

Educator Perspectives of the Benefits and Barriers to Technology Use in Support of Students on the Autism Spectrum

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Overview

- Rationale
- The survey
- Results
 - Benefits of technology use
 - Barriers to technology use
- Discussion
- Handout with technology suggestions



Rationale

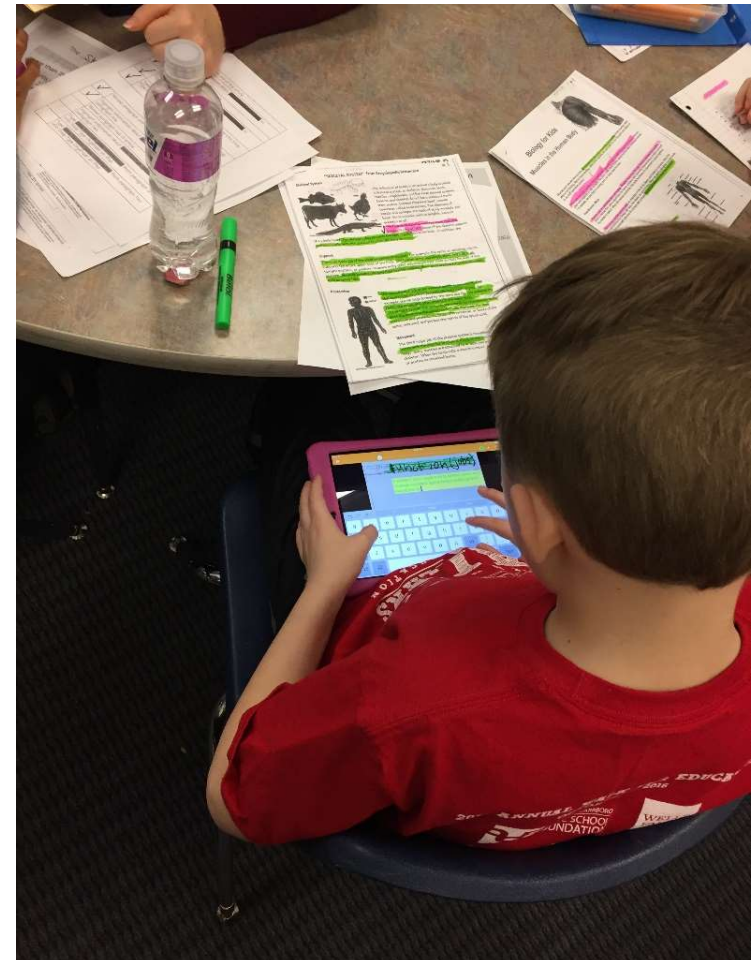
Reason #1 – Because IDEA says we should

The IDEA “authorizes activities to support the research, development, dissemination and **use of technology with universal design principles** so that technology is accessible and maximizes access to and participation in the general education curriculum.”



Reason #2 – Because it can be a good match for students with autism

- work at their own pace,
- work at their own level of understanding,
- repeat lessons until mastery is achieved,
- reduce social demands





Reason #3 – Because it's an evidence-based practice for students with autism

Technology aided instruction and intervention (TAII)

(and this includes speech-generating devices)

With TAII, teachers and practitioners focus on skills and behaviors they want the learner to acquire and how that might be accomplished using an available technology tool or application.

National Professional Center on Autism Spectrum Disorder



Technology defined

Technology is defined as “any electronic item/equipment/application/or virtual network that is used intentionally to increase/maintain, and/or improve daily living, work/productivity, and recreation/leisure capabilities of children with autism spectrum disorder”.

National Professional Center on Autism Spectrum Disorder



Goals that can be addressed by using TAI

- Teach emotion recognition
- Improve social skills
- Decrease self-injurious behavior
- Increase task completion
- Increase independent transitioning
- Increase self-management
- Increase knowledge acquisition
- Increase academic engagement
- Increase accuracy of spelling
- Teach vocabulary acquisition
- Increase school readiness
- Increase communication by use of speech generating device



