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Ensuring Video Meetings are Accessible for All Students

Comparing how Microsoft Teams for Education, Google Meet, and Zoom provide students accessible learning during video meetings.





Executive summary

Increasingly, educators use video to provide or supplement instructional experiences. Between virtual meetings and short tutorials, 81% of educators responded in "The State of Video in Education 2022" report that they use a virtual classroom platform for synchronous instruction and 80% said that they use tools for video creation in their classrooms.¹ Research suggests that video use in the classroom leads to increased motivation and confidence, improved learning outcomes, widened classroom participation, and expanded emotional engagement.²

As video meetings remain a valuable component of instruction, it's important that the format is accessible for each participant regardless of their instructional needs or preferences. According to the National Center for Education Statistic (NCES), 7.2 million students, or fifteen percent of all public school students in the U.S., received special education services during the 2020-2021 school year.³ When it comes to accessing video content, people with vision, hearing, motor, and cognitive disabilities may experience unique barriers to learning. It's important to consider accessibility when selecting a video meeting platform to eliminate barriers for all learners and avoid potential legal challenges due to inaccessibility.

Common video meeting solutions, such as Microsoft Teams for Education*, Google Meet*, and Zoom* enable educators and students to meet for instructional purposes. Although all these tools offer some degree of accessibility for teachers and students, Microsoft Teams stands out as the most accessible platform that caters to the language, visual, physical, and cognitive needs of students and educators.

Accessibility Specific Features	Microsoft Teams for Education	Google Meet	Zoom	
Language Features				
Live captions for live meetings	\checkmark	٢	\checkmark	
Live captions for recorded meetings	\checkmark	٢	¢	
Sign Language view	ø	\mathbf{X}	Ċ	
Chat translation	Ø	\times	\mathbf{X}	
Screen reader compatibility	\checkmark	\checkmark	\checkmark	
Cognitive Features				
Ability to record meeting and access recordiing	ø	٢	٢	
Video distraction reduction	Ø	٢	Ø	
Noise suppression	\checkmark	Ċ	ø	
Reading support	\checkmark	\mathbf{X}	\mathbf{X}	
Embedded view of whiteboard with ability to collaborate	ø	٢	ø	
Student access to chat post meeting	ø	×	٢	
Visual and Physical Features				
Magnifiers & contrast	\checkmark	\checkmark	\bigotimes	
Keyboard shortcuts	ø	\bigotimes	ø	
Voice commands	Ø	ø	ø	
Key Feature available and requires only a few selections to enable. Feature may be available, but has restrictions or takes multiple selections to enable. Feature may be available, but has restrictions or takes multiple selections				

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Accessible Language Features

With the diversity of K-12 classrooms constantly evolving, school systems need tools that are built-in, mainstream, and non-stigmatizing so they can support all learners. According to the U.S. Census Bureau, over 300,000 children between the ages of five and seventeen are deaf or hard of hearing,⁶ and most of these children do not have a formal Individualized Education Plan (IEP).⁷ The National Association for the Deaf states that any student who receives in-person sign language interpretation needs to have access to an interpreter in video meetings too. Both Microsoft Teams and Zoom provide a sign language view while Google Meet does not offer this feature. This study found that setting up these features was far easier in According to W3C⁴, an online consortium that establishes protocols and guidelines, there are three phases, or elements, of accessibility that schools should consider when reviewing remote meeting platforms:⁵

- The platform must be accessible
- The content being shared must be accessible
- The organizers and participants must know how to use the accessibility features

Teams than in Zoom. Teams offers the ability to set sign language settings by default for individual users; whereas, Zoom requires the organizer to turn on the feature on a meeting-by-meeting basis.

Additionally, Edweek reports an estimated 4.9 million children⁸ in U.S. public schools are learning the English language for the first time. Seventy five percent of Multilingual Learners (ML) in public schools report Spanish as their home language, with Arabic and Chinese reported as second and third.⁹ Providing accessible language support for MLs includes translating spoken captions and text-based chat messages in real time to the learner's preferred language. All three platforms provide spoken translation; however, only Teams supports chat or message translation.

Key Accessible Language Features

Microsoft Teams for Education	Google Meet	Zoom
Over <u>40 languages</u> and dialects available.	Two-way translation from English available in French, German, Portuguese, and Spanish.	Over 20 languages currently available.
Automates chat translation based on the user's settings. Over 100 languages available.	Not available.	Not available.

To provide an accessible and equitable learning experience during video meetings, platforms need to make both spoken and written chats accessible for participants. This can take the form of sign language interpreters or translated captions for spoken language or translated messages for written language. When one applies W3C's three-pronged analysis of accessibility features, platforms should not only have each feature but also make them available through the simplest process possible. Of the three tools reviewed, only Microsoft Teams for Education supports all three accessible language features tested.



The most recent draft of the Web Content Accessibility Guidelines (WCAG) highlights the importance of sign language interpretation for users during meetings.¹⁰ Currently, providing interpretation is a Level AAA, the highest level, requirement and only applies to prerecorded audio content. WCAG acknowledges that the growing trend of video meetings may need attention in future guidelines versions. Microsoft Teams already provides students with sign language interpretation options.





Accessible Language Feature Comparison

Sign Language Feature

Below spotlights how each of the video meeting platforms provides accessibility through embedded sign language views.









