting the appropriate information about a child.



Image 20 iWatch worn by Jennifer Lamont. Picture taken by Jennifer Lamont

From this experiment, placement of sensory components were best suited to be located at the wrist where the cuff of a sleeve, around the chest close to the location of the heart and as jewelry on the fingers. When looking at the actual devices of the monitor, one has to think about the physical aspect of a child and how they will respond to having a device on their body. Will they wear it just like any other garment or accessory or will they find it cumbersome and take it off the right way. Not one thing will work for all children but having multiple options within a single garment and or devices that can be removed and replaced within a garment might be the way to go.

RECOMMENDATIONS

The analysis of the research that came from this thesis uncovered many obstacles and barriers, within the educational system and therapeutic devices for self-regulation for neurodivergent children. Looking at my initial thesis question: "Is it possible to incorporate wearable technology, specifically created for neurodivergent children to aid in self-regulation, into the existing educational system?", it is clear that there are possibilities of incorporation.

Within the results of the two surveys, a common request was to have more educational assistants. This was not a topic within the parameters of my research but it is clear that it is an obstacle within the educational system. With the growing numbers of children who are designated under the neurodivergent umbrella, this request would be the first recommendation the educational system needs to address. Without the additional personnel resources to help the educators in their classrooms, no technology assistance will adequately be monitored. This would result in the lack of effectiveness of the technology present within this thesis.

The next recommendation this research presented is wearable technology and how it can be a tool to help assist educators with identifying students who are in an elevated state of stress and or frustration. Within the parameters of this research, it presented itself as an innovative concept and would need the assistance of training and support for the educators. As the technology improves, additional training and updated support will be needed for continuous participation. The additional training through professional days provided by the school districts as well as workshops hosted by industry experts.

Thirdly, designing wearable technology requires multiple industries to collaborate to make an effective sensory adaptation garment that will provide the necessary alert system without disrupting the classroom. The alert system programmed to a smart watch or computer platform through a vibrating notification was the common census within the surveys. This platform or system needed to be transferable to selected instructors/educators when a student moves throughout the day to different classes.

These recommendations are a summary of the overall research conducted from informational gathering sessions, surveys, data analysis and peer reviewed articles.

CONCLUSION

The research that has been conducted in support of this thesis has finished however, it will continue to be one of many stepping stones to innovative and life changing resources for children with neurodivergence. When organizing the primary and secondary research, I had to look at the different barriers and obstacles that neurodivergent children face and how their therapeutic therapies are pivotal to their learning environment.

There are triangular group links that need to fit all aspects to work together. This consists of the family, educators, and health professionals' dynamics. When one area is lacking in resources or knowledge, the others are left struggling to keep the child's everyday self-regulation to societal norms.

Developing clothing that can assist with a neurodivergent child's self-regulation gives all elements of the triangle groups the power to assist with critical cues or even detect elevation levels before it gets to a point where the child is unresponsive with their outbursts. That may consist of garments with therapeutic devices built in such as fidget, pop-its, squishy balls, or even weighted beads. Wearable technology can detect elevation levels and provide a notification alert to the attending facilitators, family or host adults in the room. These items would give the educational experience in a classroom more of an inclusive and prosperous learning environment. The deliverables in this research may or may not be for every child who meets these needs but the option of having them is important.

The interdisciplinary design of this research requires multiple areas of different industries to participate. My goal is a viable concept to bring to development and prototype for development with neurodivergent children in and through co-creation and collaboration. Children are the future and having resource tools that enable them to succeed is also in their future.

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IMAGES & FIGURES

Image 1: Squishy Ball Vest Picture taken by Jennifer Lamont

Image 2: Squishy Ball Vest Picture taken by Jennifer Lamont

Image 3: Capsule Collection, Picture taken by Jennifer Lamont

Image 4: Wearable technology prototype, Picture taken by Jennifer Lamont

Image 5: Family photo of Jennifer and her son, Picture taken by Jennifer Lamont

Image 6 : Capsule Collection, Picture taken by Jennifer Lamont

Image 7: Capsule Collection, Picture taken by Jennifer Lamont

Image 8: Capsule Collection, Picture taken by Jennifer Lamont

Image 9: Squishy Ball Vest Illustration flat, Illustrated by Jennifer Lamont

Image 10: Front View of Vest, Picture taken by Jennifer Lamont

Image 11: Back View of Vest, Picture taken by Jennifer Lamont

Image 12: Side View of Vest, Picture taken by Jennifer Lamont

Image 13: Cut out pattern pieces of Vest, Picture taken by Jennifer Lamont

Image 14: Assembly of Vest, Picture taken by Jennifer Lamont

Image 15: LilyPad components, Picture taken by Jennifer Lamont

Image 16: Temperature prototype, Picture taken by Jennifer Lamont

Image 17: Heart/Pulse prototype, Picture taken by Jennifer Lamont

Image 18 Assembly of prototype, Picture taken by Jennifer Lamont

Image 19: Conductive fabric prototype, Picture taken by Jennifer Lamont

Image 20: iWatch worn by Jennifer Lamont, Picture taken by Jennifer Lamont

IMAGES & FIGURES

Fig.1: Triangular Team, Designed & configured by Jennifer Lamont

Fig.2: Educator Survey 2023, Survey Monkey platform

Fig.3: Biometric Indicator Survey 2025, Survey Monkey platform

Fig.4: Applications simulations. Free Graphics on Canva.com & configured by Jennifer Lamont

Fig.5: KardiaMobile app, ECG display of Jennifer Lamont's heart rate, 2025

APPENDICES

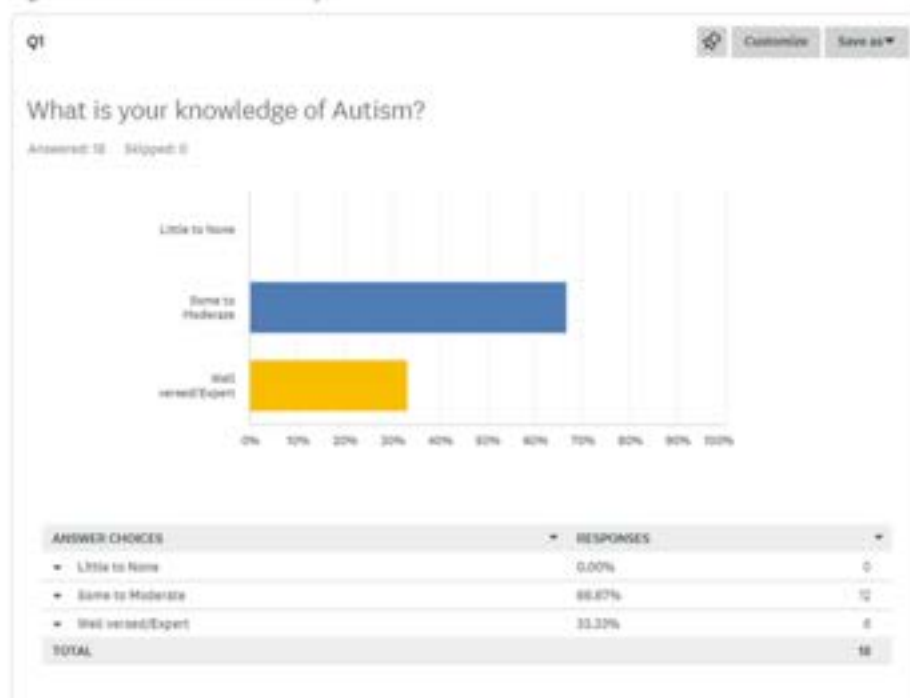
- i) Educator Survey summary
- ii) Biometric Indicator Survey Summary
- iii) Prototype Style Cards (squishy Ball Vest)
- iv) Prototype Style Cards (Temperature Hoodie)

D EDUCATOR SURVEY SUMMARY



RESPONDENTS 10 of 10

Page 1: Informed Consent for On-Line Surveys



Q2 Do you feel that educators (teachers, support staff and administrators) are fully neurodivergent trained to care for a child with Autism? Why/why not?

Answered: 10 Skipped: 0

#	RESPONSES	DATE
1	It depends on the professional's role. EAs tend to get more education on ASD than classroom teachers (CT). If a CT has a student with ASD in their class, then they tend to take an interest and they do numerous workshops and associated research on their own time.	6/20/2023 5:15 PM
2	I am not sure	6/20/2023 8:23 AM
3	Not unless they have chosen to further educate themselves.	6/19/2023 8:17 AM
4	Some. Like many professions, to be certified as an educator a person demonstrates a proficiency level that is deemed criteria to go into the profession. They do not have the ability to learn all things to the fullest "Tully" in order to begin the profession. This includes training of neurodivergent. Every child with ASD is different and thus as educators we gain skills and strategies to work with students with ASD. However, there is access to helping teachers and POPARD and other supports to gain knowledge to support the students we educate. Teacher need to be life long learners.	6/18/2023 10:32 PM
5	No. I wish it was mandatory for all teachers to take a least one pro d day, if not more, on autism.	6/18/2023 9:51 PM
6	no. Training is dependent on the individual and what they choose to learn.	6/18/2023 5:06 PM
7	I don't think we are neurodivergent trained to care for a child with autism. The spectrum for Autism is so vast and it makes it impossible to know how to deal with each child and meet their needs.	6/18/2023 5:06 PM

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8	Some are outstanding, it really depends on experience in the role and making good choice in professional development.	6/18/2023 2:37 PM
9	No. The autism spectrum is vast and I don't feel that enough education is provided to us. In depth courses need to be provided at the beginning of the year and not after school on teachers personal time.	6/18/2023 12:29 PM
10	No. There is not sufficient training during PDP at SFU (or any other teacher training program, from what I've heard). There is more training you can choose to take since you are a district employee, including programs through POPARD.	6/18/2023 11:32 AM
11	No, not unless they seek it out themselves.	6/18/2023 11:25 AM
12	This is a difficult question. I think it all depends on the child. Every child is different and their needs are extremely varied. I have had autistic children who need little to no support. On the other end, I have had autistic children in my class who are undiagnosed and I have no EA support and it's extremely difficult to help them as well as my other 25+ students. I currently work in an inner city school which has high behavioural needs. I think the issue here is not enough support to help our neurodivergent students. One on one support. I feel as though I have the compassion and understanding to work with my autistic students. What I don't have, is the time and the ability to give my resources. I need help.	6/18/2023 10:47 AM
13	No they are not. They don't get practical or theoretical knowledge of Autism.	6/18/2023 10:13 AM
14	No. Many of us received little to no training about neurodivergence before becoming teachers. That said, we've learned with our students how to better meet their needs. Some of us have also gone to additional professional development training to learn more, but not all.	6/18/2023 9:40 AM
15	Yes. To a degree but autism differs so much from person to person. So a teacher shouldn't approach an individual with an umbrella approach. What is characteristic of one may not be the same for another.	6/18/2023 9:24 AM
16	Absolutely not.	6/18/2023 9:06 AM
17	No I do not. Given the short timespan of most teaching programs in B.C. (11-16 months), and the enormity of what teaching candidates must learn in that time, there simply is not enough time allocated to learning about neurodiversity and how to support students who are neurodivergent. Additionally, I have seen very few Professional Development opportunities through my school district and/or my union on supporting students with Autism or Neurodivergence.	6/18/2023 8:59 AM
18	It is inconsistent. Some know and some do not.	6/18/2023 8:51 AM

Q3 Do you feel that educators have adequate one-on-one training with children with autism before teaching in the classrooms? If so, why?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	No. Every student with ASD is unique so what would be the point of having training with one child?	6/20/2023 5:15 PM
2	No.	6/20/2023 8:23 AM
3	The courses offered in post-secondary are limited unless you choose to specialize.	6/19/2023 8:17 AM
4	No. Define "adequate." ASD is not a one size fits all, it is a spectrum. An educator requires an understanding, how to build an inclusive environment that is student centered and then learn about each child's needs in their class. What works for one child with ASD may not work for another child. So you could have one on one training with a student with autism but that does not mean you understand how to work with all children with autism.	6/18/2023 10:32 PM
5	No.	6/18/2023 8:51 PM
6	Yes, if you do the leg work yourself to find workshops, individuals, or literature to educate yourself.	6/18/2023 5:06 PM
7	No. Usually children with autism are put into a class and we don't find out until right before school starts who will be in our classes for the year. It doesn't allow for us to get to know the child beforehand or figure out their needs.	6/18/2023 5:06 PM
8	Not often, unless they have participated in Popard training. Even then each child can be so different.	6/18/2023 2:37 PM
9	No.	6/18/2023 12:29 PM
10	Only if they seek it out themselves. There doesn't seem to be a standard of training. But that's like most disorders or disabilities - it's basically on the job training once you have the student in your class.	6/18/2023 11:32 AM
11	No. There is no mandatory training for any teachers on autism in BC.	6/18/2023 11:25 AM
12	We don't receive training as teachers as far as I know. Maybe if you are LSS?	6/18/2023 10:47 AM
13	No Lack of time?	6/18/2023 10:13 AM
14	No. This type of training is not currently part of the teacher training and certification programs. Nor is it a necessary prerequisite for entering such programs.	6/18/2023 9:40 AM
15	I think there should be individual understanding of each child and trained based on that one child.	6/18/2023 9:24 AM

16	No	6/18/2023 9:08 AM
17	No I do not. Most educators have very little knowledge and training when it comes to supporting children with autism. The ugly reality is that teachers are stretched very thin these days and resources available in schools have been greatly reduced over the years (we can thank the B.C. Liberals and Christy Clark for that).	6/18/2023 8:59 AM
18	No they do not, but the opportunity is available to be trained. Many choose other professional development topics to become trained in.	6/18/2023 8:51 AM

