Playing "Google's Game": How Educational YouTubers Manage Tensions Between Education and Monetization

TESS ESCHEBACH, University of Chicago, USA
NIKOLA BANOVIC, University of Michigan, USA
ALLISON MCDONALD, Boston University, USA

YouTube has become an important part of the educational ecosystem, with millions of viewers seeking informative videos and help with coursework. Educational YouTubers create this content, often balancing pedagogical rigor and entertainment value. However, creators need not only to promote their content to find viewers, but also to monetize. In this study, we explore the tensions educational YouTubers face when making monetized educational content. We conduct a qualitative interview study with 12 popular educational YouTubers about their monetization strategies, perceptions of YouTube's algorithmic promotion of their content, and conception of their audience. We find that educational YouTubers are largely driven by a desire to share free and high-quality educational content, and that common monetization strategies like sponsorships and clickbait sometimes interfere with this mission. We describe the careful strategies our participants use to maintain educational integrity while making a living on an algorithmically-driven platform. We then use these findings to draw parallels between YouTubers' challenges with monetizing educational content and the history of educational public broadcast in the United States, which has followed a similar trajectory. In closing, we offer several recommendations for supporting educational YouTubers in creating the high-quality, publicly accessible educational content that is appreciated by a worldwide audience.

CCS Concepts: • **Human-centered computing** → *Social content sharing*; *Collaborative content creation*; *Computer supported cooperative work*; **Empirical studies in collaborative and social computing**.

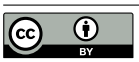
Additional Key Words and Phrases: YouTube, YouTube monetization, public broadcast, content creators, educational content creation, algorithmic labor, creator economy, educational media, digital patronage.

ACM Reference Format:
Tess Eschebach, Nikola Banovic, and Allison McDonald. 2025. Playing "Google's Game": How Educational YouTubers Manage Tensions Between Education and Monetization. *Proc. ACM Hum.-Comput. Interact.* 9, 7, Article CSCW315 (November 2025), 33 pages. https://doi.org/10.1145/3757496

1 Introduction

Video is a versatile medium that has long been used for education and entertainment. In the United States, local public broadcast stations have made a concerted effort toward creating educational content to be broadcast on television for free to viewers across the country [43, 44, 69, 102, 104]. With the introduction of the internet, new opportunities arose for educational technologies, including a new age of user-generated educational video. With increases in remote learning during the Covid-19 pandemic, easy access to video education has only increased in importance [10, 86, 106]. While video is considered a powerful tool for learning [20, 77, 85], to survive in a competitive media landscape general-access educational content has had to both educate and entertain.

Authors' Contact Information: Tess Eschebach, eschebach@uchicago.edu, University of Chicago, Chicago, Il, USA; Nikola Banovic, nbanovic@umich.edu, University of Michigan, Ann Arbor, MI, USA; Allison McDonald, amcdon@bu.edu, Boston University, Boston, MA, USA.



ACM 2573-0142/2025/11-ARTCSCW315
https://doi.org/10.1145/3757496

YouTube has become a dominant player in media, offering viewers a wide range of content including over 35 million videos in the category of "Learning and Education" alone [25]. Through the YouTube Partner Program, qualifying creators are able to monetize their content and strive to make a living on the platform [56, 58, 59]. Previous work has explored how YouTubers broadly monetize their content, highlighting the variety of strategies both on YouTube and beyond [47, 50, 53, 65, 150]. Specific work studied the pedagogical practices of educational YouTubers, often dubbed "EduTubers" [35, 107, 141], but has not highlighted the tensions between these practices and the necessity of monetization. We consider "edutainment" content on YouTube to broadly be content that is designed to both teach an academic topic and entertain.

In this study, we explore the interplay between maintaining effective pedagogical practices while supporting monetization and promotion on an algorithmic platform. We additionally take a unique interdisciplinary approach and frame our understandings of commercialization within the historical context of the financing of public broadcast in the United States [11, 32, 44, 64, 83, 104]. This framework allows us to understand the challenges and opportunities of educational content on profit-driven platforms. We are able to build upon the historical context of public broadcast television to understand the additional complexities creators face on an algorithmic platform like YouTube. Specifically, our paper explores:

(1) What are the primary challenges of monetizing educational content on YouTube?
(2) How do educational creators understand the YouTube algorithm and their audience? How does this influence their promotion and monetization strategies?
(3) How do educational YouTubers navigate the tensions between sharing high-quality educational content and monetization?