Google Meet has no way to save preferences or enable views of a sign language interpreter's video. Students must choose to pin the interpreter's video each time they enter a meeting to keep the interpreter's video focused on their screen with a larger layout.

Zoom hosts must set up a meeting or webinar in advance to utilize sign language view as this feature cannot be used during impromptu meetings. Organizations can save sign language interpreters' information in their organization settings, so hosts can send invitations to approved interpreters. When sign language interpretation is enabled by the host, the student simply selects whether or not to turn on interpretation and the interpreter's video pops out of the dashboard for an enlarged view that they can move around the screen.



Cognitive Accessibility Features

Broadly speaking, the term "cognitive disability" refers to the "physiological or biological processes within the individual, such as a genetic disorder or a traumatic brain injury."¹¹ One-third of students receiving special education services have a specific learning disability, such as dyslexia; approximately five percent of people have auditory processing disorders,¹² and fifteen percent of all people are estimated to have a disability.¹³

While students' cognitive learning needs can vary greatly, this study focuses on helping students learn in a distraction-free environment and access meeting content even after the session ends. <u>Universal Design for Learning</u> (<u>UDL</u>) guidelines offer educators standard approaches to create learning experiences that will be accessible for all learners.

According to <u>CAST</u>, widely regarded as the preeminent UDL experts, removing distractions is a core component of Principle 7.3¹⁴ which states that "some learners might find too much sensory stimulation distracting. All three video meeting platforms support background noise suppression and visual distraction reduction. Microsoft Teams adds the beneficial feature of automatically pausing Teams notifications when a user is in a meeting.

Students learn best when they have continued access to content in multiple formats, key components of the Perception UDL guideline.15 In terms of engaging with course content in video meetings, students not only need access to presentation materials but also chat threads that serve as a backchannel for clarifying questions and supplemental materials. Unfortunately, students who use Google Meet are unable to access chat after a meeting concludes. Zoom users can download a copy of the chat transcripts but only if certain administrator settings are selected. Then the student must go through the tedious process of finding the chat transcript file amid others in the meeting folder. Teams video chats are automatically added to the class team conversation and, if applicable, translated into each student's preferred language.





Cognitive Accessibility Feature Comparison

Recorded Videos and Saved Chats

Below spotlights how each of the video meeting platforms allows students and staff to access recorded meetings and chats.



Microsoft Teams for Education makes saving recordings, captions, and chats seamless by embedding everything into the class itself. Students can quickly select the video recording and turn on closed captions to review class instruction. Since the chat remains in the same location as the original meeting chat, students can peruse the chat for key reminders or steps.

Google Meet product image is not available. With the appropriate subscription, recorded meetings are saved in the meeting organizer's Google Drive*. Meeting chats, however, are not saved so students and staff are unable to view chats after the meeting is over.



Zoom allows hosts and/or participants to save recorded video and caption files when this feature is enabled by an account owner. Account owners can also enable chats to be saved as a separate option. Each file is saved separately making it difficult for students to navigate to individual files after the meeting has ended. Moreover, to view the video with captions, the educator or student would need to upload both the video file and caption file to another program like YouTube* or Microsoft Stream* to consolidate them into a single, captioned video.



Visual and Physical Accessibility

This study found parity when comparing how the three video meeting platforms accommodate visual and physical accessibility. For full disclosure, the K12 Blueprint team compared the platforms based on their inclusion of keyboard shortcuts, voice assistance, chat alt text, and magnifiers and contrast.

Conclusion

As the prevalence of video meetings grows and the emphasis on providing an accessible and equitable education to all learners increases, schools must remain vigilant when evaluating the accessibility of video meeting platforms. With needs varying from language barriers, such as being Deaf or hard of hearing or being a Multilingual Learner, to cognitive barriers, like dyslexia or attention deficit disorder, students depend on video meeting platforms to access and engage with learning content, educators, and classmates.

Microsoft Teams for Education provides a more comprehensive and accessible video meeting platform for schools than Google Meet or Zoom. From simple, one-time sign language settings to instant captions with live translations and streamlined access to chat transcripts, Teams delivers a person-first platform that gives students and educators the tools they need to thrive.

Testing Information

In conducting this comparison, the K-12 Blueprint team tested using the following devices, configurations, and applications:

- Dell XPS 00882 running Windows 11 Version 22H2
- MacBook Pro running macOS Ventura Version 13.3
- Google Workspace for Education Fundamentals subscription
- Zoom Business Version 5.13.11
- Microsoft Teams for Education Version 1.6.00.6754 (Microsoft 365 A5 subscription)

Sources

- 1 Source: The State of Video in Education 2022
- 2 Source: <u>The Impact of Video in the K-12 Classroom: A scoping study</u> of instructional video research
- 3 Source: <u>Students with Disabilities</u>4 Source: <u>About W3C</u>
- 5 Source: <u>Accessibility of Remote Meetings</u>
- 6 Source: U.S. Census Bureau
- 7 Source: Educating PreK–12 Deaf and Harf of Hearing Students
- 8 Source: The Nation's English-Learner Population Has Surged
- 9 Source: <u>National Center for Education Statistics</u>
- 10 Source: Accessibility of Remote Meetings
- 11 Source: <u>Cognitive Disability</u>
- 12 Source: <u>Auditory Processing Disorders Demographics</u>
- 13 Source: World Report on Disability
- 14 Source: <u>Minimize Distraction</u>
- 15 Source: <u>Perception</u>

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