Examples of how TAI can be used

- **Smartphone or tablet**

- Keep track of homework assignments

- **Desktop or laptop**

- View presentations to learn academic or vocational concepts

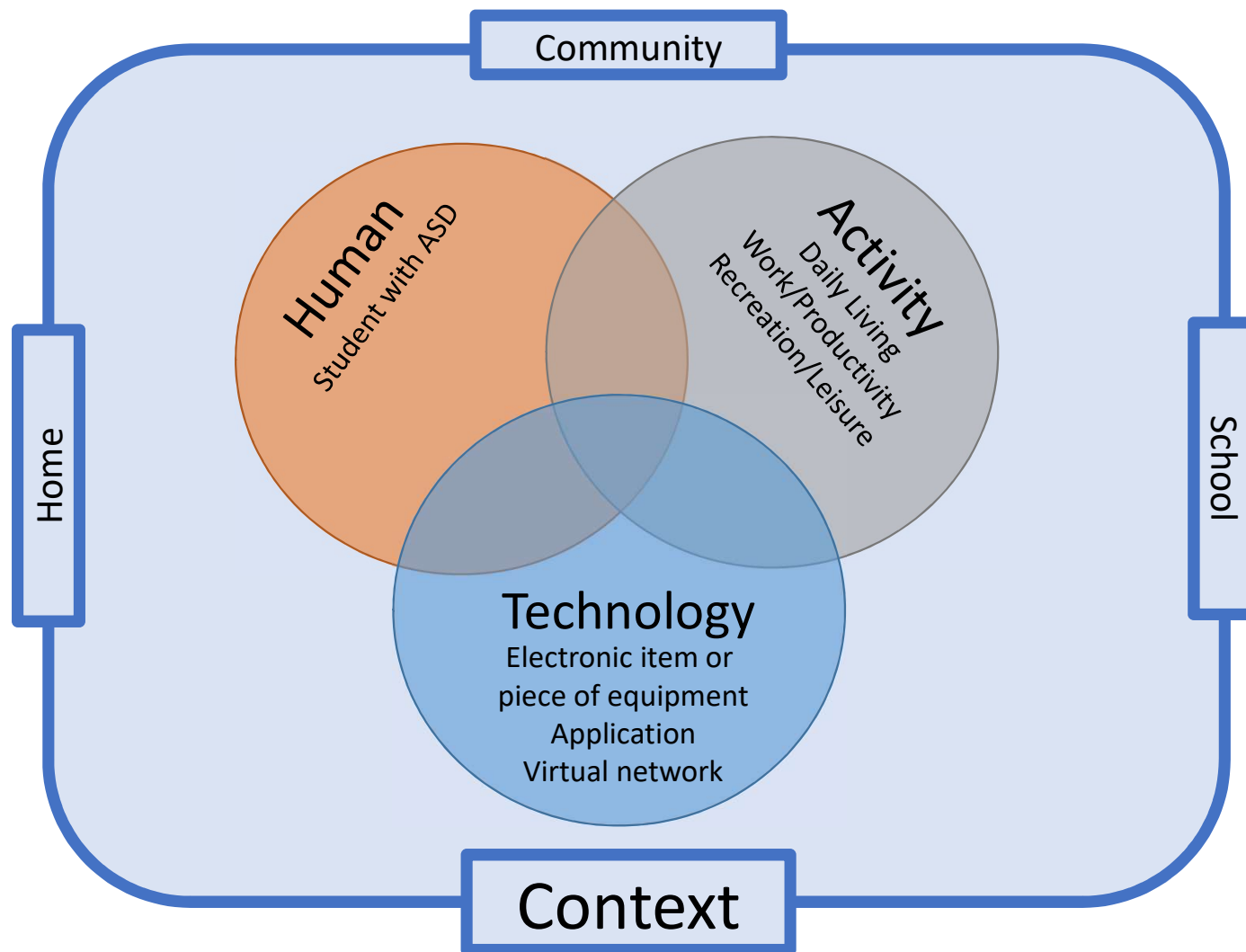
- **Computer software**

- Help students to learn to recognize emotions in others

- **Smartphone or tablet**

- To communicate with others by generating speech through the device

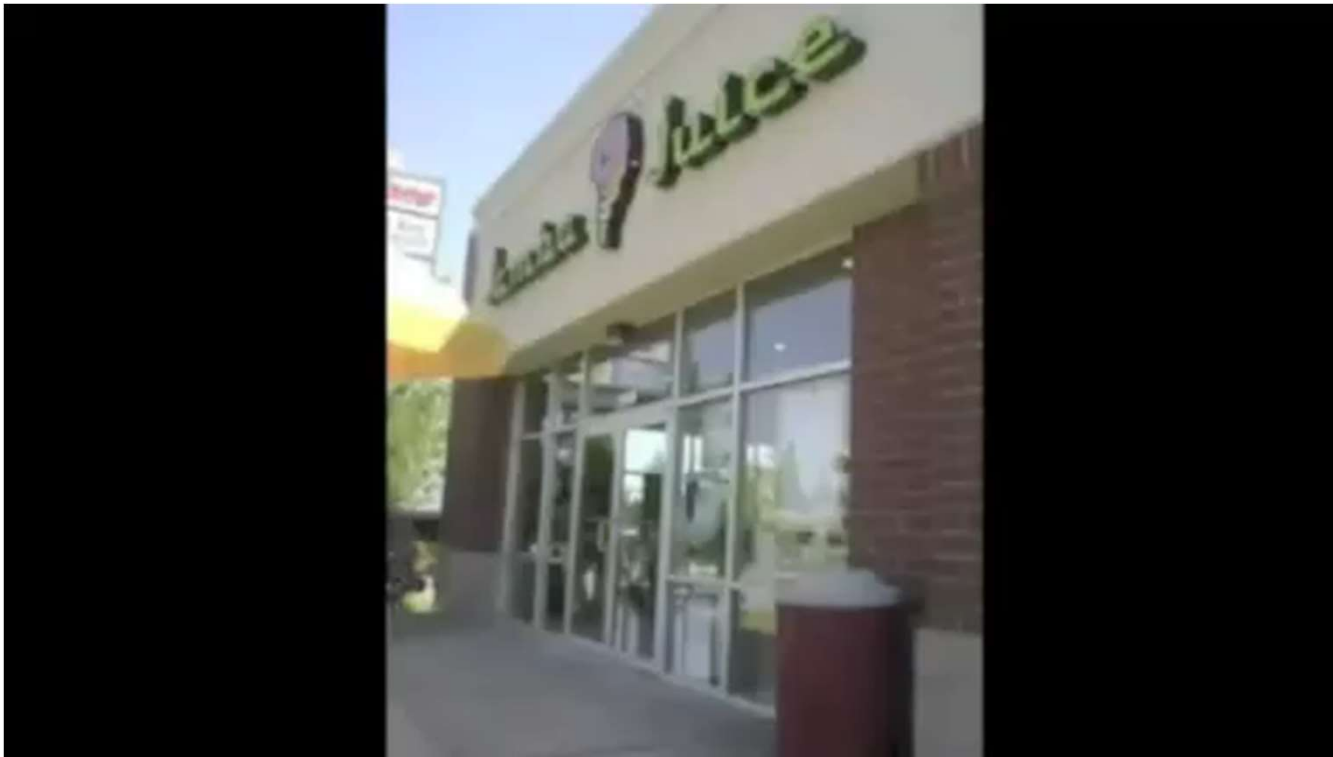




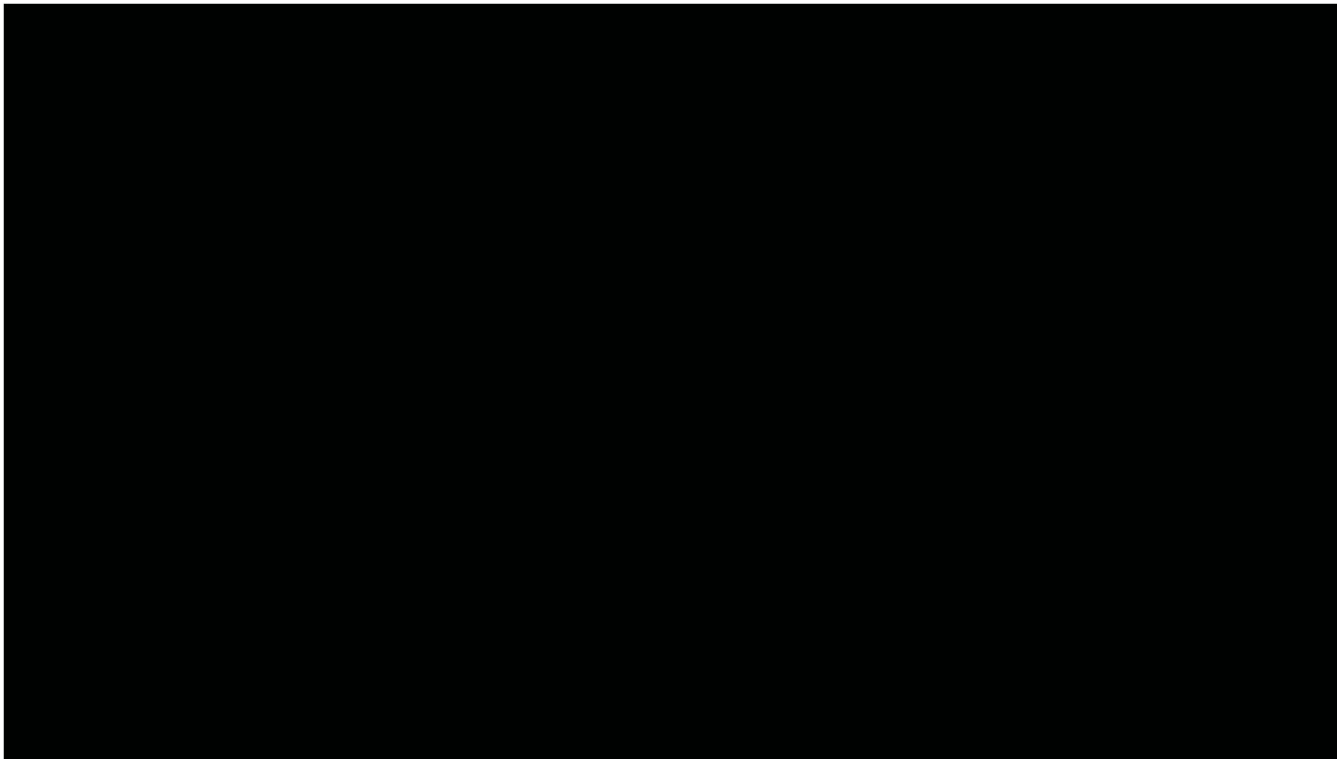
Conceptual framework for technology use for adolescents with ASD (Odom et al., 2014)

Developed by the Center on Secondary Education for Students with Autism Technology Working Group

Technology use to promote independence



Technology to help include student in the IEP



The survey



- Research & Development Center