To better understand this landscape, we completed 12 semi-structured interviews with popular educational YouTubers. We find that educational creators are motivated by a desire to share free content broadly, but need to financially support themselves. Thus, they employ a diverse set of monetization strategies (e.g., sponsorship, donations, merchandise) similar to public broadcast and other monetizing creators on YouTube. Educational YouTubers must appeal to a complex recommendation algorithm that promotes their content to viewers while contending with entertainment-focused content. Our participants sometimes eschewed common monetization advice because they felt it was at odds with their perceptions of educational content, and instead develop their own personal standards for appropriate commercialization. Based on desires to share broadly (and freely) with the world, educational creators employ a number of strategies including: appealing to the YouTube algorithm and audience with clickbait that is thematically consistent with education (e.g., leveraging trends, niche topics), declining sponsors that would call their educational value into question, and not posting content with an important educational purpose behind a paywall.

We close with a discussion that explores the specific tensions of monetizing educational YouTube content while highlighting the parallels between the history of public broadcasting and educational content creation on a for-profit algorithmic platform. We find that educational YouTubers share many of the values of early public access educational television, including the desire to share content for free, to a diverse audience, and with limited advertising. However, due to the commercial nature of YouTube, we also find that many of the funding challenges present on early public broadcast are reflected in our participants' experiences as well. While there are benefits to a monetization strategy that leverages multiple platforms, we find that our participants are exhausted trying to manage monetization and are under-utilizing some of the features built into YouTube. We discuss several pathways to more stable funding for educational YouTubers and highlight where future work can contribute to our understanding of educational creators' optimal monetization strategies on existing platforms.

2 Background & Related Work

There have been long-running discussions about the line between educational content and entertainment [23, 44, 102, 117, 119]. In this study we look at "edutainment": educational content designed to be entertaining. Edutainment spans multiple modalities including video games, television, and physical toys [21]. We center our study on creators who make video content that teaches concepts associated with traditional academic coursework.[1] While Massive Open Online Courses (MOOCs) (e.g., *Khan Academy* [2], *Coursera* [27], and university-affiliated programs like *MIT OpenCourseWare* [103]) offer academic content (often) freely online, they are formalized and structured similar to a class, sometimes even offering certifications for completion [28]. We focus specifically on educational content that is made for YouTube, and the creators who use YouTube as their primary platform. In particular, we look at creators who produce and distribute their own content, rather than content that is distributed by a university, production studio, MOOC, or established educational company.

2.1 Educational Content on YouTube

YouTube has become an important educational resource and gives educators an opportunity to reach a variety of users. Students highlight the benefits of YouTube for studying for exams and doing homework outside the classroom [8, 98, 145]. In 2023, YouTube even partnered with Arizona State University and Crash Course, a popular YouTube channel, to create "Study Hall," a paid program that allows users to get college credit for taking intro courses hosted on YouTube [52, 81]. In 2024 YouTube developed modules for "media literacy education for teens" which is marketed towards teachers to present to students in the classroom [96]. YouTube more generally is also widely used in conventional educational settings [8, 10, 24, 45, 86, 98, 106, 111, 145].

Research (often framed under conventions of scientific communication) has sought to understand the pedagogical practices of creators [12, 19, 20, 66, 77, 85, 107, 110, 123, 130, 145], including the way creators engage audiences and effectively teach topics. For example, previous work has studied educational creators themselves [6, 106, 109, 145] and, through an interview study, Xia et al. understand educational creators to be motivated by an "intrinsic desire to learn and share" [145]. YouTube has consistently promoted the use of educational videos in the classroom and historically compiled playlists of educational videos specifically geared towards educators [95]. Currently, YouTube supports integration with several EdTech tools such as Quizlet and EdPuzzle, which allow teachers to quiz students on content associated with a specific YouTube video [25].

2.2 Content Creation on YouTube

YouTube was launched in 2005 as an ad-free platform composed of user-generated videos [30, 34, 71, 105, 127]. After being acquired by Google, YouTube began to offer formalized payment opportunities for creators (and corporations) while steadily increasing advertising directly on the site [126, 129, 131, 132]. This set-up has allowed creators to support themselves even from the early iterations of the program [126]. YouTube's monetization system supports educational creators in providing valuable resources for students, teachers, and those seeking educational entertainment.

