



More than Amplifying Voice and Providing Choice: Educator Perceptions of Flipgrid Use in the Classroom

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Abstract

While the video discussion tool Flipgrid has increasingly become popular among educators, limited research has been conducted with Flipgrid as the subject. The research on Flipgrid has focused, to date, primarily on single-case uses. These studies have been beneficial in examining how Flipgrid is being used in isolated contexts. The goal in conducting this study was to add to the research base by exploring on a macro level how educators are using Flipgrid and how they perceive the use of Flipgrid enhancing student learning. To meet this goal, we conducted an online survey to gather data on educators' ($n = 230$) uses of Flipgrid and their perceptions about Flipgrid use on student learning. The data show that primary uses of Flipgrid are promoting creativity and formative evaluation of student learning. Data analysis suggested that teachers perceived Flipgrid to be a valuable teaching tool and a valuable student learning tool. We discuss these findings and implications for Flipgrid users and those who provide support for and training on Flipgrid.

Keywords Flipgrid · Student-centered use · Student outcomes · Technology integration · Teacher perceptions

As teacher educators who specialize in educational technology and work with teachers on effective technology integration, it is important that we are aware of the digital tools that educators are using. Understanding what educators are using, how they are using them, and the perceptions they have on how these tools enhance student learning will help us assist them in more effectively integrating the tools into teaching and learning in student-centered ways. Additionally, having an awareness and understanding of how these tools are being used can lead to the integration of these tools into our own teaching so we can model effective use. This is especially important for preservice and beginning teachers who can benefit from observing technology used effectively (Adamy & Boulmetis,

2006; Darling-Hammond et al., 2009; Lambert et al., 2008; Mills, 2014).

Our work over the past two decades has had a focus on this awareness and understanding of how educators are using digital tools (e.g., Carpenter et al., 2020; Donovan et al., 2014; Green et al., 2020; Robinson et al., 2007). We have been involved in observing and documenting trends and issues in educational technology and instructional design in K-12, higher education, and corporate training for over a decade (e.g., Brown 2008; Carpenter et al., 2020; Donovan et al. 2014; Green et al., 2020) as have others (e.g., Education Week, 2017, 2019; Evans, 2019; Freeman et al., 2017; Johnson et al., 2016; Resier & Dempsey, 2018; Seaman et al., 2018; Weller, 2020). Although work in this area has been going on for decades, more attention needs to be paid to, as Selwyn (2010) wrote, “how digital technologies are actually being used—for better and worse—in ‘real-world’ educational settings” (p. 66).

Building on this notion, we explored the cloud-based, social learning platform Flipgrid, a popular tool that is being used by educators in PK-12 and higher education. According to their website homepage, “Flipgrid is a simple, free, and accessible video discussion experience for PreK to PhD educators, learners and families” (Flipgrid, 2021). They add: “Our mission is to empower every learner on the planet to

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share their voice and respect the diverse voices of others Flipgrid provides students with the opportunity to have online discussions (called topics) using short videos (with transcripts for accessibility) to engage in active discourse (Bartlett, 2018). As a digital learning tool, Flipgrid could most simply be equated to an asynchronous discussion board in a learning management system (LMS). However, Flipgrid is a stand-alone website and app that although it will integrate into the most popular LMSs, educators can use Flipgrid by simply sharing a link (private, requiring log in, or public) or QR code. Flipgrid is unique in its design in that an educator creates an assignment by providing a prompt (either written or video) and students in turn create their own video (or written) response. Educators can set the time limit for video posts, moderate posts and allow (or not) for students to respond to each other. Additionally, the educator can allow students to personalize their videos with stickers and filters such as adding a hat, glasses, and mustache. Once videos are recorded, the student can preview and if desired redo their video prior to posting it.

Flipgrid, as of the writing of this article, has been around for almost a decade. It was developed in the Learning Technologies Media Lab at the University of Minnesota (University of Minnesota, 2021). In mid-2018, Microsoft announced their acquisition of Flipgrid, and since that time it has been free to use and its popularity has soared. Although specific numbers are not publically available about how many educators are using Flipgrid, Team Flipgrid indicates that “100M educators, learners and families in 190 countries” are being supported (A. Arnold, personal communication, February 11, Arnold, 2021). Social media Flipgrid accounts support the notion of its popularity with 147.7 K Twitter followers, 23.1 K Instagram followers, and two private Facebook groups (Flipgrid Educators and Flipgrid group for educators) with 24.9 K and 17.6 K members (as of February 12, 2021).

Our exploration of Flipgrid was done with the purpose of better understanding teacher use of Flipgrid and their perceptions about the impact that Flipgrid has had on their students’ learning. To meet this purpose, two questions were asked. They were:

RQ1: How do educators report using Flipgrid in the classroom?