Q4 Would you feel that a specialized practicum with children with autism is needed to effectively handle in class situations? Why or why not?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	It would help expose teachers and EAs to someone with autism but what works with one child doesn't work with all children with autism. Each child is truly unique and there is no substitution for experience.	6/20/2023 5:15 PM
2	Yes because I am seeing more and more students coming with autism and/or other learning disorders and I am not trained in it.	6/20/2023 5:23 AM
3	Yes, I do. Children with Autism function and are successful in the classroom in ways that typically developing children are not. Every child with Autism is different.	6/19/2023 8:17 AM
4	In my experience, most classrooms has a child with autism. This, most educators have a exposure to a child with autism. Practicums are reflections of true populations. More emphasis on inclusive practices and UDL is needed. So if there is a specialized practicum for ASD, then what about FASD, chronic health conditions, deaf and blind students. We need to move beyond the thought there is a "typical" learner and all children require some kind of supports. Specialized practicums just for ASD seems like "othering" - this is how to teach all kids and this is how to teach kids with ASD.	6/18/2023 10:30 PM
5	Yes, absolutely!	6/18/2023 8:51 PM
6	Yes, as it would provide more general information while learning more about the individual.	6/18/2023 5:06 PM
7	Yes and no. Sometimes the needs are so vast that even if trained, a child with autism may present differently from how you were trained.	6/18/2023 5:06 PM
8	Yes, I work in classrooms where there are often 4-5 students with Autism and if staff don't have adequate training those students can be left out of learning opportunities.	6/18/2023 2:37 PM
9	I am not sure as there are also so many other disabilities teachers face.	6/18/2023 12:29 PM
10	I think an all-over specialized course or practicum with students with myriad disabilities would be a good idea.	6/18/2023 11:30 AM
11	I don't think a specialized practicum is the answer unless you are in learning support services, but definitely some mandatory training within the university teaching programs. Autism is more and more prevalent in classrooms. Chances are, during your teaching career, you will teach many children with autism.	6/18/2023 11:25 AM
12	I think that there needs to be more talk and experience with behavioural/autistic/neurodivergent children. Schools are now pushing full inclusion which has many positives, but not if the education system is not going to supply EA's to work with those children one on one. The amount of behaviour and high needs arising in some of the classrooms is now taking away teaching time. I am spending more time preventing students from hurting others/themselves, wrecking the classroom, physically attacking me, then teaching right now. How do we teach that in a practicum? We need more support.	6/18/2023 10:47 AM
13	Specialized practicum within PDP would help	6/18/2023 10:13 AM
14	Yes, I believe this would be very helpful and should be integrated into all teacher training programs.	6/18/2023 9:40 AM
15	No. Autistic children vary so much. You can't be trained with one person and expect the same response with a different child. The class is so diverse.	6/18/2023 9:24 AM
16	Yes. Practical, hands on experience is the only way to learn. You can't gain experience through a text book.	6/18/2023 9:08 AM
17	I think this would be a huge benefit to teachers. Fostering a classroom environment that is welcoming and safe for neurodivergent students will benefit ALL students in the classroom.	6/18/2023 8:58 AM
18	Yes Kids with spectrum disorder are the most difficult children to teach.	6/18/2023 8:51 AM



Q6 Consider the following hypothetical situation and how you might respond. A student with autism is becoming elevated/frustrated due to another student calling him/her names (teasing them). The teacher sees the student becoming elevated but chooses to continue with the activity they are about to present. As the teacher proceeds to give the activity out to each student, the child with autism screams and rips the activity up and throwing things and accidentally hits another student with an item that was thrown. Please describe how you would have defused the situation or what the teacher should have done?

Answered: 10 Skipped: 0

#	RESPONSES	DATE
1	The following example would be appropriate for an elementary-school aged child. First, the negative behaviour shouldn't have been allowed to continue. The student who was teasing needed a negative consequence for that behaviour and that would have stopped the situation from escalating. Second, the child with ASD now needs time and space by themselves. They need to self-regulate on their own in the quiet. Talking to them won't help, they need to be quiet and left to think and breathe. A therapy dog or cat might help, colouring/drawing, Lego, etc. Lastly, an apology needs to be given to the student with ASD. That kid would know the rule that if you do something mean to someone you have to apologize and they would be expecting the apology.	6/20/2023 5:15 PM
2	The teacher should have given the student with autism a break as soon as they saw him/her getting elevated. The teacher could also do a whole class lesson to make other students aware of autism too.	6/20/2023 8:23 AM
3	Stop what they are doing, support the child, and call for some support. If escalation continued, evacuate the classroom.	6/18/2023 8:17 AM
4	I would address the name calling as that is creating an unsafe space and the words are harming a child. All children deserve dignity over the lesson I am about to teach. If I missed the name calling and the child with autism ripped the paper, the goal would be to regulate the child, once regulated inquire what had provoked or precipitated the ripping of the paper. Validated their feelings of being called names is not kind and they had a right to be upset or angry. Then support them to problem solve for next time somebody calls them names 1. Ask the student to stop 2. Ask for help from an adult 3. Ask to take a break. There would be a follow up conversation with the student about calling names of another student with restoration a goal of that conversation.	6/18/2023 10:32 PM
5	Spoken to both kids before the blowup happened, asked the one to stop being rude.	6/18/2023 8:51 PM

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6	Firstly, I feel the teacher needs to put their agenda on the shelf and deal with the children in front of them and their needs. The children teasing another student (autism or not) need to be addressed. Teaching young children, I would use this as a modeling teaching time, verbalizing the thoughts in my head as I physically approached the children who were teasing. "Oh, I don't like it when people tease me. I know I can get frustrated and sad. It can make me more self-conscious around other people as it happens." etc... I would hope that as I physically approach the teasers they would stop and I could speak with them later.	6/18/2023 5:06 PM
7	In a perfect world, if I saw a child becoming elevated, I would give the child a break with an EA... unfortunately, the support given for these children in school is minimal and it may not be an option.	6/18/2023 5:06 PM
8	As an ea I would be mindful of situations that might trigger my student and intervene before the student escalates to that degree. The teacher should have dealt with the name calling before the assignment was handed out. Valuing the students need.	6/18/2023 2:37 PM
9	I think the teacher should have immediately stopped handing out papers and ask the bully child to meet them in the hall. Then the teacher could help regulate the child with autism. If the child with autism kept escalating, then ask an EA to take the child to a calm down room. The teacher must address the child who was being mean next.	6/18/2023 12:29 PM
10	The teacher should have intervened at the first sign of frustration. Offering a break, a seat change, and quickly handling the disrespectful student. Now that the upset child has lashed out with frustration, they should NOT get in trouble, but instead be removed to a calm area to de-escalate.	6/18/2023 11:32 AM
11	In an ideal world, there would be a teaching assistant in the room who could see the ASD child escalating and intervene.	6/18/2023 11:25 AM
12	I would have approached my autistic student. Found out what was bothering them. Figured out what they usually need to calm down. Maybe it's a break, noise cancelling headphones, time to lay down on the big mat etc. If I was too late and the student had already escalated I would get them out of the room or get the rest of the class out of the room, so either group is safe and doesn't get hurt.	6/18/2023 10:47 AM
13	Deescalate the situation earlier by separating students	6/18/2023 10:13 AM
14	When the teacher first noticed the teasing, it should have been addressed and stopped. When the teacher first noticed the child with autism begin to get elevated, would have been a great time to check in with that student and see what they needed (a break, space, headphones, etc. In this case likely a break and space from the other student). Doing both those things would have likely avoided the meltdown that followed. If not, the teacher would need to check on injured children first (including the child with autism). It would be important at this point to approach calmly, with empathy and without blame to help co-regulate and de-escalate the child.	6/18/2023 9:40 AM
15	As soon as the teacher sees the autistic kid being agitated, the teacher should diffuse the situation. The teacher should step in. The focus shouldn't be on the activity. The teacher needs to switch their priorities to calm the situation before it escalates. The student calling names should be addressed right away taking back control of the class. The teacher should then give the autistic kid whatever space is needed to calm themselves down and help them gain control of their thoughts/actions	6/18/2023 9:34 AM
16	Copregulate with the child who is becoming dysregulated while the rest of the class engages in an independent task (whether it be that currently being taught or reading quietly). Once student is regulated enough to talk about what is bothering them, address issue with other student's involved and then have a class discussion about what occurred and how to support the situation themselves	6/18/2023 9:08 AM
17	I think the teacher should have stopped, acknowledged the hurt and frustration that this child was feeling and helped them with regulation strategies. Students should not be expected to complete work until they are regulated.	6/18/2023 8:59 AM
18	Pre planning and adapting. If pre planning and adapting was already in place then I would have stopped the lesson and redirected the seating arrangement.	6/18/2023 8:51 AM

Q7 In your opinion, do you believe that IEP's (Individual Education Plans) are effective? Why or why not?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	YES! They communicate where a student is at in their learning and they tell current goals.	6/20/2023 5:15 PM
2	Yes, it gives everyone the goals and needs of that specific student. It also ensures consistency in language and assistance.	6/20/2023 8:23 AM
3	Yes, they help to outline where the child is at with their education/social skills and emphasize what they are working on.	6/19/2023 8:17 AM
4	Often not. Many factors. LSS teachers have too large of caseloads, and are often required to fulfill teacher shortages in the school to write and assess meaningful IEPs that are reflective of the student. There is not enough student voice in the IEP. Often is not asset based approach. The IEPs need to be active living breathing documents that can be up dated to meet the needs of the student - this requires more communication and planning time between EAs - teachers - and LSS. IEP are long and cumbersome by design.	6/18/2023 10:32 PM
5	Yes, ish. Sometimes feel a little pointless, or that we're working on an unrealistic goal.	6/18/2023 8:51 PM
6	They are effective if a teacher chooses to use them, remember them, refer to them often. They are not effective if they are provided at the beginning of the year and never seen/read again until reporting periods.	6/18/2023 5:06 PM
7	I like the idea of the new IEP "I can" statements but there isn't enough support staff to help follow through on learning goals.	6/18/2023 5:06 PM

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8	Only if they are followed adequately. Being able to adapt and modify assignment expectations can show learning and progress with out the student becoming overwhelmed.	6/18/2023 2:37 PM
9	Not really because we often don't have the support in the class to meet the IEP goals.	6/18/2023 12:29 PM
10	I feel the intention is good, but so often teachers (especially in middle school and high school) don't familiarize themselves well enough or follow through on the recommendations outlined in the IEP.	6/18/2023 11:32 AM
11	They are only as effective as the case manager makes them to be. It's the case manager meets with the parents and school team, creates realistic goals and tracks those goals then it is effective. At the very least, it's illegal document that can flag the child from year to year and show what their needs are.	6/18/2023 11:25 AM
12	I do think they are. I think the ministry is trying it's hardest to make them more difficult to assign to children so that they don't have to pay money for more EA support. It's always about money. We have so many children who need more adult supervision and help and teachers can not do it by themselves. The amount of behaviour is rising and it's physical, verbal and starting in kindergarten.	6/18/2023 10:47 AM
13	They can be but I have seen them be something to just "get done". There need to be input from all who work with child	6/18/2023 10:13 AM
14	Sometimes they are, but often they are too vague to be fully effective that or they have too many goals which are impossible to track or implement in the classroom without extra support (which is often not given).	6/18/2023 9:40 AM
15	Not at all. Waste of time. Too much time is put into the report for administrative purposes and not into the student. It's money taking away from the student. That time/money is needed for the kid.	6/18/2023 9:24 AM
16	No. Little time is spent implementing them and/or assessing progress. In my exper Few teachers or SEAs/EAs truly know what a child's goals are. And a child at the elementary level may not know why they have an IEP and/or why they have individual goals. It's changing but still a long way to go.	6/18/2023 9:08 AM
17	I wish they were. In my district we have had so many cuts to resources and supports. Teachers, EAs, Learning Support Teachers are stretched so thin. There simply are not enough resources getting into schools that allow staff to effectively meet IEP goals. In my school for example, we have no learning support because our LSS teacher is trying to support a school of 400+ students and there is only ONE LSS position. In a school of 400+ students we only have 6 EAs and the district is refusing to give more support.	6/18/2023 8:59 AM
18	Yes it is the only way to direct teachers to adapt to student needs. I am a principal.	6/18/2023 8:51 AM

Q8 How often should IEP's be reviewed in your opinion?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	Once a year. Goals don't progress so quickly that reviews need to happen more frequently.	6/20/2023 9:15 PM
2	3 times a year	6/20/2023 8:23 AM
3	Every term.	6/19/2023 8:17 AM
4	Monthly. Short goals that are broken down into manageable steps. To see growth. To see the growth in a variety of settings.	6/18/2023 10:32 PM
5	3 times a year	6/18/2023 8:51 PM
6	By a teacher? Weekly	6/18/2023 5:06 PM
7	We review them three times per year... usually around the reporting period.	6/18/2023 5:06 PM
8	Every two months	6/18/2023 2:37 PM
9	Every 6-8 weeks if needed. Sooner if the teacher and/or child is having difficulty meeting the goals and longer if things are running smoothly.	6/18/2023 12:29 PM
10	The teacher should be checking it regularly, and making notes or checklists to ensure they are following it. Once each term seems to be working for formal reviews.	6/18/2023 11:32 AM
11	In an ideal world, it's a living document that should be revisited monthly. In reality it's created in September and updated each term. It is unrealistic to ask teachers to provide data for all those goals. Everybody is short staffed.	6/18/2023 11:25 AM
12	Every term.	6/18/2023 10:47 AM
13	2x a year	6/18/2023 10:13 AM
14	A minimum of each reporting period.	6/18/2023 9:40 AM
15	Twice per school year. Once at the beginning with the new teacher and then at the end of the year.	6/18/2023 9:24 AM
16	Informally- as often as a teacher would review the learning of every student. Formally, 3 times a year (twice with parents and a third time with school staff)	6/18/2023 9:08 AM
17	Much more frequently than they are currently. In my district we review them about 3-4x a year. I think a better system would be a weekly review and check in with the team, but again resources are limited and districts are more concerned with cutting costs and expanding administrative positions than they are with student success.	6/18/2023 8:59 AM
18	Every term and it should be regularly adjusted as situations come up.	6/18/2023 8:51 AM