- Funded by the Department of Education (IES)
- 60 high schools
- North Carolina, Wisconsin, California

Purpose: To develop and study a comprehensive high school program for students on the autism spectrum



The survey

- Technology surveys were a part of the high school project
- 3 surveys – Students, Parents, Teachers
- Paper surveys

This presentation focuses only on the teacher survey



Participants

- n=193
 - Special education teachers 70%
 - General education teachers 13%
 - Other including related service providers 16%
- Where they deliver services
 - Separate settings 21%
 - General education settings 39%
 - Both 39%



Questions

- What forms of technology are being used?
- How is it being used?
- What are its benefits?
- What are the barriers to using it more widely?



Results

What technology do teachers use?

- Laptop - 79%
- Desktop - 72%
- Tablet - 62%
- Smartboard – 49%



How do teachers learn about technology

Source	%
Other Educators	89
Professional Development	82
Web Search	73
Students	70%

For what purpose

For organization

- To track student progress (online gradebook) 77%
- To collect data on IEP goals – 74%
- To post other class information 47%

As a teaching tool

- To present materials visually-91%
- To have students look things up-80%
- To have students type things up-79%



Other purposes - motivation

Have you ever used technology as a motivator for your students with autism?	Response
Yes, by providing technology time as a reward	72%
Yes, by taking away technology time as a penalty	22%
No, I have not used technology time to motivate students	23%

Technology
to motivate
student
engagement



Technology as an area of strength

Statement:

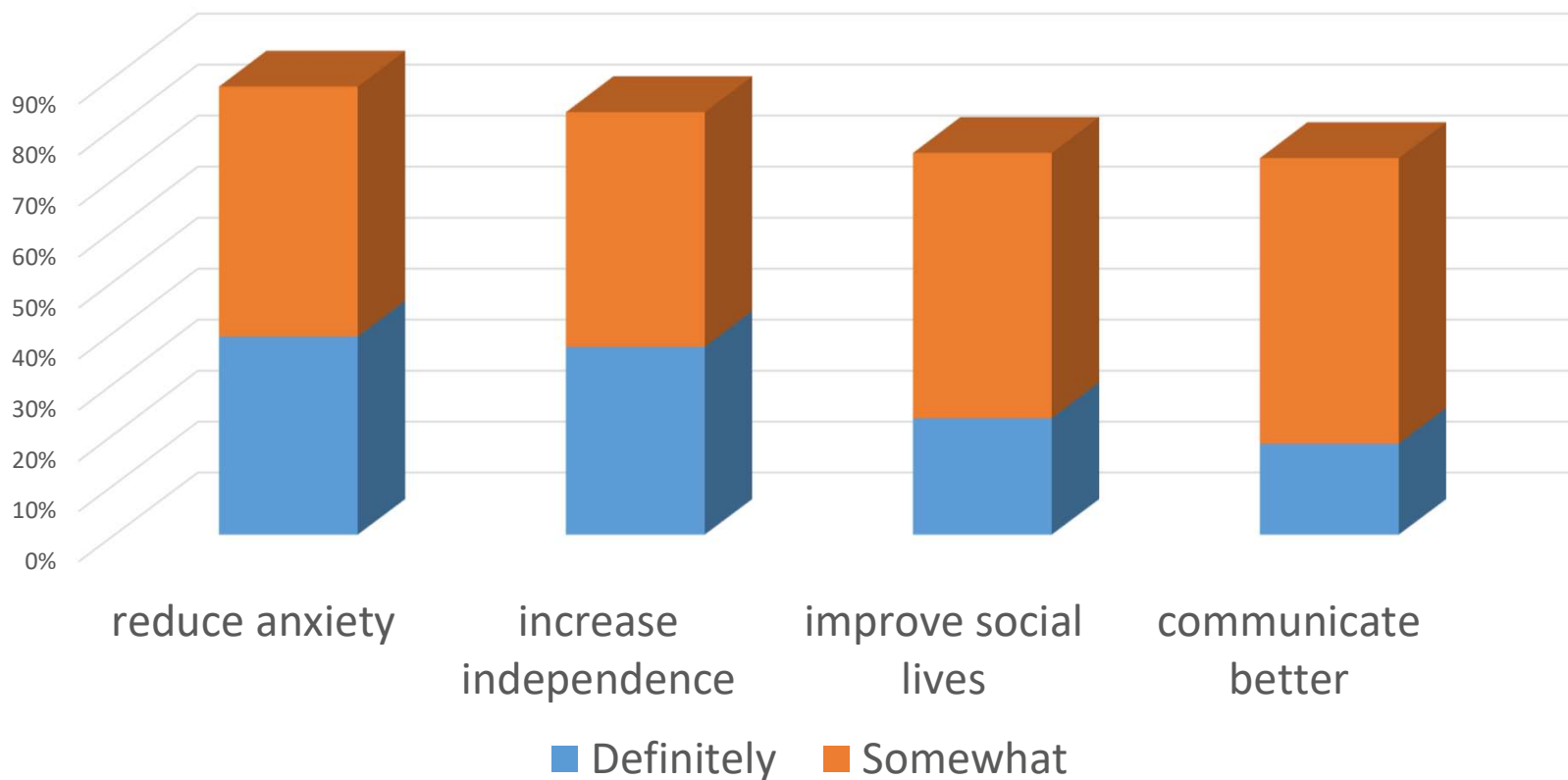
I would consider that using technology is generally an area of strength for most of my students with autism:

47% said definitely

43% said somewhat

Only 4% said not at all

Teacher opinions on benefits of tech use by their students



Using technology to help reduce stress or relieve anxiety

- 82% said their students listen to music
- 48% said their students phone or text a parent
- 23% wrote in other ways (videos/games....)