2.2.1 Attention on an Algorithmic Platform. Like many media platforms, YouTube is an "attention economy" [31]. Not only are educational YouTubers fighting for viewer attention against pure entertainment content, they are also subjected to YouTube's recommendation algorithm, which may make or break a channel by deciding how many viewers see the content. YouTube acknowledges that

[1]While the "Learning and Education" category on YouTube includes, e.g., DIY videos and cooking tutorials [25], we do not include this content in our definition of "edutainment." We additionally do not include video essays, which are thoughtfully researched and produced but are generally not focused on traditional academic topics.

recommendations are driven by "The Algorithm" [29]. These recommendations promote content to more viewers and are thus directly linked with how profitable a video becomes [29, 58, 59]. To survive in this environment, creators on YouTube must complete "algorithmic labor" [89] to understand best practices in addition to making videos [89, 143]. Users and creators can use "everyday algorithm auditing" [121] (ranging from search to detailed analyses of the system) across a multitude of platforms to develop folk theories [40] to guide their understanding of these different systems and their interactions with different forms of content. Creators additionally lean on a community of other content creators to learn about the algorithm [121]. Early measurements of YouTube by researchers suggested the algorithm helped users access diverse content [149]; however, more recent works show that viewers are being isolated from broad varieties of content [14] and that creators augment their content to fit their perception of the algorithm [65, 89, 90, 113].

One way creators can engage with the recommendation environment is by producing clickbait. Clickbait is designed to draw the attention and thus clicks of viewers [135, 147]. On YouTube clickbait tactics are ubiquitous (in both general and educational content [78, 115, 136, 145]) and commonly found in video titles and thumbnails which appear when viewers search or open their homepage [55, 58]. Advice on how to make effective titles and thumbnails come from many sources including YouTube, marketing agencies, and creators themselves [3, 58, 115, 136]. Building on the prevalence of this advice, researchers have attempted to use machine learning quantify best practices, finding some benefit to using "happy or surprised faces" in thumbnails [148] as well as creating clickbait [78]. Some have even looked at the "automatic" [122] generation of title and thumbnail for the best performance [84, 122, 144]. A/B testing of titles and thumbnails is prevalent on the platform and as of June 2024 YouTube even rolled out a "Thumbnail Test & Compare" feature to some creators [134].

Across YouTube, creators try to find ways to engage with monetization and promotion tactics while maintaining audience satisfaction [67, 145]. Educational creators on YouTube must consider both how to teach a topic but also play to what YouTube describes as an audience-driven algorithm [29]. In addition to conventional teaching practices, creators leverage practices such as telling a "good story" [66, 87] and fast pacing (including rapid talking and flashy visuals) [66, 123, 145]. In essence, educational YouTube creators rely on personality-driven content to appeal to both educational and non-technical audiences alike [12, 24, 66, 85, 107, 123, 145]. Creators also promote outside of the YouTube algorithm itself. These platforms are not always profitable but serve to drive viewers to a platform that is, such as YouTube [88, 150].

2.2.2 Making Money on YouTube. Creators on YouTube are compensated by the platform through the YouTube Partner Program (YPP). This revenue is directly dependent on viewer engagement metrics such as click-through rate, watch time, and audience [56, 58, 59]. The YPP was introduced in 2007 as an invitation-only (and then application-based) program alongside the first "YouTube InVideo ads" [131, 132]. These ads were transparent banners along the bottom of partnered videos and were generally considered to be minimally invasive and akin to advertising on television [70, 129, 131]. The prevalence of advertising has only become more invasive on the platform.

By 2008, YouTube introduced video ads that played before partnered content [70]. Currently, YouTube offers AdSense (referred to as "Watch Time Ads" by YouTube [60]) to creators: commercials that play before ("pre-roll"), during ("mid-roll"), or after ("post-roll") the video [60]. These ads function similar to a commercial break on television [56]. This style of advertising has persisted as the dominant form of monetization for creators supported through YouTube [56].