Q9 In your opinion, should IEP's be audited by the school district to insure the student plan is enforced?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	Auditing IEPs wouldn't ensure that the strategies are being used. Teachers in BC have teacher autonomy—no one can tell them how to teach, not even teachers who write IEPs. IEPs are written to help teachers without experience know the direction they should head in. Experienced teachers may use different strategies to achieve the same goal. Then, the IEP should be amended to match the teacher's methodology.	6/20/2023 5:15 PM
2	No	6/20/2023 8:23 AM
3	No, the school staff know the children best.	6/19/2023 8:17 AM
4	Yes	6/18/2023 10:32 PM
5	I don't think that's really necessary	6/18/2023 8:51 PM
6	Auditing does not help the child with the IEP or the teacher working with the IEP. I believe there could be better ways of support and encouragement.	6/18/2023 5:06 PM
7	There's not enough support staff nor teacher time to enforce IEPs.	6/18/2023 5:06 PM
8	I believe this should a principles role	6/18/2023 2:37 PM
9	No. It should be managed by the principal to see if the LSS teacher is managing the IEPs.	6/18/2023 12:29 PM
10	I think they should be followed closely by admin. Having someone at the school district who doesn't know the child weighing in and policing the IEP seems counterintuitive and potentially damaging to the trajectory of the plan	6/18/2023 11:32 AM
11	No one has time for that, even though it would be a good idea. The Ministry of Education has not provided funds for this.	6/18/2023 11:25 AM
12	I think the district is auditing them to try to eliminate the amount of IEPs.	6/18/2023 10:47 AM
13	No. Educators want what's best for children and don't need policing	6/18/2023 10:13 AM
14	Yes, accountability is important. That said, the district needs to ensure proper supports like EAs are in place if they expect the student plans to be fully enforced.	6/18/2023 9:40 AM
15	No. Cause if they're audited there will be less time/money laid for the student. Administration will require even more paper work taking time/aid away from the student. What needs to be insured is that if money is allocated for a kids designation then that should be out towards the actual student. NOT divided within the district to the most needy. What's happening now is that 'Joe' is designated autistic and because there is another student in another school 'needer' Joe's money will go to that kid and Joe won't receive any aid. SO that is what needs to be audited. Insuring the individual receives the help required and not put into a district formula.	6/18/2023 9:24 AM
16	Provincial audits occur. District staff should be checking in, but full audits are a lot of work with little benefit.	6/18/2023 9:08 AM
17	Yes absolutely	6/18/2023 8:59 AM
18	That is the principal's job and we are questioned regularly with required evidence. We are also already audited.	6/18/2023 8:51 AM

Q10 Do you think an IEP should be completely redone every review time or do you think just copy and paste plans are the more effective ways to meet the goals of the child? Explain?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	There is no need for all the goals to be redone every year. Often, goals are ongoing and strategies can be updated as the child matures.	6/20/2023 5:15 PM
2	I think a combination of both. Students are working towards specific goals which in my opinion stay similar throughout a school year. They may be changed, but a child's needs and environment stay consistent.	6/20/2023 8:23 AM
3	Review- things change so often.	6/19/2023 8:17 AM
4	Students are individuals - if the plans are reflective of the student there are no need to write the whole thing. A "copy and paste" approach makes it sound like it's a one size fits all approach. Your question are creating dichotomies which does not reflect the nuanced nature of planning for students effectively and are leading people to pick a this or that answer. I don't agree with either answer.	6/18/2023 10:32 PM
5	It should be reevaluated each time it's looked at, to determine if the goals are doable, and being achieved.	6/18/2023 8:51 PM
6	It depends on the needs of the child. Some goals are year long. Other when met should, in my opinion, be adjusted increasing the skills of the child.	6/18/2023 5:06 PM
7	They should be completely redone but unfortunately there is no time and most times they are copy and pasted.	6/18/2023 5:06 PM
8	I think modifying them based on the students needs and progress not necessarily completely redone.	6/18/2023 2:37 PM

9	If goals are met then new ones should be added while still working on previous goals so they are maintained. If the goals need to be adjusted then they need to be rewritten.	6/18/2023 12:29 PM
10	I think areas that are achieved or in achievable should be redone. Goals that are in process should stay on the report.	6/18/2023 11:32 AM
11	Completely redone every September. The child grows and changes, it's a new teacher, a new learning environment and they may need new objectives. My district completely erases all the IEPs in June and we are forced to start over.	6/18/2023 11:25 AM
12	No it doesn't need to be redone all the time. What's important is that the child has the piece of paper that says they need support and are actually qualifying for EA support.	6/18/2023 10:47 AM
13	Have only ever seen copy and paste. Sometimes very little changes with a child.	6/18/2023 10:13 AM
14	I think each goal should be looked at and discussed each time. If the child has met those goals, or they are too difficult to meet in the classroom environment, new, more achievable goals should be created. Sometimes those goals can be copied and pasted, sometimes they can't. It depends on each case.	6/18/2023 9:40 AM
15	Copy and paste. It allows more resources to stay with the kid.	6/18/2023 9:24 AM
16	Interviewing the child to hear their views on improvement and their areas of needed growth will provide much insight into when revisions are necessary. If goals aren't being met in a reasonable amount of time, they aren't good goals.	6/18/2023 9:08 AM
17	I think all goals should be looked at to see if they still fit. Some goals will stay the same, but they should all be looked at.	6/18/2023 8:58 AM
18	Copy and paste with changes.	6/18/2023 8:51 AM

Q11 Would you support a non-colonial way of learning in the classroom. This could be learning through storytelling, how the classroom is displayed/furniture arrangement or teaching practices? Explain your answer.

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	Yes, though I disagree that current models are necessarily "colonial". There are so many teachers not teaching with directed lecture now that this top-down model of "I talk—you listen" is not current.	6/20/2023 5:15 PM
2	I am not familiar enough with non-colonial ways of teaching to have an opinion which is more effective.	6/20/2023 8:23 AM
3	Yes!	6/19/2023 8:17 AM
4	This is how I educate. Student centered, equity and inclusive lens, student voice and choice, culturally sustaining pedagogy. Who are the diverse students before me and how can I support them? However, budgets impact how much a teacher can change and implement in their class. Lighting, differentiated seating, active zones, quiet zones, sensory regulating tools and strategies, differentiated practice and assessment, providing representation through literature, visuals and activities for all students, outdoor learning are a few strategies that support students with ASD and all learners. Expecting kids to sit in a desk all day, remaining quiet while having the students seek one correct answer or "colonial education" is not a reality.	6/18/2023 10:32 PM
5	Yes, but I don't have epic ideas of how to accomplish this!	6/18/2023 8:51 PM
6	I would support how a teacher would best support and connect with their students and the needs of all of the students in their class.	6/18/2023 5:06 PM
7	Yes. I think there is a huge need for non traditional ways of learning. We have such a wide range of students coming into our classrooms and the way the school system is set up, it does not meet the needs of every child. There has to be a better system then what we have right now.	6/18/2023 5:06 PM
8	Yes. There are many impactful ways of learning that colonial style learning can miss that would serve diverse students well.	6/18/2023 2:37 PM
9	Yes. I have tried flexible seating in my classroom and I am always open to hear other ideas to help meet the needs of all of my students.	6/18/2023 12:29 PM
10	I don't understand the question. But I am always willing to learn new strategies and methods to best meet my students' needs.	6/18/2023 11:32 AM
11	Maybe. Depends on grade and abilities. If you're thinking this is an answer for inclusion, it's not.	6/18/2023 11:25 AM
12	Lots of us do this already. We have flexible seating, learn outside. I'm constantly sharing stories about my life to the kids. Sharing my life is what helps them learn and gives us a relationship and trust.	6/18/2023 10:47 AM
13	Yes. This is being done.	6/18/2023 10:13 AM
14	Absolutely. I think adjusting the teaching environment to meet the needs of the students is ideal. That said, such things are not always possible depending on where you are and what rules are in place at the administrative and district levels.	6/18/2023 9:40 AM
15	I'm sick of that language. "Colonial" Please focus on what's best for kids. Students are learning way less nowadays and take less ownership in their learning. We don't need to dumb down learning. Kids LOVE when learning is meaningful. They need reading, writing and math as a	6/18/2023 9:24 AM

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strong focus to get a strong base to learn the other subjects in the older grades. The class is not their home where they can be passive.

16	Good educators are doing this already. There has to be a balance. Learning one way or the other too heavily is not going to be effective.	6/18/2023 9:08 AM
17	Yes absolutely. I think the westernized approach to education does not work and include many learners in the classroom. I also don't think it fosters independence or critical and creative thinking in students.	6/18/2023 8:59 AM
18	Yes we do this. It is put into place as the student needs it.	6/18/2023 8:51 AM

Q12 Do you think making the whole class part of the accessibility structure would help the student feel more inclusive and not singled out as the one with the disability? Explain why or why not?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	Absolutely. Teach to the special needs kids in the room and you will get everyone.	6/20/2023 5:15 PM
2	Yes, I have seen students more accepting of disabilities than more adults and it has a positive impact on the student when they feel included.	6/20/2023 8:23 AM
3	yes!	6/19/2023 8:17 AM
4	Yes. We can not teach to the center as too many kids miss out, teachers can not have seven different plans as that is not sustainable. Inclusive practice requires meeting the needs of the entire population and planning from the point of view of diversity and inclusion. Kids with ASD and other needs are part of the community. This has to be the mindset it's not us and then it's all of us together.	6/18/2023 10:32 PM
5	Yes!	6/18/2023 8:51 PM
6	Yes...the less eyes of something different helps normalize and support acceptability, in my opinion.	6/18/2023 5:06 PM
7	Inclusivity is what we aim for in school. I like the idea of the accessibility structure.	6/18/2023 5:06 PM
8	Yes, many students that don't have a diagnosis have diverse ways in which they learn best. Seeing that other students can access supports in a similar way could make them feel more comfortable.	6/18/2023 2:37 PM
9	I think educating students on diversity is very important. I have shown animated videos to my class to explain autism, ADHD and dyslexia, but I never singled a student out. I had a student with autism that was very obvious so I told the students in that case, we were watching the video so we had a better understanding of their classmate and we discussed how to be a more understanding classmate. This student wasn't in my room at the time as he could only handle very small chunks at a time. I think you have to be careful not to signal a child out but with proper training for the teacher the class might be able to be involved.	6/18/2023 12:29 PM
10	Sure! Plus there are always others who benefit from the same strategies and support, but for different reasons.	6/18/2023 11:32 AM
11	I'm not sure what an accessibility structure is.	6/18/2023 11:25 AM
12	I'm not sure how to answer this. In my class I try to keep everything quite inclusive. I have more than one Autistic child. There are obvious differences for some when it comes to the type of work, but in terms of seating, gym, participating in story time/capets, playtime, we try to do things similarly.	6/18/2023 10:47 AM
13	Yes. The whole class should decide or at least have input.	6/18/2023 10:13 AM
14	For sure! For example if I have 1 student who needs to voice type their work, I show my whole class how to do it and use it. It helps the child feel less singled out when they are not the only one using the tool.	6/18/2023 9:40 AM
15	I think all students have moments when they don't feel they belong. If you involve the whole class in the decisions for accessibility then you are singling out the one with the disability. Every school should have accessibility structures already in place so that the consistency will be the normalcy.	6/18/2023 9:24 AM
16	We should be highlighting every child's strengths and stretches and normalizing these.	6/18/2023 9:08 AM
17	Yes I do.	6/18/2023 8:59 AM
18	Lessons and activities are always designed for all students to be included. Students on the spectrum often do need to have a quiet private space. Often sensory issues are part of spectrum disorder and the logistics for many students in a room can be overwhelming due to noise and movement.	6/18/2023 8:51 AM

Q13 When a student with Autism is in a class, their diagnosis is reported through the IEP's and Safety Plans to the district. Each of these documents will have the list of educators that work with the child. Should it result in educators to take a mandatory course/webinar on their Professional day to gain that knowledge needed to care for that child in their class?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	No. Reading the file should do the trick.	6/20/2023 5:15 PM
2	Yes - maybe not every year, but it should be something that can be renewed and offered	6/20/2023 8:23 AM
3	Depending on the student needs, possibly.	6/19/2023 8:17 AM
4	The union is involved in this decision. Professional development- the administrator has designated days and the rest of professional development is decided by the teacher - this is contracted. However, if a TTOC is provided to cover the class and the teacher is supported to take training to support the student this would be highly supportive in many cases. However, a one and done course on autism does not make a person proficient in working with all children with autism. Some educators are very proficient in working with kids with autism and some with exposure to lots of professional development still struggle. It has to be a shift in beliefs and values about all learners particularly learners with ASD. If educators do not believe that all learners belong in the classroom together it does not matter what they learn about diversity. I believe this is often where the problem lies.	6/18/2023 10:32 PM
5	Yes!!!	6/18/2023 8:51 PM
6	No. I believe the course/webinar should be provided outside of the teacher's professional day. I would like to see a district pay for a TTOC and have that teacher be trained in their job for a specific student as a regular work day. There are not many Professional days and choices are already limited. Forcing a teacher to give up their choice to do their job efficiently does not support district outlooks of differentiated learning.	6/18/2023 5:06 PM
7	Yes! That would be great!	6/18/2023 5:06 PM
8	Yes	6/18/2023 2:37 PM
9	That's difficult to answer because there are many other neurodivergent kids or kids with disabilities and I don't think there is enough time for a teacher to take a course every year. You can have 3 IEP's and sometimes more in a class.	6/18/2023 12:29 PM
10	Maybe if the teacher is new and unfamiliar with the spectrum of autism. Personally, I have taught at least one student with autism every year for 17 years, have 3 nephews with autism, and a daughter going through the testing process. I have a teaching degree with a minor in learning disabilities, and I have a special education certificate from Queens University. I would resent my pro-d days being taken from me for a mandatory yearly course on Autism.	6/18/2023 11:32 AM
11	Sure but you will need to pay the teachers for their time and provide release time for all the staff to do that.	6/18/2023 11:25 AM
12	No, we learn that child pretty fast. We spend more time with that child than their own parents/guardians sometimes. What we need is more support when it comes to children with high behavioural needs. Do I think a basic course on autism could be beneficial, yes, of course. I do think some teacher would find this frustrating and repetitive.	6/18/2023 10:47 AM
13	It should be offered	6/18/2023 10:13 AM
14	I think that would be a great idea. Especially if the pro-d is really centered around that particular child's needs, skills and abilities. Aka not something too general and vague.	6/18/2023 9:40 AM
15	Hope. Every kid is different. Time should be allowed to discuss what works well for that student though. What's worked or not worked in the past should be shared moving forward.	6/18/2023 9:24 AM
16	It wouldn't hurt but professional autonomy doesn't allow enforcement of this. It will also only give a general "how to" as the needs of every student are going to be different.	6/18/2023 9:08 AM
17	Yes absolutely that's a fantastic idea	6/18/2023 8:59 AM
18	Yes the teacher if they have never had any training. Most on an IEP list do have training.	6/18/2023 8:51 AM

Q14 In this scenario, Ms. Fraser is telling her class that it is time to put their math questions in the file on her desk. As she sees the class lined up by her desk to do the task, she notices Johnny is tense and his body is tense and his hands are tugging at his hair. She goes up to Johnny and tells him to line up like the other students. Johnny jumps out of his seat, rips his paper, picks up his chair and throws it. He starts to scream and yell. Ms. Fraser runs to her school phone and calls a shelter in place, and the rest of the student are escorted out of the class into the neighbouring classroom. The support staff and principal arrive but stay out of the classroom. About 15 minutes later the child's mother comes and enters the classroom. Johnny begins to cry uncontrollably and hugs his mom. He tells her what happened and when she asked the educators what happened, they acted like the whole thing was a shock. The parent asked a few probing questions, such as: if they had seen any signs before he had the outburst (they said yes) and if he was communicating with his words (they said he was stumbling with his words). Please explain, what you think the mental health of the child with autism is facing or what stress is being put on them with the actions that are in play?