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Teachers wrote in suggestions for ways to use technology

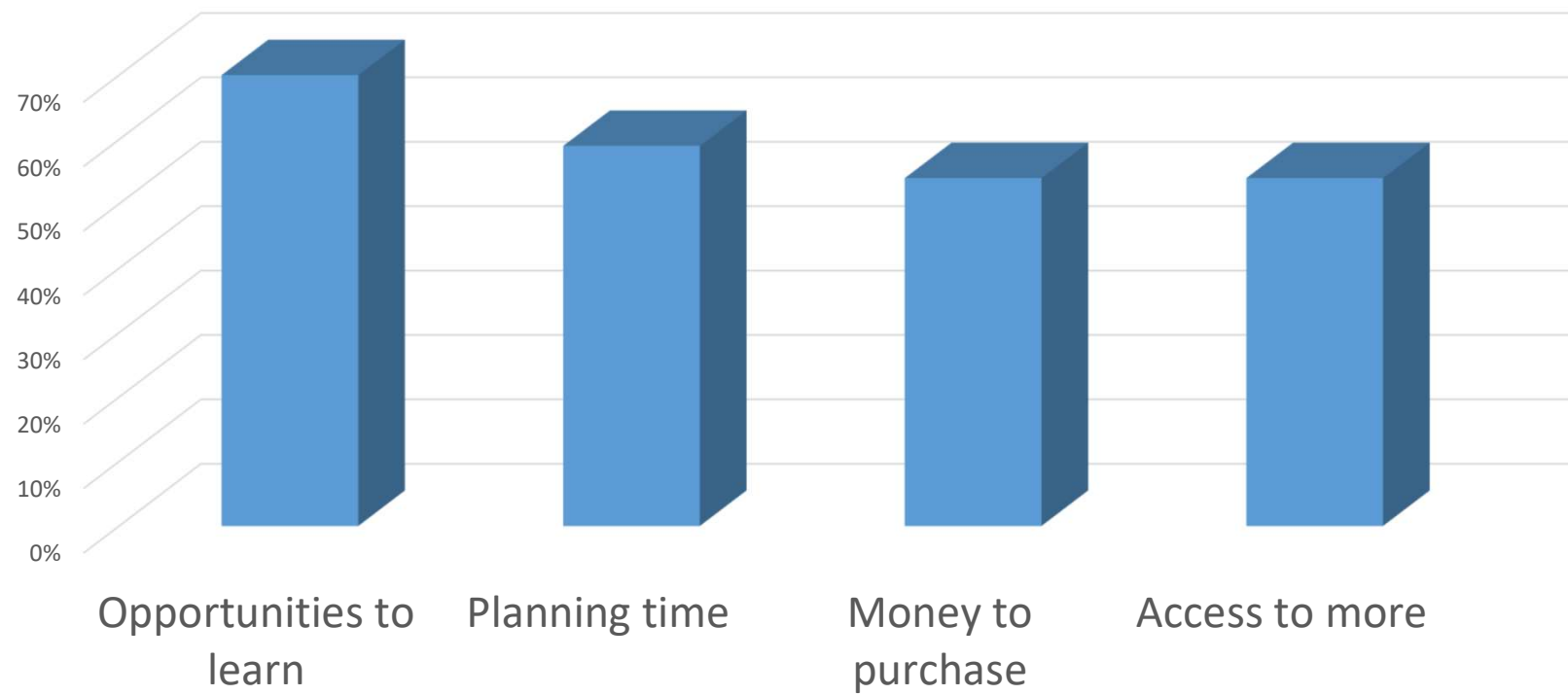
- Anxiety/stress reduction
- Organizational support
- Learning support

Some of their suggestions are listed in the handout!



Barriers

Barriers to teachers using tech more



Opportunities to learn effective ways to use

- International Society for Technology in Education (ISTE)
- EDUTOPIA – free online ed tech tools
- CEC- Division of Technology and Media
- Pinterest – teachers share their ideas
- Autism Speaks – app finder guide
- iTunes – look up autism apps
- Youtube – look for instructional videos
- Just google it

Finding time

- Once a month, make one of your weekly PLCs tech-related
- Schedule it – put it in your phone, a weekly 15 minute segment to search for technology