RQ2: How do educators perceive the use of Flipgrid enhancing student learning?

Review of Relevant Literature

Like many emerging technologies, research is limited as scholars wrestle with the appropriateness of the tools, how they fit within the larger context of scholarly literature, and the applications and practicality of their use for teaching and learning. While Flipgrid is a popular tool, the literature

surrounding its use from a research perspective is still limited. In reviewing, we conducted a broadly-defined search of the literature on Flipgrid use in education with the focus not limited to PK-12 educational contexts. We did, however, place a limitation for inclusion of the research by referencing research on Flipgrid that was published in 2018 and on (this was done based on the year Microsoft purchased Flipgrid). We examined published articles as well as published proceedings from national professional meetings well known for capturing researchers’ initial investigations with emerging technologies. In reviewing the literature, we observed three strands: descriptive and strategies of use, facilitating student connectedness, and modeling tools for teaching and learning. Our study is placed within the context of the literature we reviewed.

Descriptions of Use and Strategies

Given the relative newness of Flipgrid in the literature, much of what is written is descriptive in nature or describes strategies for using Flipgrid in specific contexts. As an example, Green and Green’s (2018) article provides an overall description of the functionalities of the tool and offers insight into how this tool might be used within an online course context. The authors capture several affordances of the tool including, various recording and media upload abilities, number of engagement actions, sharing capabilities, and the integration within other popular platforms. Kiles et al. (2020) touch on the various accessibility features that aid in reaching all types of learners. Agan et al. (2020) provides detailed images depicting instructor grids and how students have interacted with the tool as part of their learning. Additionally, Flipgrid has been likened to various social media platforms such as Instagram and Snapchat (Kiles et al., 2020; Miller et al., 2020).

As instructors consider integrating tools like Flipgrid into their teaching, issues related to accessibility and inclusion are at the forefront. One approach, according to Gronseth and Bauder (2018), has aligned various tools to the principles of Universal Design for Learning (UDL). Considering the UDL framework advocates equitable opportunities to engage in learning for all students, the affordances provided by Flipgrid aids in meeting UDL principles. Gronseth and Bauder note how video recording allows for increased emotion and support from viewers. Similarly, Rao et al. (2014) found that the implementation of UDL has shown positive outcomes and increases overall engagement.

Moving beyond descriptive uses, many authors have discussed what implementation might look like in practical settings. Taylor and Hinchman (2020) explored the capabilities of Flipgrid as a tool to facilitate learning in kinesiology. The visual nature of the tool is thought to aid in reviewing skills, linking theory and practice, and evaluation and assessment of physical skills. Further, the authors touch on the idea of learning across time and space, where in-person class time

is increased to provide hands-on instruction and individual student learning. Additionally, Flipgrid has been used in various contexts to support teaching and learning practice. At the university-level, instructors integrated Flipgrid to support engineering students' presentation skills (Miskam & Saidalvi, 2019), pharmacy students' self-reflection (Kiles et al., 2020), world language students' speaking and listening skills (Mango, 2019), and university-wide online learning opportunities (Welch, 2019). Specifically in education, Flipgrid has been used across the full spectrum of academic levels. From supporting elementary students (Angelone & Gerstner, 2020; Miller et al., 2020) to preservice teachers (Angelone & Gerstner, 2020; Delmas & Moore, 2019, November; McIntyre et al., 2020), as well as graduate-level students in online programs (Lowenthal & Moore, 2020) and in general research methods courses (Ostashewski, 2020). Flipgrid has found its way into a vast variety of educational environments.

Facilitating Student Connectedness

Infusing a sense of course community and connection within the online space has been a source of great interest. As online instructors strive to represent their social, cognitive and physical presence (Garrison, 2003; Garrison et al., 2000) in the online and virtual environments and to present themselves as real people (Lowenthal & Moore, 2020), many have used emerging technologies to facilitate this process. Many are using Flipgrid as a way to build in social learning, breed student connectedness, and infuse a sense of community. Often this occurs through introduction topics where students reveal personal anecdotes, showcase their unique selves, and the feel of learning is more informal. By incorporating these activities, students connect to their classmates, get to know each other better, and interactions are more personal (Agan et al., 2020; Keiper et al., 2020). Lowenthal and Moore (2020) noted how introduction posts were positively perceived by students for their ability to enhance classmate connections directly relating to social presence. Findings from Ostashewski's (2020, November) study resulted in supporting the various presences; noting introduction grids were more widely viewed than content-related grids. Additionally, the implementation of Flipgrid has resulted in students' feeling a greater sense of connection to their instructor (Delmas & Moore, 2019, November).