Creators have limited choices or knowledge of what commercials will play alongside their video [30, 94, 112, 129]. By default, the YouTube algorithm sets the option for pre-roll and post-roll advertisements on all videos (as of 2020 including on videos not part of the partner program [133]) [56]. Mid-rolls can only be placed on partnered videos over 8 minute long and must be opted into by creators [57]. As explored by Kopf et al., YouTube provides advice and recommendations on their blog to encourage specific behavior from creators [80]. In this context, creators can select where to place ads (often to coincide with scripted breaks), but are encouraged to leave the choice to the YouTube algorithm [57]. Furthermore, YouTube does not guarantee that ads will be shown to all viewers [57], leaving creators with a lack of control [76, 113].

While ads are dominant, YouTube also offers a number of additional options for creators to monetize their content on platform [56, 82]. Qualifying creators can be compensated directly by viewers with the "Commerce Product Module" [56], which allows viewers to pay for customized comments with "Super Thanks," pay for monthly channel memberships, purchase merchandise, and more [56, 82]. YouTube has begun to cultivate strategies that are similar to those found on other platforms (see Section 2.2.4). As of August 2024, YouTube has begun offering creators optional overlays on their videos with affiliate links to the external e-commerce platform Shopify [73]. YouTube additionally offers ways for creators to create online spaces for their fan community [138]. Viewers can also subscribe to YouTube Premium to remove ads platform-wide, and partnered creators are compensated for Premium views [56, 82].

2.2.3 Restrictions on Monetization. Several factors can limit the ability for educational creators to monetize. The Children's Online Privacy Protection Rule (COPPA) [26, 54, 91, 112] restricts data collection and advertising for any content that is understood to be made for kids [26, 54, 112]. For videos aimed at children under 13, YouTube restricts tools like the "Commerce Module" [56] and limits the analytics collected, impeding the platform's monetization structure [54, 91, 112]. To mitigate some of these impacts, YouTube has occasionally helped fill these gaps in funding through programs such as the "Kids Fund" [82].

Furthermore, third-party EdTech platforms do not track in-depth analytics [25, 26, 54]. The views of creators' content through these integrated platforms, such as Quizlet or EdPuzzle, are thus effectively not monetized [25]. YouTube offers support for creators with videos on these platforms through the "YouTube Player for Education" [25]. This player "delivers videos without ads, links, or recommendations" [25] to educational tools and pays creators when their videos are viewed [25].

2.2.4 Monetizing Off Platform. Despite the success of the YouTube Partner Program and YouTube's expanding array of additional monetization features [73, 138], creators continue to use additional monetization strategies [46, 126]. With fears of demonetization [9, 38, 65, 76, 112] (where content is suppressed or ad support is removed) and the unpredictability of the algorithm [76], more creators turn to alternative monetization strategies that do not go through the YouTube platform [65, 76, 100, 150]. Many of these strategies are in line with those used by conventional media such as *sponsorship deals*, including sponsor call-outs and product placement [46, 79, 126]. Creators can also include *affiliate links* to products on platforms (like Amazon) and get a small commission from each sale [65]. Digital platforms also facilitate selling *merchandise* [65, 88] or taking *donations* [88]. Donations can be made to creators through general use platforms like PayPal but can also be set up as monthly through a *subscription service* like Patreon [17, 51, 88] or Nebula, a streaming platform founded by and focused on creators [101].

Educational creators have an additional means of making money: *licensing content for education* on third-party learning object repositories (LORs). The content posted on these platforms, such as BoClips [16] and Discovery Education [39], is edited to be ad- and sponsor-free. Clients, like schools and textbook publishers, are able to subscribe to play videos from these curated platforms [16, 39].

2.3 Challenges of Monetizing Educational YouTube

Previous work has argued that over time YouTube has moved closer to the structures of conventional media [22, 30, 75, 94, 125, 137]. For example, Cunningham et al. argue that businesses aimed at supporting creator monetization are an indicator of the formalization of the creator economy [30, 137]. Prior work has further studied the advertising landscape of the platform from the perspective of advertisers [79, 139], creators [47, 50, 53, 65, 80, 150], and viewers [1, 7, 13].