Answered: 18 Skipped: 0

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#	RESPONSES	DATE
1	Too much noise in the same area of the class, near where Johnny is supposed to stand. Also, the moving kids, the crowding or lack of personal space may be an issue. There could be too much sensory input and it triggered an anxious response to get these people away and make them be quiet.	6/20/2023 5:15 PM
2	The student was very elevated and needed a break from the environment.	6/20/2023 8:23 AM
3	We don't want children with Autism to feel singled out.	6/19/2023 8:17 AM
4	Ok if a child is tugging at their hair, something is wrong and has been wrong for awhile. Be a compassionate human and ask them how you can help, or reduce the words they need to say and suggest a water break or a strategy you know that works for them. Hopefully as their teacher you have this figured out. In a gentle kind voice tell them everything is ok and you are there to support them. If the child is ready, hear what is upsetting them and validate it. Try to reduce the stress of the child. If it gets to a chair toss, that unfortunate. Be calm, remove the other kids out of the way. Remind them to be supportive and kind. A shelter in place sounds overly dramatic for this scenario, co-regulate the child.	6/18/2023 10:32 PM
5	Johnny was clearly getting agitated, and the situation could've been handled so very differently.	6/18/2023 8:51 PM
6	The child was clearly communicating already before with his body. The child is expected to conform and their needs are not being respected or heard.	6/18/2023 5:06 PM
7	They are being asked to fit into a box that doesn't fit for them. It makes no sense. On the other hand, if an educator has not been trained, how do we expect them to deal with this? We are told to evacuate when a child is elevated and in the safety of the other children, take them to a safe place. The saddest part is the child left in the classroom who has these moments in front of all of his or her peers. It would make sense to have a calm down space where, if a child is looking elevated or can verbalize how they are feeling, can go to to find their calm.	6/18/2023 5:06 PM
8	The child is likely feeling anxious and frustrated. Maybe the work was incomplete, with extra time needed. The teacher did not acknowledge the obvious signs of the student's distress.	6/18/2023 2:37 PM
9	Maybe the child hadn't finished his work and was feeling anxious that he had to hand it in. His anxiety started building. Having the teacher treat him unkindly escalated his anxiety. Once escalated, he was unable to calm himself which caused the anxiety to increase to a point that he was unable to control.	6/18/2023 12:29 PM
10	Poor Johnny! This whole situation was avoidable, and he was basically pushed into his reaction. My heart breaks for him. He was clearly already in distress. Ms. Fraser is clearly the problem here.	6/18/2023 11:32 AM
11	As I'm doing this survey I'm finding it very negative towards the school system. I'm not really sure if you've ever been in a classroom but a mother would never be called for that and come in to the school. Anyway, to answer the question, it's hard to tell what triggered Johnny but he's in distress. Could be the noise in the room. Could be the math question. Could be waiting for his turn in the lineup. Maybe he doesn't like his teacher. Maybe he doesn't like his socks that day.	6/18/2023 11:25 AM
12	Lots of things, Johnny probably was overwhelmed by the test, the children lined up may have been too noisy. He may not like standing in line. I would have just collected the paper by myself, given him more time, or maybe the test had too many questions for him, was too hard. Maybe he needed to do a test like this in a quiet room by himself.	6/18/2023 10:47 AM
13	Anxiety	6/18/2023 10:13 AM
14	This could be many things. It could be that the child did not have time or the tools needed to complete the assignment and therefore felt stressed about handing it in. It could be that the physical environment of everyone getting in line was causing some sensory overload of some sort. With the evacuation of the class, the child likely felt lonely, self-conscious and embarrassed.	6/18/2023 9:40 AM
15	Time constraints. The teacher should have an aid in the classroom and upon seeing him tense, sent the aid to him ensuring he had whatever time was needed to complete his task. He tensed up when time was 'over'. The teacher, with an aid, should have allowed any child still working to remain while the rest could line up OR work on something quiet until all are done. Having another person in every classroom along with the teacher would allow for greater flexibility. Everyone leaving him is a stress too. And points the child out as being different or not appreciated by peers or teacher.	6/18/2023 9:24 AM
16	X	6/18/2023 9:08 AM
17	Well that teacher sucks in my opinion (only that's rude and unprofessional but this is anonymous so I'm being honest here). Ms Fraser completely failed to consider the needs of that child. Clearly he was dysregulated and upset. Rather than approaching him with care, connection and curiosity she approached him with judgement because he wasn't following her directions. Who cares if Johnny doesn't put his math on his desk at that point? The goal should be to help Johnny regulate in that moment. Her reaction to Johnny has further isolated him from his peers and has not met his needs at all.	6/18/2023 8:59 AM
18	First of all the teacher should know that they should not approach a child on the spectrum like that. In reality it would not be as obvious as this situation is described. This would be a new teacher or TOC or the beginning of a school year. Perhaps protocols have been changed and there would be a transition of behavioural changes, or this is a new behaviour and the situation of asking the student to join the line has always gone on.	6/18/2023 8:51 AM

Q15 With the funding that the school district gives the school for children with autism (approx. \$18,750)(Designation list and level of funding - <https://iss.abbysschools.ca/sites/default/files/Designation%20list%20and%20level%20of%20funding%20list.pdf>) What is that money (to the best of your knowledge) put towards? Please list.

Answered: 18 Skipped: 0

UNSPOKEN INCLUSIVE COMMUNICATION

#	RESPONSES	DATE
1	It depends on the student being claimed. Many students don't use resources (don't need technology or an EA's support) so they wouldn't get the benefit of the funding necessarily. However, a student who is in the class and is placed in the category for students with a mild intellectual disability receive zero funding. Those students may need L.S. support and if they don't get it then they may go off-task and create a disturbance in the classroom. This disturbance would undoubtedly trigger a student with ASD—hence, they are being supported when the child with MID gets L.S. support.	6/20/2023 5:15 PM
2	sensory rooms, staff training, Educational Assistants, fidgets	6/20/2023 8:23 AM
3	EA support and sensory resources	6/19/2023 8:17 AM
4	LSS staff, speech paths, OT/PT, and other itinerant staff, education assistants, helping teachers, equipment. Some kids with autism need a lot of support and some kids need none. Some kids are not designated in the early grades and still need support but do not generate funds. This, the pool of money goes to support all kids with the main focus on IEP goals and learning plans for students without ministry designations.	6/18/2023 10:32 PM
5	Ea support, don't know what else	6/18/2023 8:51 PM
6	Who knows! The district holds some of the money. The school gets some and there are little resources that go directly to the student in my personal experience.	6/18/2023 5:06 PM
7	Wow! I would love to think it goes to support staff and training to best support the child, but if it did, we wouldn't be in the situation we are in right now.	6/18/2023 5:06 PM
8	Extra classroom support	6/18/2023 2:37 PM
9	EA time. I know they can get behaviour therapy before they enter school but once in school, I would really like to know how the money is TRULY being spent.	6/18/2023 12:29 PM
10	EA support. But often it's used for level R and H behaviour students rather than for the child with autism. Children with autism need more support than they are given. I feel that the funding should still be tied to the individual student rather than for the school to use where needed. Also, many students with lower level autism need full-time support. More support should be offered on an as-needed basis, rather than funded as a blanket G.S. EA time.	6/18/2023 11:32 AM
11	EA support and LSS teacher Pos.	6/18/2023 11:29 AM
12	No idea	6/18/2023 10:47 AM
13	MORE EDUCATION ASSISTANT SUPPORT!!!!	6/18/2023 10:13 AM
14	Usually it is put towards paying for EA support. Unfortunately, it is not enough to pay for full time support, which in my opinion is the start of many issues. Neurodivergent children, like all children require attention, and when there are not enough caring adults in the class to give that attention, problems start occurring.	6/18/2023 9:40 AM
15	WHAT?!? Had no idea of the amount. It should be more. Seems like it's put towards EA's. If the government wants inclusion then they need to increase the amount of money for each child. I have no idea how it's spent. Our district is very secretive and will dance around the topic with fancy charts and graphs.	6/18/2023 9:24 AM
16	District staff/director of LSS, principal of LSS, VP of LSS, helping teachers, counsellors, SLPs, EAs	6/18/2023 9:08 AM
17	THIS IS THE PROBLEM. THERE IS NO TRANSPARENCY ABOUT HOW THE MONEY IS SPENT IN MY DISTRICT. They could use it to buy laptops for all I know. The money doesn't follow the kid and the district doesn't tell us how it is spent. It's a nightmare.	6/18/2023 8:59 AM
18	It supports EA and it is district distributed based on the needs of the school. It does not directly go to the student who might of generated it.	6/18/2023 8:51 AM

Q16 Please list some of the Professional Developmental courses you may have taken in regards to children with autism. If none, please inform if it was that there was no courses available or there was another course that was best suited for your class as a whole.

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	Presentations given by people with ASD were very informative. I also really appreciated a talk given by an OT who is a sensory detective. She showed us negative behaviours and linked it to possible causes.	6/20/2023 5:15 PM
2	I have not taken any	6/20/2023 8:23 AM
3	Queen's U +5	6/19/2023 8:17 AM
4	Popard, week long course, district pro-d, University level course work in inclusive education, and my own professional development.	6/18/2023 10:32 PM
5	A week long course one summer. Many pro-d days- I'm an EA, not a teacher...	6/18/2023 8:51 PM
6	CALM curriculum, Teaching from the HEART, Zones of regulation, Roots of Empathy, and multiple professional books - again I needed to find these on my own.	6/18/2023 5:06 PM
7	I have never taken a professional development course in regards to children with autism.	6/18/2023 5:06 PM
8	Popard training. Though haven't seen it offered in my district for some time.	6/18/2023 2:37 PM
9	I have attended a few pro-d's plus I took an entire course on autism while completing my S plus.	6/18/2023 12:29 PM
10	Week-long POPARD course. Autism course in pursuit of my Spec Ed certificate from Queens University. Many one-day district offered courses. My own self-directed pro-d days spent on educational reading about Autism Spectrum Disorder.	6/18/2023 11:32 AM
11	I have a post-Bach in special education.	6/18/2023 11:25 AM
12	None, I'm not sure if there was.	6/18/2023 10:47 AM
13	POPARD-ASD DISTRICTS-managing challenging behavior Trauma informed practices	6/18/2023 10:13 AM

14	As a staff we've reviewed some helpful tools and signs of stress for children with autism, and personally I've gone to sessions that could help, but are not directly about autism like "connections over compliance". Most of my knowledge and experience are from working with children and scenarios that have occurred in my classroom.	6/18/2023 9:40 AM
15	I've had too many people slap down their credentials without actual experience. Then talk down to me about how to handle kids with autism. The reality is there isn't enough help in the class. Managing all the needs of all the diverse students is unique each year. Treating kids with kindness and recognizing each kid's unique needs and how they respond to stress is key. Knowing the history from previous teachers also helps realize different needs and growth. Perhaps a course on how to advocate for more help in the class or how to apply for government grants. It's always added to the teachers' workload, saying if YOU only knew how to handle a kid with autism then there wouldn't be a problem. But what teachers NEED is more help in the class. Preschools have two teachers in a class with more than 10 kids so why is that eliminated when they hit kindergarten? ALL classes should have a teacher and an assistant as a basic practice. Then an added aid if an individual needs it.	6/18/2023 9:24 AM
16	Too many to list	6/18/2023 9:08 AM
17	None! None available that I have ever seen	6/18/2023 8:59 AM
18	So many I can't list them. POPART	6/18/2023 8:51 AM

Q17 What are some resources you use to educate the classroom on autism? Please list.

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	I don't educate students on autism. Everyone's brain works a different way.	6/20/2023 5:15 PM
2	I don't have any	6/20/2023 8:23 AM
3	Stories, Autism Network	6/19/2023 8:17 AM
4	Identity lessons, who we are as individuals- our assets, needs and areas to grow- we all have them. Talking to kids about their beliefs and values and biases. Collectively generating a classroom culture of inclusion- valuing diversity. A kids guide to autism - excellent book to generate conversations with kids. Each chapter has great discussion points ie - Talking about sensory needs what are they - we all have them, and how they impact us.	6/18/2023 10:32 PM
5	I don't	6/18/2023 8:51 PM
6	CALM curriculum	6/18/2023 5:06 PM
7	Usually it has come from the parents of the child. I have used read alouds before. When I have a child with autism, I usually read a lot online and find resources there.	6/18/2023 5:06 PM
8	-	6/18/2023 2:37 PM
9	I show that video but I don't have access to it at the moment.	6/18/2023 12:29 PM
10	Social Stories Stories about how we are all unique Class discussions about why certain students are non-verbal and what we can do to include them and be good friends to them	6/18/2023 11:32 AM
11	There's various story books available. Not all parents want it to be pointed out to the rest of the class.	6/18/2023 11:25 AM
12	We read books on how people are different/special/unique.	6/18/2023 10:47 AM
13	Social stories Videos	6/18/2023 10:13 AM
14	We read stories, and since I teach grade 5 and we learn about the human body, we also talk about the brain and how it can be different in some people and the effects that could have. I sometimes use Mind Up when talking about the brain and emotions too.	6/18/2023 9:40 AM
15	Lots of children's books about the different needs of students. How everyone is unique and brings different understandings of life. Life stories of myself and my learning needs. Lots of class discussion.	6/18/2023 9:24 AM
16	C	6/18/2023 9:08 AM
17	None! I don't know of any	6/18/2023 8:59 AM
18	I am not at my office to list these.	6/18/2023 8:51 AM

Q18 Are you preparing the class with knowledge of what autism is, and what can be expected when one of their peers has this neurodivergence? Why or why not?