Like all the authors highlighting an increased sense of student connectedness, student satisfaction was widely noted. Students found Flipgrid enjoyable, providing sentiments of how much they liked the tool, and its ease of use. Kiles et al. (2020) documented a rate of 96% student satisfaction in using Flipgrid for discussion. However, engagement was not significantly increased over text-based responses. Bartlett (2018) developed a model for engaging online learning by aligning to Ajzen's (1991) Theory of Planned Behavior. Pairing

Flipgrid to this model ensures students' perceptions include the importance of society, self, and confidence. Findings resulted in increased student and instructor engagement. In summarizing reasons many choose Flipgrid as a way to facilitate student connectedness, Fahey et al. (2019) state that:

Using Flipgrid isn't about recording videos...it's about learning. Learning that is social, personal, can happen anywhere and anytime, about making connections, it's deep exploration, and promotes that everyone is a teacher and everyone is a learner. (p. i).

Modeling Tools for Teaching and Learning

Modeling tools for teaching and learning is especially important for preservice teachers. Doing so improves student confidence (Adamy & Boulmetis, 2006), and impacts the likelihood of future application into their own teaching practice (Mills, 2014), where students see the usefulness (Lambert et al., 2008) and value (Darling-Hammond et al., 2009) of digital tools for teaching and learning. When examining how instructors are utilizing Flipgrid to model the effective use of technology, the literature suggests that many are doing so through English as a second language (ESL) instruction. Petersen et al. (2020) integrated the use of Flipgrid because of its easy-to-use platform within smartphone technologies. Specifically students praised the tool for use when conducting speaking activities, responding to questions, and exploring language development. Similarly, Mango (2019) surveyed students on their perceptions of using this tool for language development. Emerging themes resulted in developing confidence by practicing speaking and listening skills, and positive thoughts of social engagement. Oral presentation skills are valuable for students and educators alike where Flipgrid offers opportunities to strengthen the act of oral presentation, as well as providing feedback (Miskam & Saidalvi, 2019).

Using Flipgrid allows educators to connect theory and practice. Much like teacher education, nursing students complete practicums and document, analyze, and reflect on their experiences. Sebach (2020) integrated the use of Flipgrid to capture these practicum experiences. Students reported being able to document their experiences in a more engaging and complete way over text-based response. Additionally, faculty were able to provide meaningful feedback in real-time where students were able to adjust their practice. Utilizing asynchronous tools like Flipgrid is a valuable endeavor. Lowenthal et al. (2020) argue that instructors "are modeling tools that teachers may use with their own students" (p.384) and supports development of pedagogy and good instructional practice (Musgrove et al., 2019).

In sum, research on Flipgrid to this point has focused largely on uses and student perceptions. There is a consensus that

Flipgrid is a valuable teaching and learning tool that provides a range of individual implementation configurations for learners of all ages. What is missing is a discussion of teacher perceptions and a more categorical description of the ways Flipgrid is being used (or not) in contrast to how it was intended to be implemented.

Methods

This exploratory study uses simple descriptive statistics and qualitative data to examine educator perceptions and uses of Flipgrid. We gathered data through a survey administered online using the survey platform Qualtrics. The survey design was informed by a previous study conducted by one of the authors on another digital instructional tool (Carpenter et al., 2020). Participants ($n = 230$) were solicited, through convenience sampling, for approximately two months, via postings on Facebook, Instagram, and Twitter that included an invitation to take the survey. Targeted participants were solicited through two Flipgrid Facebook groups with the assistance of a Flipgrid Educator Innovation Lead. The invitation we used to solicit participation in the study included a hyperlink that led participants to the survey on Qualtrics.

Instrument

The survey included a variety of item types, including Likert-scale items, close-ended prompts, and open-ended prompts. The survey consisted of 27 items that included questions about participant demographics and their teaching environment (12 questions), use of social media and self-reported technology proficiency (2 questions), uses of Flipgrid (13 questions) including personal/professional and student frequency of use, types of student use, and perceptions of challenges and benefits. One question asked participants to describe a learning experience that they thought effectively used Flipgrid.

Data Analysis

We began our data analysis with basic descriptive statistics for frequency to describe our participants. We feel this is important as it adds to the relevance of the study findings for others who may be considering the adoption of Flipgrid. Next, descriptive statistics (frequency and mode) were calculated for the Likert-style questions. A constant comparative analysis was conducted on the qualitative data gathered from the open-ended questions (Glaser & Strauss, 1967; Fram, 2013; Leech & Onwuegbuzie, 2007). We used a two-cycle coding process (Saldaña, 2013) to identify themes from the data. The first coding cycle was conducted by two of the authors who independently coded the responses of open-ended questions into

categories based on the words and phrases used by the participants (Miles et al., 2014). A second coding cycle was conducted—pattern coding. We compared the categories from the first coding cycle and grouped the categories into a smaller set of themes based on similarities of the categories. Once we had the themes, the third author independently examined the themes and the process used to arrive at the themes.