Creators take on additional labor to engage with these diverse platforms [17, 51, 88]. Part of this labor can come from managing an audience, both on a large scale between platforms and one-on-one with viewers [17, 51, 88, 142]. To engage with an audience, some creators believe they must become a brand [17, 51]. On subscription based platforms like Patreon, creators offer exclusive paid perks (e.g., one-on-one meetings, exclusive Discord servers) that connect viewers directly with a creator [17, 18, 51]. This additional labor can be taxing and result in burnout [146]. The excessive time commitment and need for growth on YouTube has led some creators to stop making content on the platform, including prominent EduTuber Tom Scott who announced their departure in a video with over 11 million views (as of December 2024) [120].

Contributing to this stress are persistent concerns about demonetization [36, 38, 76, 89, 90]. While previous work has studied educational on YouTube creators from the perspective of learning [12, 19, 20, 66, 77, 85, 107, 110, 123, 130, 145] and appeal to viewers [12, 24, 66, 85, 107, 123, 145], the intersection of monetization and education is underexplored. Xia et al. [145], in studying the promotional practices of science communicators on YouTube, find that some creators avoided sponsorships that ran counter to their educational values. However, a broader investigation of how a focus on educational legitimacy impacts monetization practices has not yet been conducted. In an increasingly commercialized environment, we explore how creators balance desires to support themselves and share with the world while maintaining their perception of educational legitimacy.

3 Methods

We conducted semi-structured interviews with educational YouTubers to understand how creators create and fund educational content on a platform that hosts significant competition and requires creators to vie for viewer attention. Interviews allowed us to ask about our participants' monetization strategies, their perceptions of the YouTube algorithm, and their personal considerations for how to manage the tensions between turning a profit and maintaining educational integrity.

3.1 Interview Protocol

We designed a semi-structured interview protocol for educational content creators who post and monetize on YouTube. Before the interview, participants were emailed a consent script for review. At the beginning of the Zoom meeting, the interviewer reiterated that the meeting would be recorded and that all questions were optional.

To begin, we asked participants about their background and initial experiences creating YouTube content. We then prompted participants to think about three different types of content they created: the most recent video in their conventional style, a video outside of their conventional style, and a recent piece of content they posted on another platform. For each piece of content, we asked a series of questions about how it was created and monetized. We also asked participants to describe how they planned and perceived the algorithmic promotion of their content on YouTube and other platforms they use. By asking about three distinct types of content, we were able to explore our participants' perceptions of audience engagement and monetization success based on different content styles. Finally, creators were asked about their broad perceptions of how content is promoted on YouTube and forward-looking questions about the platform. These questions provided

creators the space to share more general thoughts about the platform and reflect on their future in the industry. Our full interview protocol can be found in Appendix A.

3.2 Participant Recruitment

We sought creators who were making educational content on YouTube and had posted a public-facing YouTube video with over 1,000 views (a specific benchmark to qualify for AdSense at the time of interviews [56]). We define "educational content" as content intended to inform or explain and covering traditional academic topics (math, science, history, and so on). Additionally, participants had to be over 18. As part of our investigation seeks to identify parallels between public broadcasting in the United States and YouTube, we also restricted participants to those residing in the United States at the time of the interview.

In our recruitment materials, we advertised that we were a research team seeking to understand the monetization of open-access educational content on YouTube. We distributed a screening survey with questions about creators' channel metrics and demographics through social media and department email groups at our universities. We additionally reached out directly to over 200 educational YouTubers via the contact information on their YouTube channel and linked personal sites. Participants were compensated $15/hour in the form of an Amazon gift card for their time, and were also asked to distribute the study information to qualifying colleagues.

In total, we recruited 12 educational YouTubers between August and September 2023. While conducting interviews, we began analysis and stopped recruiting when we reached thematic saturation, i.e., no new themes were emerging from additional interviews. We found no qualifying participants through social media and only one from academic mailing lists. The majority of our participants (N = 11) came from direct outreach or snowball sampling. The participants we were able to recruit were fairly homogeneous, particularly for race and gender. The majority of our participants identified as white (N = 9). Additionally the majority of our participants identified as men (N = 10). One participant identified as a woman and one participant identified as non-binary / third gender. This reflects the gender demographics of major educational YouTubers in Spain [109].