Answered: 18 Skipped: 0

UNSPOKEN INCLUSIVE COMMUNICATION

#	RESPONSES	DATE
1	No. No one's diagnosis is divulged and every kid with ASD is different. There is no way to prepare students in advance without putting a diagnosed individual at a disadvantage.	6/20/2023 5:15 PM
2	I have used stories to educate the class as well as discussions around how everyone is different	6/20/2023 8:23 AM
3	Yes, this is important.	6/19/2023 8:17 AM
4	This a conversation I have with parents. Often the parents are on board. It is great to get the student to talk about autism and how it impacts them if they can. It build their self awareness of the abilities, likes, needs and how they want to be supported. This is often a great IEP goal. Maybe not to the whole class but to a small group. But I have the whole class share about them self - again I don't want to be othering - all kids have assets and needs.	6/18/2023 10:32 PM
5	Yes, in conversation with and about the student I'm with this year. Just because he can't talk yet doesn't mean he doesn't understand!	6/18/2023 8:51 PM
6	I do this by talking about how all of our brains are different and celebrating that we are all individuals and need different things. Autism is not "cookie cutter" and everyone is an individual and special just as they are.	6/18/2023 5:06 PM
7	I have in the past, but this year I was asked not to as the child does not want his friends to know he has autism. I have spoken at length with the parents about this and how important it is to talk about it but the child has asked us not to.	6/18/2023 5:06 PM
8	I'm an ea and see that as a teachers role.	6/18/2023 2:37 PM
9	I have but I know I should do a better job of teaching about it every year because sometimes I might have a child that is on the autism spectrum , but doesn't present it in a more obvious way.	6/18/2023 12:29 PM
10	I am doing so at a kindergarten level (with parent permission from the child with autism's parents)	6/18/2023 11:32 AM
11	I always ask the family first. Depending on what they want, that's what I support.	6/18/2023 11:25 AM
12	No, at least this year I have never specifically spoken about autism. I know that one student would not necessarily like me bringing attention to it.	6/18/2023 10:47 AM
13	All teachers should especially if they have a child in class	6/18/2023 10:13 AM
14	Yes and no. I never want to single out students or make them uncomfortable, so if I get permission from that student, I will go into some details of how they can be helped. If it's possible, I'll also give the student a voice and let them speak for themselves assisting where needed. If necessary, I will talk more specifically about the students needs when the student is out of the class. That said, as a class we do talk more generally each year about what we all need, what we may encounter in the classroom and how to deal with it (no names are ever involved).	6/18/2023 9:40 AM
15	I don't use the word autistic but I absolutely talk about the different learning needs, different ways to help one another. I'll teach based on the developmental needs and understandings of that class. Older grades can have deeper discussions and understanding with the knowledge of autism. But I have to acknowledge the students developmental understanding for their age. Lots of students are ELL and have difficulty with language acquisition so I'm always checking for understanding and having class discussions.	6/18/2023 9:24 AM
16	X	6/18/2023 9:08 AM
17	No, we are told not to talk about students with other students	6/18/2023 8:59 AM
18	Yes	6/18/2023 8:51 AM

Q19 Would you be open to working with interdisciplinary designers to come up with a more inclusive educational environment for children with Autism? If so, what suggestions would you have and why?

Answered: 18 Skipped: 0

#	RESPONSES	DATE
1	Yes, as long as they brought in the tools with them. My budget doesn't pay for much let alone cubbies, weighted vests, special pencils and raised-line writing paper, etc. it is criminal how much these tools cost schools.	6/20/2023 5:15 PM
2	Yes, flexible seating - different spaces can help with working, calm corners - quiet spaces	6/20/2023 8:23 AM
3	yes	6/19/2023 8:17 AM
4	Yes. Diverse perspectives enlighten all inquiry question of how can be better serve students.	6/18/2023 10:32 PM
5	Yes	6/18/2023 8:51 PM
6	My personal outlook is, "What do I need to do to be a better teacher for each student in the class so they feel they are part of our community." I would be open, but am worried about where the "designers" are coming from, their objectives, and underlining theory without understanding practicality.	6/18/2023 5:06 PM
7	Yes :)	6/18/2023 5:06 PM
8	Yes	6/18/2023 2:37 PM
9	Yes I would. I suggest that the other designers familiarize themselves with the realities of a classroom setting and the responsibilities teachers face, particularly in a public school. Sometimes other well meaning people have grand ideas that are not conducive to an actual classroom setting.	6/18/2023 12:29 PM
10	Not at this time. But I'm excited to read it when it's done.	6/18/2023 11:32 AM

Q20 We are actively seeking volunteers in this field to help us build a better system for educators and children on the spectrum and we could really use your help. If you are willing to do a quick follow-up interview, please leave us your email and we'll contact you. This email will not be shared with any other party.

Answered: 12 Skipped: 6

Email addresses have been blacked out to keep identity anonymous

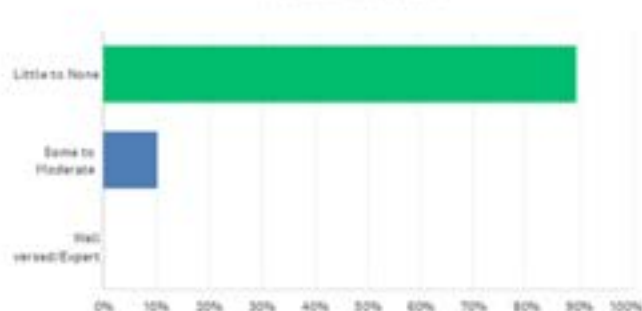
#	RESPONSES	DATE
1	I don't have time for this. Sorry.	6/20/2023 5:15 PM
2	I am a helping teacher and not in the classroom at this time.	6/18/2023 10:32 PM
3	[REDACTED]	6/19/2023 8:51 PM
4	I would love to but am worried and scared about implications.	6/18/2023 5:06 PM
5	[REDACTED]	6/18/2023 5:06 PM
6	No.	6/18/2023 2:37 PM
7	[REDACTED]	6/18/2023 12:29 PM
8	[REDACTED]	6/18/2023 11:32 AM
9	No thank you but as you are designing your project, think about where the money is going to come from.	6/18/2023 11:25 AM
10	I'm sorry, I have too many other things happening in my life at the moment. Good luck.	6/18/2023 9:40 AM
11	X	6/18/2023 9:08 AM
12	[REDACTED]	6/18/2023 8:51 AM

II) BIOMETRIC INDICATOR SURVEY SUMMARY



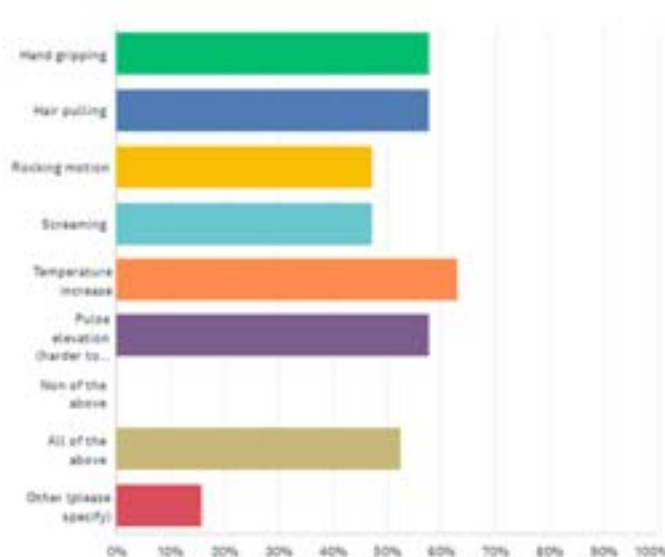
Q1 What is your knowledge of Biometric Indicators in children?

Answered: 19 Skipped: 0



Q2 Biometric indicators are a key physical presentation when a child or individual is becoming stressed or frustrated. Please select which ones you think are biometric indicators (select all that apply and there is no wrong answer).

Answered: 19 Skipped: 0



UNSPOKEN INCLUSIVE COMMUNICATION

ANSWER CHOICES	RESPONSES	
Hand gripping	57.89%	11
Hair pulling	57.89%	11
Rocking motion	47.37%	9
Screaming	47.37%	9
Temperature increase	63.16%	12
Pulse elevation (harder to detect but present)	57.89%	11
None of the above	0.00%	0
All of the above	52.63%	10
Other (please specify)	15.79%	3
Total Respondents: 19		

Q3 Do you feel that educators (teachers, support staff and administrators) have sufficient access to wearable technology for neurodivergent children? Why/why not?

Answered: 19 Skipped: 0

#	RESPONSES	DATE
1	Probably not, as funding is very limited in our school district.	1/21/2025 8:40 AM
2	No! I have two neurodivergent children and have zero knowledge of this technology.	1/16/2025 7:11 PM
3	No I don't. I believe this is due to lack of funding.	1/16/2025 1:43 PM
4	No! They never have enough money	1/15/2025 9:20 AM
5	no. I have never heard of such a thing.	1/15/2025 8:27 AM
6	No, EA for 11 years and have only seen two students use wearable devices	1/14/2025 7:12 PM
7	No, I am a special education teacher and the only wearable resources we have is one weighted vest, one body sock and one weighted backpack. We don't have the expertise nor the budget to purchase more resources.	1/14/2025 12:40 PM
8	No.	1/13/2025 4:38 PM
9	Access to wearable technology (such as speaker/mic to make their voice louder) - Yes. In regards to neurodivergent children, no.	1/13/2025 3:11 PM
10	No. Our school district has none that I am aware of. I am also unaware if there are children who have these tools and bring them to school with them from home programs/therapy/support.	1/13/2025 2:52 PM
11	No, I have never heard of wearable technology	1/13/2025 1:54 PM
12	No. I've never seen any available.	1/13/2025 1:36 PM
13	No. I have never seen any type of wearable technology for students that would be provided by school or district.	1/13/2025 11:24 AM
14	No	1/13/2025 9:45 AM
15	No. I don't know even what wearable technology is. Currently, for non verbal staff carry big iPads...which are difficult to maneuver so they often get left on a desk when needed.	1/13/2025 9:02 AM
16	No, I have never heard of this before.	1/13/2025 8:55 AM
17	No, I have not seen any wearable technology on my students in 20 years of teaching.	1/13/2025 8:43 AM
18	what is wearable tech?	1/13/2025 8:24 AM
19	No... funding, training, information	1/13/2025 8:21 AM

Q4 Do you feel as an educator that it would be beneficial to both you and your students to have technology that could notify or alert you when a student who is starting to rise to the level of an outburst? Why or why not?

Answered: 19 Skipped: 0

#	RESPONSES	DATE
1	I'm not sure it would matter in my situation the student goes from calm to full outburst very quickly.	1/27/2025 8:40 AM
2	Yes, as it would help the adults and the child, but I would not want to cause stress or alarm to the other children. When an alarm goes off I can see that it could trigger nervousness in other children.	1/16/2025 7:11 PM
3	Yes I do. This would possibly help to prevent outbursts.	1/16/2025 1:43 PM
4	Maybe. The more you know a student, the more you can read their signs. If we have enough time to build relationship with a kid that is instrumental!	1/15/2025 9:20 AM
5	yes! It could prevent violence against others.	1/15/2025 8:27 AM
6	Possibly but when working closely with students that escalate it doesn't take long to recognize the signs	1/14/2025 7:12 PM
7	A student's body language usually gives them away. Rarely are we surprised when someone has a meltdown.	1/14/2025 12:40 PM
8	Yes, sometimes we are too busy in the classroom to recognize that a neurodivergent student is escalating. Sometimes there is no support for the student other than the teacher. No Educational Assistant.	1/13/2025 4:38 PM
9	Yes, I could change how I approach the situation/student in those situations. On the opposite end, we could be able to get a student out of a environment/situation that is upsetting them before something worse happens.	1/13/2025 3:11 PM
10	Yes, I think it would be helpful. This would provide me with an indicator to support my student(s) and ensure I learn what is triggering to them.	1/13/2025 2:52 PM
11	Yes, this would be a great preventative measure to alert me before a meltdown/outburst happens.	1/13/2025 1:54 PM
12	Possibly.	1/13/2025 1:36 PM
13	It could but sufficient training would be necessary	1/13/2025 11:24 AM
14	Unsure, but would be interested as a trial	1/13/2025 9:45 AM
15	Yes, help with strategies to calm or redirect, or move child to a safe place	1/13/2025 9:02 AM
16	Probably, but it could become 'one more thing' teachers are required to monitor. It would be beneficial for the student to have for sure, so they can become more self-aware of when they are escalating.	1/13/2025 8:55 AM
17	Yes, if we can catch students before they explode we can de-escalate many situations and keep students for the after effects of embarrassment etc	1/13/2025 8:43 AM
18	no because by the time you're at that level, it's too late. also, do you really think a neurodiverse child is going to wear something like this?	1/13/2025 8:24 AM
19	YES...as full inclusion of all learners has become what is expected it would be ideal if both the educator and fellow classroom members had some kind of precursor	1/13/2025 8:21 AM

Q5 Would you be open to having wearable technology devices (such as hoodies, gloves, or even inserts in clothing), to alert or notify you when a student is becoming elevated (stressed or frustrated) especially in times when it is busy in the classroom? Explain why or why not this would be helpful or not helpful?