Participants

A total of 230 educators responded to the survey. Most were elementary teachers (Table 1). The overwhelming majority of participants taught in public K-12 schools (Table 2). Of those K-12 teachers who responded ($n = 204$) to the question about students at their school on free or reduced-lunch (a common gauge of poverty level in the United States), approximately half indicated working in high-poverty schools. The greatest number of educators indicated that they had taught for 11–20 years ($n = 105$; 45.6%) followed by those with 21–30 years ($n = 64$; 27.8%) experience, 6–10 years ($n = 31$; 13.5%), 1–5 years ($n = 16$; 7%), and 31+ years ($n = 14$; 6.1%). The majority indicated that their primary role was a regular education teacher ($n = 156$; 68%). In addition to those identifying as K-12 teachers (regular education or special education— $n = 10$; 3.9%), there were those whose roles were reported as instructional technology facilitator ($n = 13$; 5%), higher education faculty ($n = 10$; 3.9%), instructional coach ($n = 9$; 3.5%), administrator ($n = 5$; 2%), and media specialist/librarian ($n = 5$; 2%).

The participants generally identified themselves as being early adopters of technology with 52.6% ($n = 137$) strongly agreeing and 24.2% ($n = 63$) somewhat agreeing with the statement: I am an early adopter of technology. Only 4% indicated that they either somewhat disagree or strongly disagree with this statement. A majority of participants indicated using a variety of social media and other digital tools for educational purposes or professional development more than

Table 1 Participants' Grade Level

Grade Level	N	%
PreK	2	.9
Elementary	110	47.8
Middle School/Junior High	32	13.9
High School	50	21.7
K-12	13	5.6
Post-Secondary	12	5.2
Other*	11	4.8

*Other included participant written entries such as music teacher, coach, dual-immersion, all grades, university, theatre teacher

Table 2 Participants' School Type

School Type	N	%
Public K-12	115	50
Public Charter K-12	68	29.6
Private K-12	23	10
University/College	15	6.5
Other	9	3.9

*Other included participant written entries such as parochial, secondary, PK, and U.K.

once a day or daily. YouTube and Facebook were the most frequently used more than once a day or daily (Table 3).

Most participants indicated that their students had access to technology at school. Approximately two-thirds of participants indicated that their students had access to a school-provided laptop or tablet ($n = 154$; 70%). Participants also indicated that their students had easy and consistent access to a laptop/tablet or computer labs ($n = 65$; 28.3%) and had reliable Internet access at school (94.8%). Approximately three-quarters of students had consistent access to the Internet at home along with 88% having consistent access to a computer, table, or smartphone outside of school.

Results and Discussion

The sections that follow address our two research questions by detailing participants' reported uses of Flipgrid in their practice and descriptions of participants' perceptions about how the use of Flipgrid enhanced their students' learning.

RQ1: How do educators report using Flipgrid in the classroom?

Five survey questions dealt with participants' use of Flipgrid in the classroom. These questions focused on the number of years using Flipgrid, total number of topics created for student

Table 3 Social Media and Digital Use by Participants for Educational Purposes or Professional Development

Social Media/Digital Tool	Use More Than Once a Day	Daily
Facebook	96 (41.7%)	56 (24.3%)
YouTube	93 (40.4%)	47 (20.4%)
Zoom	92 (40%)	10 (4.3%)
Google Meet	69 (30%)	7 (3%)
Twitter	67 (29.1%)	25 (10.9%)
Instagram	49 (21.3%)	31 (13.5%)
Flipgrid	36 (15.7%)	20 (8.7%)

use, total number of student responses, total engagement time across topics (i.e., total minutes of videos created), and how often Flipgrid is used as an instructional tool in the classroom. We have provided summaries (as either means, totals, or percentages) of participant responses to these questions along with a discussion of these results.

Years Using Flipgrid

Participants were asked to report on how many years they had used Flipgrid. A sliding scale from zero to 8 was used to measure this (participants could select fractions of years). The highest number of years using Flipgrid reported by a participant was 6.28 with the mean being 2.36 years for all participants. In order to make sense of the data, we felt it important to view from a perspective of years teaching. The highest mean for years of Flipgrid use was for those teaching 31+ years at 2.99 years followed by 2.51 years for those teaching 11–20 years (Table 4).