Nearly half of participants (N = 5) relied solely on YouTube-related revenue for their income. Five participants (one retired) work full-time creating educational YouTube videos, while six participants create YouTube videos part-time while working another job. Of those with outside employment, five work in education. The majority of participants (P2, P3, P4, P5, P6, P8, P10, P11) were already in an academic setting when they began creating content. Three creators (P1, P2, P3) had a background in film that supported their video creation skills. An overview of participants can be seen in Table 1.

3.3 Data Analysis

Audio recordings of each interview were sent to `rev.com` for transcription. Interviews lasted between 42 and 68 minutes, with an average length of 54 minutes. One interview (P6) was broken up over two days due to the participant experiencing technical difficulties during the first meeting.

To analyze the transcripts, we employed interpretative qualitative analysis using an iterative open coding approach [118]. Two researchers read 2 interviews and independently generated initial codebooks. They then met to discuss overlap and differences and generated a preliminary set of codes. Through discussion, these codes were grouped into similar clusters and higher-level themes were identified for each. One researcher then applied the preliminary codebook to 2–3 interviews at a time, and met with the second to review coding segments and ensure consistency in the application of codes. Few themes were added after the initial codebook generation, but, where necessary, new subcodes and themes were discussed in-depth until concepts converged to a

stable codebook.[2] Interviews were then recoded systematically in NVivo. Throughout findings, we report the number of participants who shared a perspective as a way to indicate general prevalence of themes. However, we emphasize that our study is qualitative and should not be used as a measure of prevalence in the general population of educational YouTubers.

3.4 Ethical Considerations

Our study was determined to be exempt human subjects research by our university's institutional review board. YouTube creators are a sensitive population [140] by virtue of being publicly visible and dependent on their reputations for their livelihoods. Therefore, we took care to protect the identities of our participants. During recruitment, we respected YouTubers' requests not to be contacted for non-commercial purposes on their websites and channel pages. We followed best-practices for ensuring participant privacy and safety, including allowing them to opt out of any questions, obtaining explicit consent to record the interviews, and deidentifying transcripts before analysis. Finally, as this is a relatively small population, we report channel statistics and topics with light perturbations to reduce the chance of our reporting identifying information.

3.5 Limitations

We used snowball sampling to reach more participants, which likely favored more networked creators. Since participating in research takes time away from content creation, our sample may favor established creators who feel more strongly about the altruistic role of sharing educational knowledge on YouTube. A number of newer channels responded to our request but were unable to participate due to the large time commitment associated with channel and content development. Although all creators we spoke to were at one point new to the platform, changes on YouTube over time mean that we may have missed insights and challenges that are particularly relevant to smaller creators today. Future work could specifically investigate creators at earlier stages of monetization. Furthermore, all metrics were self-reported and it is possible that participants did not report their comprehensive monetization schemes, possibly out of concern for revealing competitive strategies.

The majority of our participants identified as men (N = 10). While we do not have an overview of YouTuber demographics in this space, this is consistent with prior studies of educational YouTubers [109]. Additionally, most participants identified as white (N = 9). More work is needed to understand the monetization and promotion challenges faced by minority educational YouTubers.

Finally, YouTube is a constantly changing platform with frequent updates to policies and monetization. This means that some of our observations may not be applicable if the monetization on YouTube continues to change. Nevertheless, we believe we have captured general trends and values of our participants, which will apply regardless of moderate changes in platform policy.

4 Results

We interviewed educational creators (N = 12) at a variety of channel sizes, channel ages, and fields of content, as seen in Table 1. Participants highlighted their primary motivation as helping others learn, but felt frustrated by ad payout and restrictions placed by YouTube (such as on content for kids). To fund their work, creators have turned to sponsorships and multiple monetization platforms. Creators feel that they make careful decisions to avoid undue commercial influence when monetizing, making their monetization practices less straightforward than for other creators. Nevertheless, participants remain on YouTube because it is the dominant platform and hope for long term stability to continue making content with educational value and broad reach.