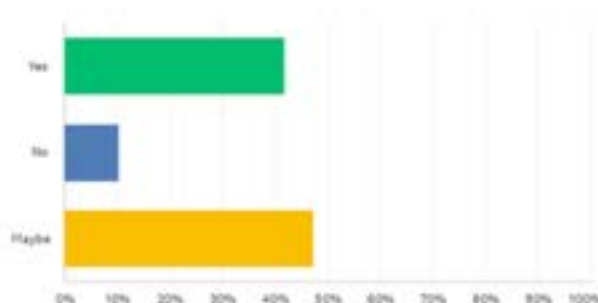
Answered: 19 Skipped: 0

#	RESPONSES	DATE
1	No issue here. I've worn microphones to help hearing impaired students.	1/27/2025 8:40 AM
2	No, I do not want to this to distract me from teaching 29 other children. But helpful for an EA perhaps.	1/16/2025 7:11 PM
3	Absolutely! Especially for our non-verbal students.	1/16/2025 1:43 PM
4	It would definitely be an interesting concept!	1/15/2025 9:20 AM
5	Yes. It would be very helpful to know when a student is elevated to be able to help them before they escalate.	1/15/2025 8:27 AM
6	Yes, it would help in classrooms that have an over abundance of neuro diverse students.	1/14/2025 7:12 PM
7	Yes, for students who are non-verbal	1/14/2025 12:40 PM
8	Definitely. Minimize disruptions and de-escalate emotions from getting out of hand.	1/13/2025 4:38 PM
9	May be helpful, could also become difficult to respond to if lots of needs at once/with another student.	1/13/2025 3:11 PM
10	Yes, again this would support me in learning more and understanding more about my student in my class. I could also use this as a tool to teach my child what they can do if they are notified. Teaching them self-regulation strategies.	1/13/2025 2:52 PM

11	Yes because it is a hard to monitor and watch 30 students and know how each of them is feeling at any given moment. Also things I would not consider triggers (tapping, noise, lighting, etc.) may be very triggering for my neurodivergent students.	1/13/2025 1:54 PM
12	Possibly if they were accurate and the student is okay with wearing them.	1/13/2025 1:36 PM
13	It depends on how the device would alert teacher and/or EA. It definitely could help assess stressors for a student to better help prepare the student in the future.	1/13/2025 11:24 AM
14	I am open to this idea if benefits the student	1/13/2025 9:45 AM
15	Yes. Help with early detection	1/13/2025 9:02 AM
16	I'm on the fence. Teachers can be overstimulated as well by the environment--this may add more to that for teachers. It would be helpful in a perfect scenario when a teacher could simply stop everything and attend the student. Some teachers may balk at this because it could potentially be used against them--you don't attend to the alerts and the 'x' happened--why didn't you? This may not be a realistic expectation. We need more support in classes and out of classes for neurodivergent students. I can see why it would be beneficial for sure, especially if it is paired with educating the student to become more self-aware and give them one more tool to help them manage before becoming elevated. Would the students be willing is another question I have.	1/13/2025 8:55 AM
17	I think inserts in clothing would be the most helpful so I don't have to adapt what I like to wear. A busy classroom has a lot going on and a small signal about a frustrated student would be helpful	1/13/2025 8:43 AM
18	No- maybe EAs could. Teachers are teaching.	1/13/2025 8:24 AM
19	YES but we are a uniform wearing school so this adaptation may require some extra input	1/13/2025 8:21 AM

Q6 Classroom are becoming more diverse and have an increase in children with neurodivergence (1 in 30). In some cases, there are more than one student with a neurodivergence, and only one teacher and no assistants. In your opinion, would a notification or alert from a smart watch or computer device be the most effective way to let you know which student (neurodivergent student) needs you?

Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	42.11%	8
No	10.53%	2
Maybe	47.37%	9
TOTAL		19

Q7 From question 6, please explain why or why not (according to your answer from above)?

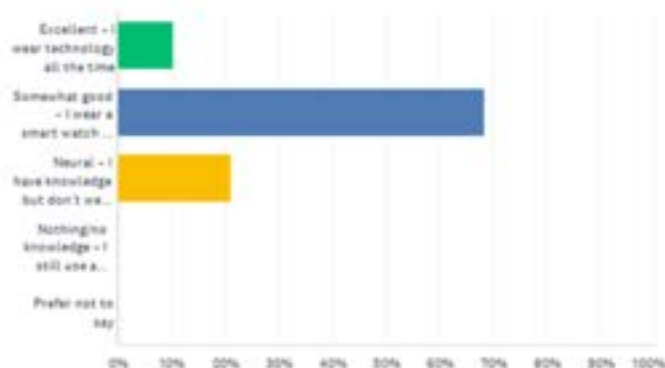
Answered: 19 Skipped: 0

UNSPOKEN INCLUSIVE COMMUNICATION

#	RESPONSES	DATE
1	If the tech can warn earlier it might help.	1/27/2025 8:40 AM
2	What if it alerts and I am not with child (I am no prep)? Would the device be interchangeable with the teacher child is with? What if I can't get to child in time and child still "escalates"?	1/16/2025 7:11 PM
3	This would also be beneficial to the Educational Assistant(s) assigned to any neurodiverse students.	1/16/2025 1:43 PM
4	Because it's not possible as a teacher to notice the needs of every single child in the classroom at every second.	1/15/2025 9:20 AM
5	I am not a classroom teacher, I am an LSS teacher. From my perspective, it would be very helpful because the teacher could just notify me and I would come and assist. But not every teacher might like that, especially if it beeps or makes noises. That might elevate the student or other students. I don't feel comfortable saying it would be a good fit for everyone and every environment.	1/15/2025 8:27 AM
6	Sometimes leaving one student to get to another suddenly can trigger the first student.	1/14/2025 7:12 PM
7	We have 4-5 neurodivergent students in each class. Knowing who is escalating will not help us de-escalate them. We need more resources for that.	1/14/2025 12:40 PM
8	It would be more discrete than wearing a piece of clothing turning into different colors which would attract everyone's attention.	1/13/2025 4:38 PM
9	It would be great because it is: Private - right now we have walkie talkies which anyone close by can hear. This often leads to many students knowing about who needs help. Timely - able to get the notification right away	1/13/2025 3:11 PM
10	Teaching kindergarten a watch that the child is wearing would be difficult for me to support them at this young age. If it was somehow connected to a school district smart watch or other device I feel it would be helpful, as the child will need support at this age.	1/13/2025 2:52 PM
11	It is difficult to keep track of all my students all the time.	1/13/2025 1:54 PM
12	I'm not sure it is the best method but it could be useful for some students.	1/13/2025 1:36 PM
13	Often, when a student has escalated to a negative response, the teacher is already trying to comfort and diffuse the situation. Having an alert on my physical body may be distracting however useful it may be. I would be very open to the idea, but with a challenging class, having a personal distraction could be difficult. Having an additional person, like an EA however, with the device and alerts, would be ideal and could be very beneficial. But the reality of having such EA support, is not currently possible in my experience with shortages and government stipulations etc.	1/13/2025 11:24 AM
14	Unsure as haven't tried	1/13/2025 9:46 AM
15	Small and easy	1/13/2025 9:02 AM
16	Teachers are stretched thin-adding technology and not more hands on help in the classroom will alert you to the need but you may not have the capacity to address it. Knowing would be good, but it could be frustrating as well.	1/13/2025 8:55 AM
17	It is difficult to monitor 30 students while teaching. A watch or something to let me know a student is beginning to feel frustrated would allow me to offer them a break before it's too late	1/13/2025 8:43 AM
18	I don't have time. Alert the EA or Special Ed teacher.	1/13/2025 8:24 AM
19	I currently have 2 students with vast needs amongst my 20 students. These 2 kindergarten students have very limited assistance and if the one who regularly used to have "breakdowns" in September-October I could have better established stronger preliminary strategies to implement evacuation, assistance, and techniques.	1/13/2025 8:21 AM

Q8 In your opinion, which statement/choice best reflects your knowledge on wearable technology?

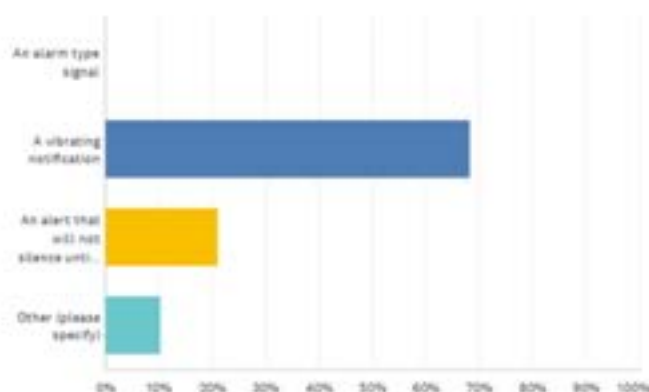
Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES	
Excellent – I wear technology all the time	10.53%	2
Somewhat good – I wear a smart watch (or similar device such as Fitbit)	68.42%	13
Neutral – I have knowledge but don't wear any technology	21.05%	4
Nothing/no knowledge – I still use a flip phone and analog watch	0.00%	0
Prefer not to say	0.00%	0
TOTAL		19

Q9 A student with autism is wearing a hoodie that is equipped with wearable technology. It is synchronized with your smart watch (provided through educational funding for students who are designated) and will alert you when you need to provide assistance. The student is participating in a group task with his peers and the instruction have been read. He becomes frustrated because he feels his peers are not following the instructions that was provided. His temperature rises and he starts to put his face in his hands and then he starts to tug at his hair. You are not aware he is becoming frustrated as you are preparing for the next lesson and writing on the whiteboard with your back to the class. Would you prefer:

Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES	
An alarm type signal	0.00%	0
A vibrating notification	68.42%	13
An alert that will not silence until it detects you have come within assessment distance of the child	21.05%	4
Other (please specify)	10.53%	2
TOTAL		19

Q10 In your opinion, what resources would you need to participate in the role out of a product like this (wearable technology for neurodivergent children) to assist you in your classroom?

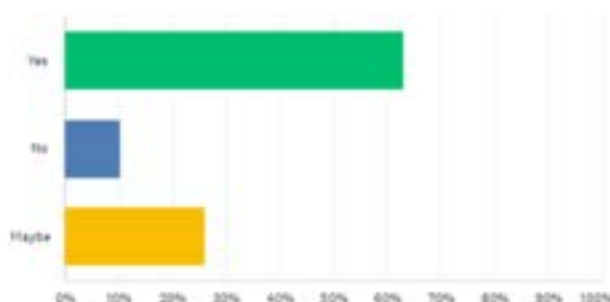
Answered: 19 Skipped: 0

UNSPOKEN INCLUSIVE COMMUNICATION

#	RESPONSES	DATE
1	Buy-in from the student. That's about it. I need the student to want to change their behavior.	1/27/2025 8:40 AM
2	Training during school hours and the expert well versed in prepping the other children for these noises or interruptions the teacher will have to attend to.	1/16/2025 7:11 PM
3	Something for me to wear to receive the alarm. I would prefer it to not be my personal device i.e. my smart watch.	1/16/2025 1:43 PM
4	To be honest, I would rather have an ea in my class who could also meet kids needs.	1/15/2025 9:20 AM
5	It would be helpful to have a workshop or video explaining how to use it. One would need to know how to change the settings or notification options, what the read out means, how do the students wear the technology, etc.	1/15/2025 8:27 AM
6	Video tutorials, in person training/demonstration. Follow up meetings	1/14/2025 7:12 PM
7	More resources to help students de-escalate their emotions.	1/14/2025 12:40 PM
8	Smart watch, smart bracelet, iPad	1/13/2025 4:38 PM
9	Education/training on technology. Funding for software/district policies if wearing own watch for work purposes.	1/13/2025 3:11 PM
10	Knowledge on the tool, troubleshooting strategies if something goes wrong, enough battery life, a back up plan if something fails	1/13/2025 2:52 PM
11	Technology device, watch the warning sends to	1/13/2025 1:54 PM
12	Instructions/lessons during school hours with a follow up lesson or two for questions to be addressed once we are using the product.	1/13/2025 1:36 PM
13	"Support and participation of the family, principal, district etc. "Specific responses that are research based to support the student when instances occur (it feels that there are too many different strategies for each student due to the wide range of neurodiversities that no one plan fits all)" would there be a way for this to help all students and not just neurodivergent? UDL?	1/13/2025 11:24 AM
14	I wouldn't want the technology to take away from students identifying their own body indicators or educators being attuned to their students	1/13/2025 9:45 AM
15	the technology	1/13/2025 9:02 AM
16	Student training alongside teacher training. Both parties need to be in agreement and set up strategies. Students, if capable, should also be alerted to their increased frustration level and make a plan for what actions they can take to first try to manage themselves. The first goal, in my opinion, should always be to build strategies within the student that allow them to try to manage the situation first.	1/13/2025 8:55 AM
17	Video help and explanation, pro d offerings to learn during school time not my own time, Instagram account to follow for small tips	1/13/2025 8:43 AM
18	an extra adult to run that kind of thing	1/13/2025 8:24 AM
19	This is challenging as I kindergartners in general are slowly building self awareness, confidence, and skill...so simple wearable technology might start off as even difficult.	1/13/2025 8:21 AM

Q11 With the assistance of the District Occupational Therapist, and professional training (within the Professional resource days set out throughout the year) would you pick this topic as one of your training requirements even if you only have one student who would "benefit" from this?

Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	63.16%	12
No	10.53%	2
Maybe	26.32%	5
TOTAL		19

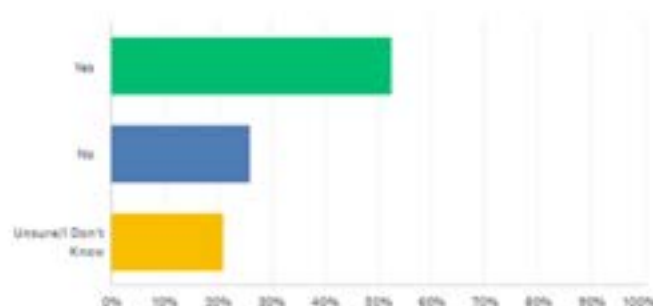
Q12 From question 11, Please explain why?