There are two results that we believe stood out from the data (Table 4): the highest average years of using Flipgrid being from teachers having 31+ years of experience and the highest maximum years using Flipgrid is from a teacher with 21–30 years of experience. We believe these results point to three things. First, it raises concerns about the baleful notion of digital immigrants and digital natives and the use of technology. Data from our participants indicate that veteran teachers—who would be considered digital immigrants and not naturally drawn to using technology—have been using the tool the longest (maximum number of years and on average) and are quite capable of integrating this technology. Granted, the data on how many years of use does not indicate that the tool is being used effectively, but it does indicate that it is being used. Second, considering that Flipgrid has only been free to use since being acquired by Microsoft (approximately 3 years ago) and that the mean years of use by participants is almost 3 years, we interpret this to indicate that teachers seem to consider multiple factors, such as cost, when adopting a tool for classroom use. Our own use of the tool was impacted by issues of accessibility, and although we were early adopters (one of us began using Flipgrid in 2015), as educational technology specialists, we knew we could not promote a tool that was not compliant with accessibility laws. We came back to using the tool in our teacher education courses once accessibility issues were solved by Flipgrid. Third, our experience as teacher educators and the data that teachers with 1–5 years teaching (assuming they were in teacher credential programs immediately prior) have a mean of less than two years of Flipgrid use leads us to conclude that Flipgrid use may not be widely modelled and promoted in teacher educator programs. This is confirmed by our own experience, in which we introduced Flipgrid to our colleagues

Table 4 How many years have you been using Flipgrid?

Number Years Teaching	Maximum Years (Flipgrid)	Mean Years (Flipgrid)
1–5	3.05	1.94
6–10	4.00	1.85
11–20	6.00	2.51
21–30	6.28	2.35
31+	5.10	2.99

two years ago (2019) and none of our colleagues had heard of it before.

Frequency Use, Number of Topics, Total Responses, and Total Engagement Time

When asked how often they use Flipgrid with students, participants' top two responses were *Once a week* (29.5%) and *About 1 time per month* (27.3%). This was followed by *Several times a week* (15.9%) and *1–2 times per semester/grading period* (14.4%). *Daily* (12.9%) was the least selected choice. Related, participants were asked to share the total number of topics created for student use, the total number of student responses, and total engagement time across topics (i.e., total minutes of videos created). The mean of topics created by participants was 78 with the highest number of topics created being reported as 1000. It should be noted that the person with 1000 topics is in an instructional coach role which could impact their use of Flipgrid. Participants on average had 536 h of engagement with an average of 654 responses. The greatest reported total engagement time was six months. The highest number of total responses was reported as 13,000 across 200 topics from a regular education elementary school teacher who has been using Flipgrid for 6.28 years. Elementary teachers reported the highest level of use with an average of 91 topics, 942 responses, and 213 h of engagement time across all topics.

The data indicate that participants are using Flipgrid on a consistent basis. This, along with data about how participants are using the tool with their students (Table 5), indicates that participants are purposeful in their use. We also observed from the data that with almost three-fourths using Flipgrid from once a week to once a month to 1–2 times per semester/grading period, Flipgrid is one of many digital tools teachers are using with their students. The data from Table 3 supports this.

We found it interesting that elementary teachers reported the highest average number of topics created along with the highest average number of student response and engagement time across topics. A definitive determination of why elementary teachers reported a higher use of Flipgrid on average requires further research investigation. It may be that elementary teachers who teach multiple subjects with the same

students may be able to provide their students with more opportunities to use Flipgrid across multiple content areas. It may also be attributed to our one participant with 13,000 responses impacted the results.

Ways Flipgrid Used with Students

We asked participants to respond to the question of *How do you use Flipgrid with your students?* Participants could select uses from a list of options that included an open-ended category (Other) that allowed them to share other uses not listed in the options (Table 5). Participants could select more than one option. Overwhelmingly, the top two student uses identified by participants were providing opportunities for creativity ($n = 100$) and for formative evaluation of learning ($n = 90$).

We analyzed the responses in two additional ways: 1) examining uses based on participants' grade level and 2) examining uses based on participants' professional roles. Our analysis indicated that elementary teachers reported to *provide opportunities for creativity* (18.94%) as the most frequent use with the next most selected use as *formative evaluation of learning* (14.39%). In contrast, Middle school/junior high and high school teachers indicated *formative evaluation for learning* (20.34%, 17.39%) as their most frequent use followed by to *provide opportunities for creativity* (18.64%,

Table 5 How do you use Flipgrid with your students?