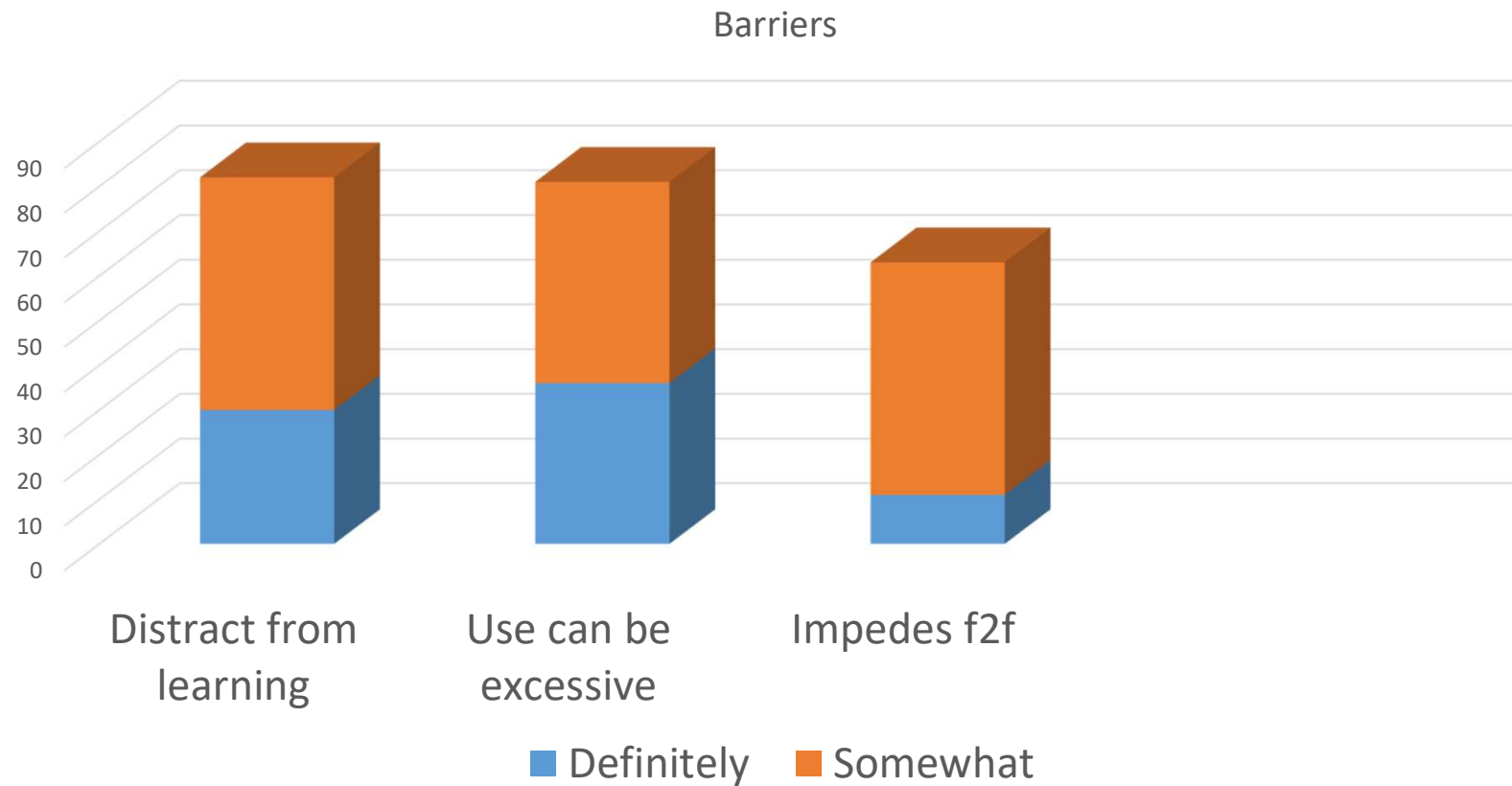


Finding resources

- Ask your principal
- Donors Choose
- Ask the PTA
 - Be specific about needs and purpose
 - Underline that it is an evidence-based practice



Negative aspects of tech use for students



Addressing the barriers-student excessive use

- Make use of timers-visual and auditory
- Have usage rules and post them
- Preview expectations
- Reward when students comply
- Use tools to restrict access and limit time



Discussion



What technology have you found to be especially beneficial?

- Apps
- Software
- Tools
- Functions
- etc



What barriers have you encountered?



Thank you for coming to this presentation.
If you have more questions, contact me at

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Don't forget to take a handout!