Answered: 19 Skipped: 0

#	RESPONSES	DATE
1	My whole class experience hinges on one student. If the student has a good day, all have a good day. I have setup and planned multiple other opportunities for the student but they choose the path that the other students are doing which I know will trigger and result in an outburst.	1/27/2025 8:40 AM
2	Depends if it's a safety issue for the child and therefore notification is a "must"	1/16/2025 7:11 PM
3	I think this would be valuable information to have ahead of using the technology	1/16/2025 1:43 PM
4	Again, I would rather the money be spent for EA's than for one more thing for me to have to learn.	1/15/2025 9:20 AM
5	Even if I only have one student using this technology, I would want to be able to use it properly, and also, that would allow me to continue to use it in the future with any other students who might need it.	1/15/2025 8:27 AM
6	I'm interested in technology and how it can assist in student needs	1/14/2025 7:12 PM
7	Information is power	1/14/2025 12:40 PM
8	Not all technologies are the same.	1/13/2025 4:38 PM
9	Because every child deserves to feel loved/cared for/understood - just because it would "only benefit one" doesn't mean it is not worth it. In addition, the knowledge/training could be useful in the coming years.	1/13/2025 3:11 PM
10	I would greatly prefer this information session to be when someone covers my class and I learn about it during my work day as it is a specific tool for a specific child. I would prefer to have my professional days for me to choose. I see this training as a need and a must for the overall wellbeing of the student.	1/13/2025 2:52 PM
11	It depends on timing and the expectations and support set out by the district.	1/13/2025 1:54 PM
12	It seems promising and there will always be more students in the future that could benefit.	1/13/2025 1:36 PM
13	For me, it would have to be more main-stream and used with the student at home too. I feel that with family expertise, this type of device could actually help the student. In the class, it would be hard to assess the stress/then decide what types of supports actually need to be in place for the student. Being an elementary student, often kids are just getting diagnosed and families are just starting therapy, counselling etc. Maybe this type of device could benefit individual students as they are older, understand themselves better and could self-advocate for their needs.	1/13/2025 11:24 AM
14	Yes, all students deserve the opportunity to be successful and we need different strategies and resources to meet the needs of all students	1/13/2025 9:45 AM
15	More information and training is always appreciated	1/13/2025 9:02 AM
16	Depends on the length of training and when it is offered	1/13/2025 8:55 AM
17	Each year there are more and more students that would benefit. Learning one year would also help with future students.	1/13/2025 8:43 AM
18	na	1/13/2025 8:24 AM
19	If this was to work the educator must be confident and fully versed as to how this type of system works.	1/13/2025 8:21 AM

Q13 In your opinion, do you feel the educational system has not caught up to the resources to assist with designations of students

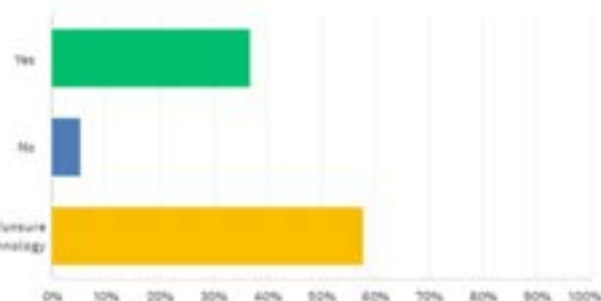
Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES
Yes	52.63% 10
No	26.32% 5
Unsure/I Don't Know	21.05% 4
TOTAL	19

Q14 With wearable technology, and an alert system, an app would be the most efficient way to track. With an app, do you feel, in your opinion, should be developed similar to a heart monitor system?

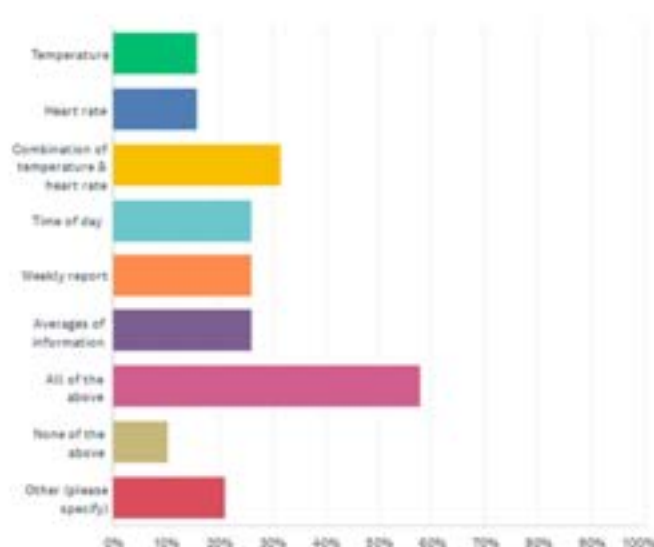
Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	36.84%	7
No	5.26%	1
Maybe/uncure of technology	57.89%	11
TOTAL		19

Q15 If an app is designed in association with the wearable technology garment, please select what features would be most effective for your classroom and to be shared with their parents. (select all that apply)

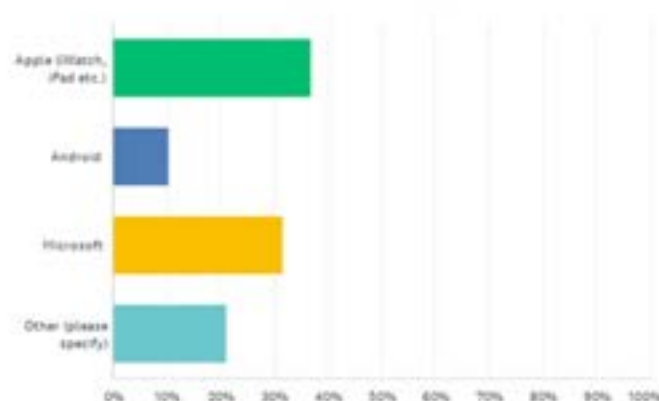
Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES	
Temperature	15.79%	3
Heart rate	15.79%	3
Combination of temperature & heart rate	31.58%	6
Time of day	26.32%	5
Weekly report	26.32%	5
Averages of information	26.32%	5
All of the above	57.89%	11
None of the above	10.53%	2
Other (please specify)	21.05%	4
Total Respondents: 19		

Q16 What platform in accordance with the school district be the best for your use of this application?

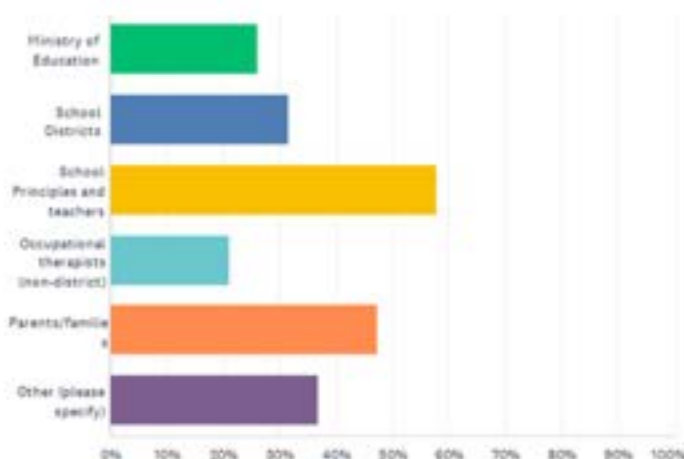
Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES	
Apple (Watch, iPad etc.)	36.84%	7
Android	10.53%	2
Microsoft	31.58%	6
Other (please specify)	21.05%	4
TOTAL		19

Q17 In your opinion, who do you feel should be monitoring wearable technology in classrooms as a regulatory body? (Select all that apply)

Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES
Ministry of Education	26.32% 5
School Districts	31.58% 6
School Principals and teachers	57.89% 11
Occupational therapists (non-district)	21.05% 4
Parents/families	47.37% 9
Other (please specify)	36.84% 7
Total Respondents: 19	

Q18 With the funding that the district gives the school for children with autism (approx. \$18, 750 (Designation list and level of funding.pdf (abbyschools.ca)) should a portion of it be designated for items like this for that specific student? Why or why not?

Answered: 19 Skipped: 0

#	RESPONSES	DATE
1	Sure, it's worth a try but only if the student is onboard.	1/27/2025 8:40 AM
2	No way! We need way more human interaction. How about the EA get to know the student well enough that technology is only limited. An App does not replace good communication, observation, compassion and care. The money is for EA support. The ministry would have to give more money for technology.	1/16/2025 7:11 PM
3	Yes. Anything that can assist the student and staff would be beneficial.	1/16/2025 1:43 PM
4	Nothing. It should be used to hire more EAs who can build relationships with kids. We are working at upping the amount of technology, and lessening the amount of human interaction with kids, to their detriment!	1/15/2025 9:20 AM
5	No! We already have a shortage of EAs. The amount of money the district gives students with autism doesn't even provide enough for one EA full time for the year. That is pathetic and insulting. First of all, the district should be giving each student at least \$30,000 per year for support. Then (on top of that) there should be a separate fund for wearable technology. This technology does not replace EA support for a student! I would never support this technology if it meant that we would receive less EA support! No.	1/15/2025 8:27 AM
6	Unsure	1/14/2025 7:12 PM
7	Not all students with autism require this resource—only students who send mixed signals or who are unable to show how they are feeling. I can tell if a non-verbal student is escalated by the way he/she sits, bangs on their desk, interacts with others, etc. Fight, flight or freeze are always signs that speak loudly but knowing when the escalation started is key.	1/14/2025 12:40 PM
8	Depends if there is a high degree of violence coming from the student when he/she cannot self-regulate and there is no educational assistant to help.	1/13/2025 4:38 PM
9	Yes as I believe this may be a great way to actually meet the student where they are at/provide more personalized support.	1/13/2025 3:11 PM
10	I feel it would be a useful tool to investigate and use if a proprite and useful to the individual student.	1/13/2025 2:52 PM
11	If it is divided equally yes.	1/13/2025 1:54 PM
12	Possibly, but ideally there would be more funding.	1/13/2025 1:36 PM
13	Right now I have an autistic student with very very little to no support in the classroom. This would have to change drastically before I would ever consider one cent going towards technology for that student. If the technology could replace the adult support the student needs and deserves, that could be enticing.	1/13/2025 11:24 AM
14	Yes, otherwise designated students aren't getting support they need	1/13/2025 9:45 AM
15	I think the funding needs to be for the people who support. Technology will help but there needs to still be a person who can help the student...the money will need to come from another source	1/13/2025 9:02 AM
16	It should not take away any money from providing Educational Assistants.	1/13/2025 8:55 AM
17	No, we already do not have adequate funding for students with needs. I think there needs to be additional money for this	1/13/2025 8:43 AM
18	No- we need that funding for EA support.	1/13/2025 8:24 AM
19	YES we need new effective resources NOW as this population of students is rapidly increasing.	1/13/2025 8:21 AM

Q19 As a designer, I would like to hear your ideas of what you would want to have as a product or device to help you assist students with neurodivergence. It can be as simple or as imaginary as you want.