Flipgrid Use	n	Percentage
To provide opportunities for creativity	100	17.57%
For formative evaluation of learning	90	15.87%
For exploration of a topic individually	59	10.37%
Collaborate and explore a topic in a group	59	10.37%
For homework	57	10.02%
To lead into a lesson (e.g., to spark interest)	55	9.67%
For summative evaluation of learning	53	9.31%
To flip the classroom	39	6.85%
Other	30	5.27%
For enrichment	27	4.75%

*Other included written responses from participants that included uses such as review for a test, create a class memory book, and student options

16.67%). The higher education participants indicated to *collaborate and explore a topic in a group* (16.22%) as the most frequent use.

Although we find the slight differences in purposes for using Flipgrid based on target population interesting, we are also not surprised by these. It is well known among educators, and quite baffling to us to be honest, that there exists a shift in pedagogy and focus between elementary school- middle school/junior high - and again to high school. One such explanation we consider is that elementary teachers are provided more opportunity to approach learning in a cross-curricular manner which allows for greater creativity, whereas middle and high school teachers have large numbers of students and formative evaluation, although considered important, can be time consuming with over 100 students per day. Using Flipgrid for formative evaluation would actually allow these educators to provide more formative feedback than more traditional modalities. We also consider that creativity being the second most common purpose for why middle and high school teachers' used Flipgrid as an indication that these educators are keen to bring more creativity into the classroom and that Flipgrid has become a tool to help accomplish this. This was confirmed by two high school teachers who shared "I have seen more creativity and personality from my students." and "best student presentations of my career". As higher education faculty ourselves, we feel that the responses from higher education participants is also an indication of a shift from more teacher-centered (lecture) based learning to more student-centered learning (collaboration).

RQ2: How do educators perceive the use of Flipgrid enhancing student learning?

We asked two open-ended questions aimed at helping us answer our research question of *How do educators perceive the use of Flipgrid affecting student learning?* The two questions asked on the survey that focused directly on this research question were: *What has been the most important positive outcome of your use of Flipgrid with students?* and *What is the biggest obstacle experienced as you have used Flipgrid with students?* Through a two-step coding process (described in Methods), we arrived at five themes: assessment and feedback, building community, creativity, engagement, and student voice.

We then compared participant demographic data (e.g., years teaching, grade level, professional responsibility) with the themes to determine if specific themes were correlated with participant demographics. We did not find noteworthy relationships; although there were a few differences among participants who taught different grade levels (we discuss these differences in the next two sections). We discovered that the themes revealed that Flipgrid was implemented by participants for teacher-centered uses and student-centered uses. It

is worth noting that each of the five themes (assessment and feedback, building community, creativity, engagement, and student voice) had participant responses that included teacher-centered uses and student-centered uses. In the remaining sections, we share and discuss results from our analysis of the open-ended questions using these two constructs.

Teacher-Centered Uses

Teacher-centered uses of Flipgrid were found primarily in the responses that made up the themes of *assessment and feedback* and *building community*. The theme of *assessment and feedback* had the second-most participant responses of all the themes. Responses in this theme ranged from specific statements about Flipgrid capabilities to more general statements about using Flipgrid. Statements, such as the following, highlight specific capabilities that participants perceived as useful for assessment and feedback:

- "Grade conferencing in a quick manner."
- "I am able to give private individual feedback to each child."
- "I also like it for formative assessments in moderated mode."
- "The individual feedback option is awesome as well."

More general statements also highlight uses for assessment and feedback. Participant responses included:

- "It helps me to really see what the students know", provides "alternative forms of assessment during distance learning."
- "Students have been able to demonstrate their learning better than they could ever articulate on a test such as multiple choice."
- "it allows teachers to assess children's abilities, strengths, and weaknesses in a new way!"

It is interesting to note that elementary teacher participants' responses focused more on using Flipgrid for formative assessment while the responses from participants who taught different grade levels focused more on summative assessment. In some ways this contradicts what we found when we asked participants to indicate uses (discussed for RQ1), however we must consider that these responses are to a question asking about the *most* important positive outcome. With that in mind, this data clearly shows that teachers use Flipgrid in ways that benefit themselves as much as their students. Overall, participant responses indicated that they perceived Flipgrid being a useful tool to assess student learning and to provide feedback.

Although it may seem odd that the *building community* theme is considered a teacher-centered use, the responses primarily focused on the activities initiated and directed by the

teacher as opposed to more student-led activities. Responses that reflected this included:

- “Flipgrid allows me to better get to know my students.”
- “It helps foster deeper engagement and connection with course content and peers.”
- “Building community in an online class.”
- “Getting to know each other through shared topics for morning meetings.”
- “It allows a different way of connecting with me as the teacher.”

We find this to actually be a very interesting finding, given that teachers did not list this as an ‘other’ topic when given options about how they use Flipgrid in an earlier question. That said, it does confirm what we found in our review of literature in that teachers are using Flipgrid to facilitate student connectedness. Perhaps this was summed up by one participant who responded “This year, Flipgrid is the only way I see my students!?”. With that, we also are drawn to wonder if the use of Flipgrid for building community could be a result of participants responding to the survey during the pandemic when most were teaching remotely.

Student-Centered Uses

Teacher’s perception of student-centered uses of Flipgrid drew from three themes: *engagement*, *student voice*, and *creativity*. The *engagement* theme overwhelmingly had the most participant responses. When we initially coded participant responses, we only included those that contained the word engagement (or some form of the word). During our second round of coding, we had several categories that included limited (10 or less) participant responses that we ended up subsuming into the *engagement* theme. We included these into engagement because the responses aligned with what we viewed as student engagement using Flipgrid in student-centered ways. These categories were collaboration, discussions, global connections, and topic exploration.

It is important to note that although many comments were made about engagement being the most positive outcome of using Flipgrid with students, it was not always obvious what participants meant by engagement. For example, comments such as, “Engagement in online courses”, “Student engagement is high”, “Engagement and excitement”, and “Increased student engagement”, did not provide enough context for us to determine exactly what took place for these participants to respond as they did. Other participant responses regarding engagement were, however, more descriptive:

- “I love when students respond to each other and demonstrate strong listening and engagement”; and

- “They are just so open to share. Their presentations are much more engaging than in person.”

As mentioned, we also included participant responses that focused on engagement through student collaboration, student discussions, making global connections with students, and exploring topics. The following are selected responses about positive outcomes that align with these:

- “Seeing my students create and collaborate on projects with their peers in France is beyond amazing. It takes the learning beyond my classroom walls and makes learning French more real to the students because they are having authentic conversations.”
- “Connecting with other students globally to share languages and cultures.”
- “They can also have collaborative conversations during distance learning.”
- “Students who won’t necessarily share in class will share in FlipGrid”
- “Learning from each other and seeing similarities between themselves and other students.”

Participant responses clearly indicated that they perceived that using Flipgrid with students led to engagement with their peers and with others throughout the world. It also led to engagement through collaborative activities, discussions, presentations, projects, and the exploration of content. What was meant by engagement was not always clear, however.

The second student-centered use theme that was consistently represented in the data was giving students a voice. Participants commented that Flipgrid gave students voice and opportunities to share their learning and ideas. Several commented that this was especially important during remote learning.

- “Students voice and in the present virtual classroom they got to express themselves and were happy about the same.”
- “Alternative means of expression. Opportunities to use language skills without writing skills holding them back.”
- “..., increased participation and student voice in discussions/debates has been tremendous.”

Additionally, comments were made about Flipgrid providing English Language Learners, students with special needs, and shy students with opportunities to have a voice. Participant comments like the following are examples: “I teach a lot of ELL students. This allows them an opportunity to speak and listen to themselves speak”, “Shy students have found their voice”, and “Student voice, kiddos who are shy can still participate”.

The responses participants provided indicated that they perceived that using Flipgrid with their students was beneficial in providing students with opportunities to be involved in class discussion and other activities. These opportunities were particularly useful for students who often do not engage consistently in a live classroom context. We feel it is important to note that it was not abundantly clear what all participants meant by *student voice*.

The third theme focused on student-centered use of Flipgrid highlighted using the tool for *creativity*. The perception of Flipgrid as a tool to promote creativity confirms responses to an earlier question for which creativity was the most reported use of Flipgrid with students by elementary teachers and was a close second among uses by middle and high school teachers. A participant indicated that Flipgrid provided “A space for students to explore and share their creativity and learning from others without time constraints.” A similar response indicated that, “I have seen more creativity and personality from my students.” Others indicated that positive outcomes of using Flipgrid were “Their freedom to create and show individualism in their creations” and “The creativity. I love how they manipulate the camera and use filters in their work.” It is interesting to note that in addition to these comments, teachers perceived that Flipgrid promoted creativity *in conjunction* with giving students voice and collaboration with peers. Once again, this confirms what we found earlier in that teachers are using Flipgrid for a range of learning experiences, and are exploring uses of Flipgrid beyond what it was designed for.