Answered: 19 Skipped: 0

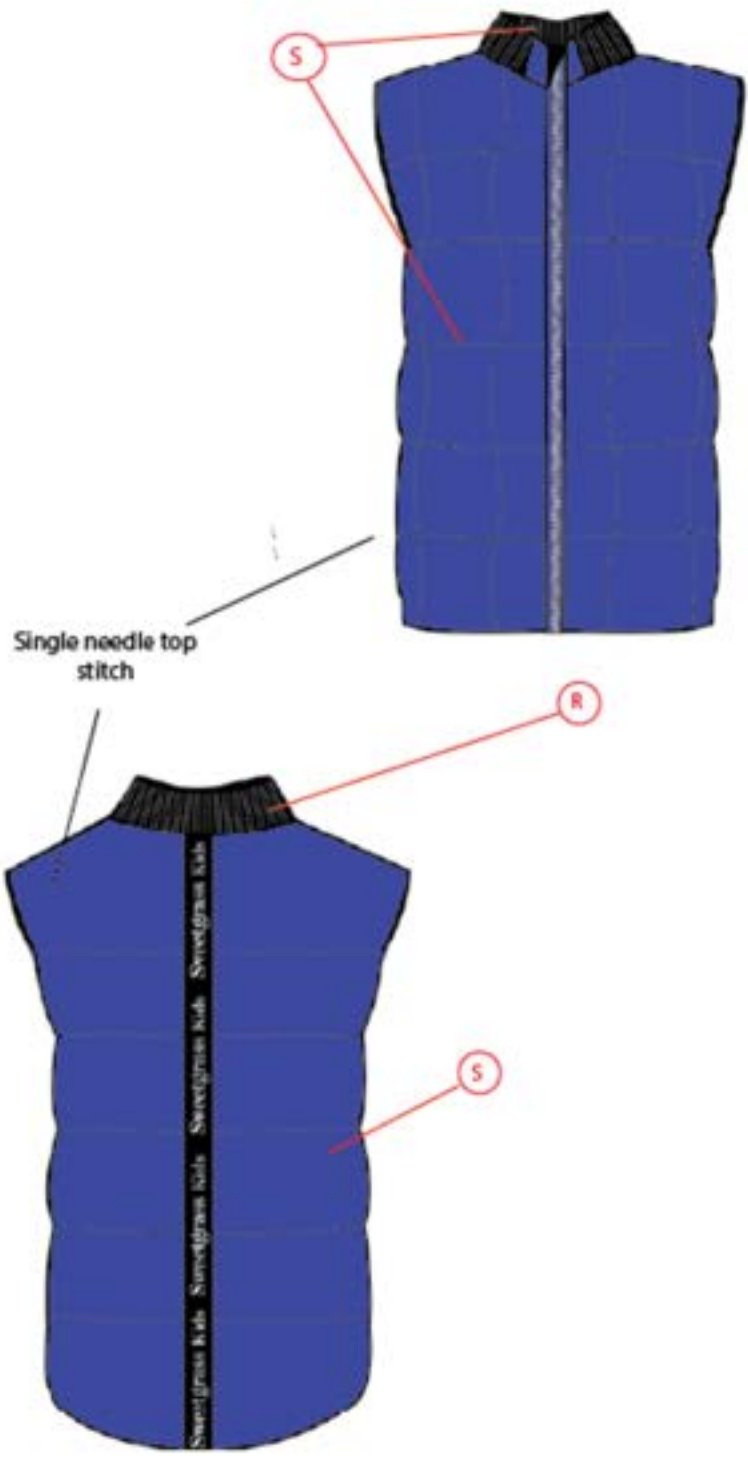
#	RESPONSES	DATE
1	I cannot wear a watch (any watch, even loosely) without my fingers going numb. I would need a belt clip or maybe upper arm band? Or maybe AR glasses?	1/27/2025 8:40 AM
2	has to be able to shift from teacher to teacher (for prep teachers to use too). The product would need to be able to talk to multiple teachers/tes so that we can see when it "went off" and why.	1/16/2025 7:11 PM
3	I'm not sure	1/16/2025 1:43 PM
4	None	1/15/2025 9:20 AM
5	I have never thought about it, as I don't have any ideas. I know that many students who are neurodivergent enjoy pressure, so maybe a product that could "hug" a student (apply pressure on arms or body) to help regulate them.	1/15/2025 8:27 AM
6	Simple to respond to, Apple Watch system would be ideal.	1/14/2025 7:12 PM
7	It would have to be something that doesn't trigger sensory sensitivities (so various forms of the same tool depending on what triggers various students) and something that a student can't take off. If it was fun, that would give students an incentive to wear it. Kids also would respond better if there was a kids' book telling how great it is to wear the tool.	1/14/2025 12:40 PM
8	A watch/phone with happy designs with children's color	1/13/2025 4:38 PM
9	A small ear piece that announces/reads a message about who needs help/where (to go along with the watch).	1/13/2025 3:11 PM
10	As a kindergarten teacher a watch with colours green all good, yellow things are beginning to change, red I need help NOW	1/13/2025 2:52 PM
11	Calm colours, small enough to not take up too much space since storage is a premium	1/13/2025 1:54 PM
12	Not sure	1/13/2025 1:36 PM
13	This is hard to answer as I do not have the background information on what physiological factors affect neurodivergent students nor what helps them when the factors occur. I like the idea of a capable students recognizing and saying "Mrs. ____ I can see my ____ may I have a break please (or other response)" (but not sure how this device could get to that or at what age a student could do this)	1/13/2025 11:24 AM
14	Student alerted to indicators so can learn to self regulate and what works for them	1/13/2025 9:45 AM
15	I like the idea of a hoodie or device in a pocket...or a watch for the student	1/13/2025 9:02 AM
16	-a wristband with haptics, minimalist design that requires little to no management on the part of the teacher -has to be proximity-based if the student has more than one teacher, otherwise the teacher could be alerted when they don't have a student in their room. -designated pattern attached to a student (two beeps = student A, three long beeps=student B etc.)	1/13/2025 8:55 AM
17	Often students give facial expressions as an indicator of frustration, would it be hard to incorporate this into the technology? What would the harmful effects of sharing this info with school districts? It would possibly give the school board a better picture of teacher working conditions as frustration, violence and abuse is escalating in classrooms around BC daily.	1/13/2025 8:43 AM
18	-	1/13/2025 8:24 AM
19	Hmm...simple, basic device that may detect emotional/physical changes...ie heart rate	1/13/2025 8:21 AM

Q20 If you are interested in obtaining more information about this research, please feel free to contact researcher Jennifer Lamont at jlamont@ecuad.ca

Answered: 8 Skipped: 11

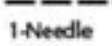
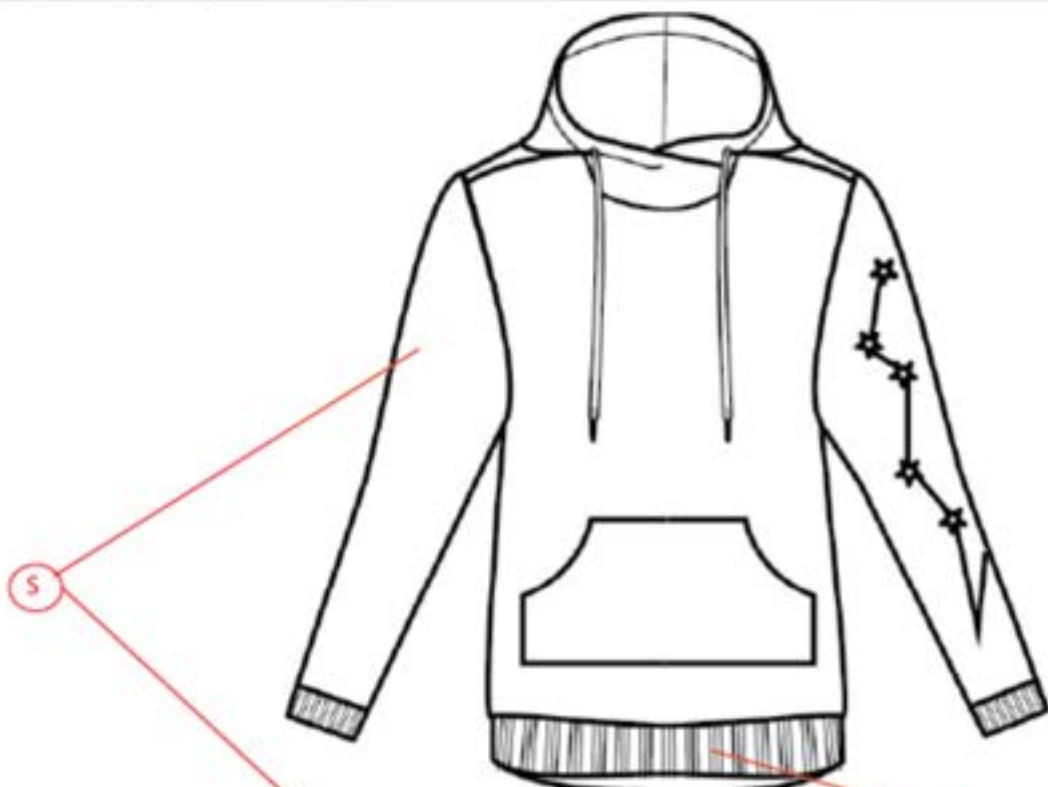
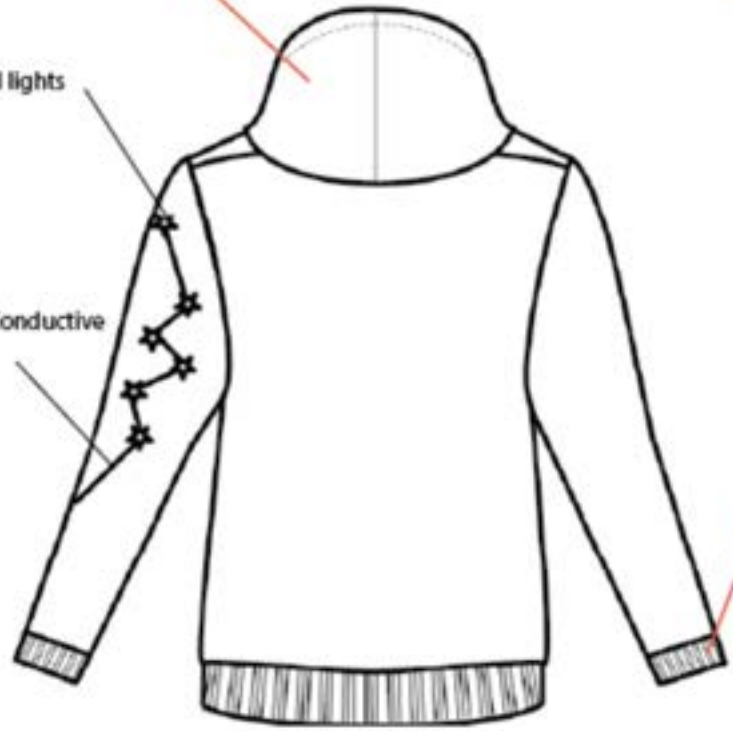
#	RESPONSES	DATE
1	ok	1/15/2025 8:27 AM
2	Ok	1/14/2025 7:12 PM
3	Good luck!	1/14/2025 12:40 PM
4	ok.	1/13/2025 4:38 PM
5	Thank you for the work you are doing.	1/13/2025 2:52 PM
6	I think this concept is interesting, however, I do foresee some pushback from teachers, particularly with 'who is monitoring'. Anytime a teacher is 'monitored' it tends to send up red-flags in terms of potential disciplinary actions should something go wrong. A lot is asked of teachers, and some will feel this is 'one more thing'. Also, this will definitely require the cooperation of the students who may be resistant to using it. I totally understand the intention of products like this and I think they have enormous potential to help students and teachers.	1/13/2025 8:55 AM
7	-	1/13/2025 8:24 AM
8	Thank you	1/13/2025 8:21 AM

III) PROTOTYPE STYLE CARDS (SQUISHY BALL VEST)

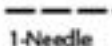
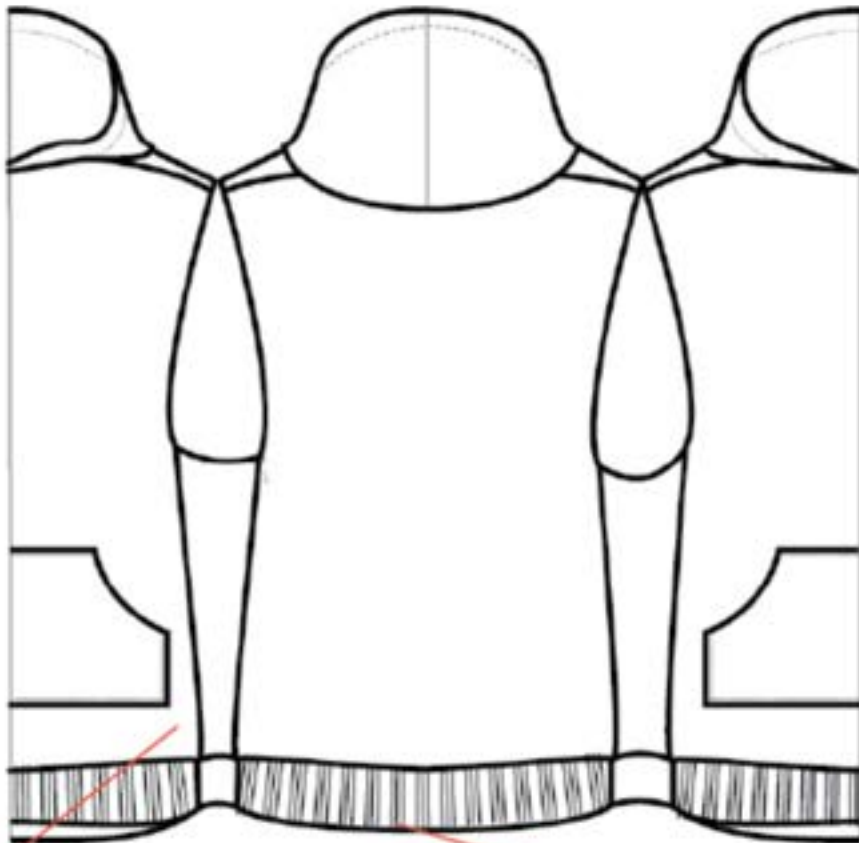
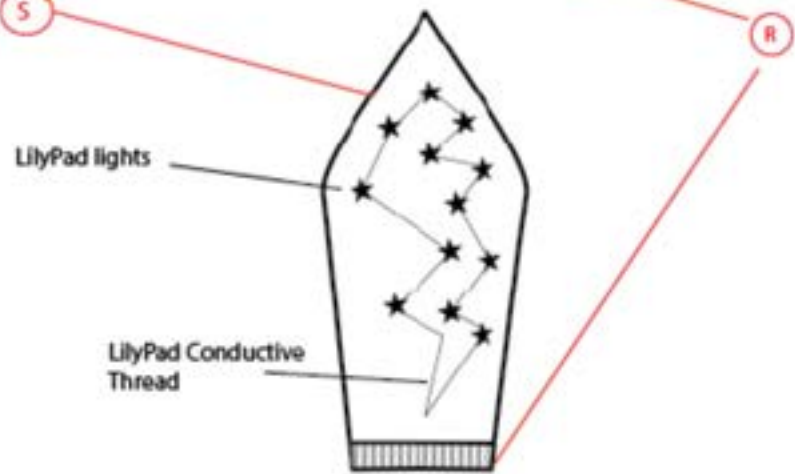
	STYLE CARD			
	Style Number:	140-70-CHF	Date:	November 2022
Stitch Guide	Style Name:	Squishy Ball Vest	Season:	Fall 2022
----- 1-Needle				
Fabric Guide				
				
(S) Self 100% Nylon Softshell Waterproof (1-ply)				
				
(R) Ribbing 80% Cotton 20% Spandex				
Notion Guide				
zipper 				

STYLE CARD	
Style Number:	140-70-CHF
Date:	November 2022
Style Name:	Squishy Ball Vest - Open View
Season:	Fall 2022
Stitch Guide	
1-Needle	
Fabric Guide	
S Self 100% Nylon Softshell Waterproof (1-ply) R Ribbing 80% Cotton 20% Spandex	
Notion Guide	
zipper	

IV) PROTOTYPE STYLE CARDS (TEMPERATURE HOODIE)

	STYLE CARD			
	Style Number:	50-20-CHF	Date:	June 2024
	Style Name:	Temperature Hoodie	Season:	Fall/ Winter 2024
Stitch Guide  1-Needle				
Fabric Guide  S Self 100% Cotton Jersey R Ribbing 80% Cotton 20% Spandex				
Notion Guide LilyPad - Temperature sensor  LilyPad - Lights  LilyPad - Conductive Thread 				

		STYLE CARD	
		Style Number:	50-20-CHF
Style Name:	Temperature Hoodie	Season:	Fall/ Winter 2024

Stitch Guide  1-Needle	
Fabric Guide  S Self 100% Cotton Jersey	
 R Ribbing 80% Cotton 20% Spandex	
Notion Guide LilyPad - Temperature sensor  LilyPad - Lights  LilyPad - Conductive Thread 	 Sleeve Open View