Implications

This study explored two questions related to educational uses of Flipgrid. First, through descriptive statistics we explored ways educators have used Flipgrid as a teaching and learning tool. Second, we examined teachers’ perceived value of Flipgrid as a way to enhance student learning. There are two limitations that impacted the results of the study. One is the use of a convenience sampling to locate participants for the study. The use of Twitter to solicit participation along with soliciting participation in two Flipgrid Facebook groups could have led to participants who are more adept in using technology (especially Flipgrid). This could have impacted the results. A second limitation is that the study was conducted during a pandemic when many schools were closed to on-campus instruction resulting in increased digital teaching and learning. We did not ask participants to compare their use of Flipgrid prior to the shift to virtual teaching to use during virtual teaching. As such, participant use of Flipgrid and their perceptions about the use of Flipgrid enhancing student learning most likely were influenced by participants teaching remotely at the time they took the survey. However, considering that the average participant use of

Flipgrid was three years, which included years prior to the pandemic, we believe that the data on participant use of and reflection on Flipgrid’s benefit should not be diminished. Despite these limitations, we believe that there are important implications for users of educational technology and for those who provide training and support for individuals who are integrating technology into their practice.

The first set of implications of this study that we find noteworthy are the implications for educator users of Flipgrid and other technology tools for teaching and learning. This study highlights that Flipgrid, although initially designed as a tool to promote engagement has incredible value for way more than that. The fact that creativity was the most reported use and that educator participants of this study perceive one of Flipgrid’s greatest outcomes to be to promote creativity, we are reminded that as consumers of educational technology, we should continue to push boundaries in how we integrate technology. Skills such as communication, collaboration, and creativity have been at the forefront of educational initiatives since the P21 framework was introduced almost 20 years ago, and our data shows that Flipgrid is a vehicle for promotion of these skills despite not being advertised as such. Additionally, we found that educators perceive Flipgrid as a tool to support the teacher task of providing feedback and evaluating student learning. For teacher users of Flipgrid, this is also an important reminder. Given the increase in UDL strategies in the learning environment, teacher users of Flipgrid can stay true to their beliefs about giving students a range of ways to engage with content and demonstrate understanding of content, and at the same time support their learners in ways that best work with our digital age learners. Finally, teacher users of Flipgrid need to consider their unique learners and their personal teaching preferences. We found that contradictory perceptions such as teachers feeling Flipgrid inhibited their shy learners who would not turn on cameras, and others feeling Flipgrid empowered their shy learners by giving them an opportunity to engage in class in a non-intimidating manner. As teacher users of technology, we must always remind ourselves of instructional design models where we first think about our learners and their needs, and then make decisions about how to best meet those needs with or without technology.

A second set of implications of this study are for those who support or train others in the use of Flipgrid or technology tools in general. As with teacher use, it is important not to box in how we introduce and model the use of teaching and learning tools. If the introduction of and modelled use of Flipgrid focused only on its stated purpose of amplifying voice and providing student choice, a whole range of benefits for using this tool would be overlooked. Similarly, we need to be careful about pushing only student-centered uses of technology when advocating for tool adoption. We found that participants perceived Flipgrid as a valuable teacher tool in

addition to a student tool. By sharing all potential uses and benefits, we are able to attract more users—those who may be less confident in the value of technology or those who may primarily use tools because they are the next “hot” tool. We understand from innovation adoption literature—particularly Rogers’ (2003) theory of Diffusion of Innovation—that for sustained adoption of an innovation users must see value in the innovation that aligns with their beliefs and practices. We need to help users find how tools, like Flipgrid, can fit with their beliefs and practices about teaching and learning if we want the tools to be part of their on-going practice.

Conclusion

Exploring “how digital technologies are actually being used—for better and worse—in ‘real-world’ educational settings” (p. 66), as Selwyn (2010) wrote, can provide us with information and insights that can be useful for a wide range of individuals who use or support educational technology for teaching and learning. Studies that are a result of these explorations can be resources for educators who are new to a tool or who wish to expand and improve their use of the tool through understanding how others are implementing it. These studies can also provide awareness of educator perceptions about how using a tool enhances student learning. The insights from these studies can be used by educators to validate and support instructional decision making. The insights can also be used by teacher educators, trainers, and others who support technology integration to decide when and how they will integrate the tool, to determine how they model the use of the tool, and to tailor the support they provide. Although this study helped provide an understanding of how a widely popular tool, Flipgrid, is being used and perceived by educators, there is a need for additional research to be conducted. Gathering data during the pandemic was limiting. We believe it would be useful to gather another round of data using the survey once schools settle back into one model of teaching (e.g., face-to-face, hybrid) to compare how teachers report using Flipgrid. Gathering data through a survey was limiting as well. Future research should include other forms of data (e.g., interviews, artifacts) to provide a more robust picture of how educators are using Flipgrid and to explore their decision-making in integrating the tool. Finally, exploring the learner perspective of the tool would also provide important insights that could lead to more effective integration.

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