[2]Our final codebook can be found in the following OSF repository: https://osf.io/6243q/?view_only=62ca5b8a40dd44c28f91720c3346c0e6

P	Type of Content	Subscribers	Employment	Years on YouTube
1	History	<100k	Full-time YouTuber	7–9
2	Computer Science	<100k	Professor	16–18
3	Science	>1M	Full-time YouTuber	10–12
4	Physics Education	100k–1M	Part-Time Teacher	10–12
5	Environmental Science	100k–1M	Professor	4–6
6	Science, History	100k–1M	Teacher	4–6
7	Education	N/A*	Executive	7–9
8	Math	>1M	Full-time YouTuber	7–9
9	Science	100k–1M	Retired Web Designer	4–6
10	Engineering	>1M	Full-time YouTuber	7–9
11	Math	<100k	Part-Time Teacher	<2
12	Computer Science	100k–1M	Industry Researcher	13–15

Table 1. YouTube data for each participant. '*Type of Content*' refers to the dominant field a creator makes videos within. '*Subscribers*' refers to subscriber count of a participant's main channel. '*Employment*' refers to a participant's main source of income. '*Years on YouTube*' refers to how many years a creator has been posting educational content to YouTube. All metrics are reported from at time of interview, August–September 2023.
* Oversees channels ranging from 100K–1M subscribers to >10M subscribers

4.1 Educational Content Strategy and Style

The majority of creators (N = 9) made STEM-related content. While most participants (N = 10) created content on their own, large established creators (P3, P7) worked with teams to pool ideas and support creation on multiple channels. Distinct from other participants who focused on content creation, P7 works in an administrative role overseeing numerous channels.

Participants used variety of video forms similar to those characterized by previous research [20, 107, 145]. P1 and P3 both employ drawings and animations instead of being on screen. P1 notes: "I have a hard enough time just recording audio without being on camera." P10 uses a whiteboard as a visual aid. Other creators (P5, P8, P11) use animations and visuals to augment their script. P12 uses a tutorial style of content where they record their computer screen and type code in real time. To highlight lesser-known concepts, P12 shows their face and explains the content directly to the viewer. Meanwhile, P2 and P4 stick to a conventional lecture style.

4.2 Priorities of Educational Content Creators on YouTube

Our participants described several factors that they believe make educational YouTube content creators. In addition to their content being informed by conventional educational practices, creators were motivated by a love of learning and desire to share broadly with the world. These practices inform how creators make their content and perceive their place on the platform.

4.2.1 Sharing Knowledge is a Primary Motivator. Some of our participants initially used YouTube as a free platform to host content for traditional classes (P2, P4, P6). These creators did not initially anticipate reaching a wide audience, but using the platform led them to consider how to share content more broadly (P2, P4, P6). More generally, a central motivation for nearly every participant (P1, P2, P3, P5, P6, P7, P8, P9, P10, P11, P12) was to effectively share information they were passionate about with the world, a sentiment clearly expressed by P6: "I cannot imagine a life in which I'm not like reading and telling people about the cool things that I read."

Making educational content was considered a "heroic effort" by P7. The "free, high-quality educational content" (P7) created by participants was understood to fill gaps in education. Some participants (P4, P7, P9) viewed their educational content as a public service distinct from entertainment content. Creators felt that their content was too important to keep "private" (P8). Some participants made content to aid with specific courses or exams, such as AP curriculum (P4, P6). Others (P8, P11), particularly those creating math content, sought to disrupt educational conventions by focusing on the *why* rather than "muscle memory" (P11).

Even though P3 relies on content creation for their income, they explain: "we don't particularly care what the YouTube algorithm wants, although it would probably be good for us as a business if we did care." Three participants who held a secondary job (P2, P4, P5) and one who was retired (P9) noted that making videos was not about profit. P5 and P9 would consider remaining on the platform even if it is no longer profitable; P9 would even consider staying if it ran at a slight cost. P5, who has chosen to maintain a full-time job (see Section 4.6) despite being able to support themselves with YouTube-related revenue, reflects:

> "[if] YouTube stopped making me any money, um, and I would probably still make videos (laughs). I just like making the videos. Um, don't tell YouTube that."

P2, who is employed full-time as a professor, is passionate about sharing open-source content outside of their job. They have turned off AdSense for their educational videos, believing that educational content should not be shown alongside advertisements. P2 additionally publishes extra materials under the creative commons for broad use. This desire to share broadly has similarly been characterized by Xia et al. [145].

4.2.2 *Creators Invest Time and Money to Create "Quality" Content.*

> "I do an extraordinary amount of research…But then you can distill all that knowledge in a 10-minute video. That's insanely rewarding to people in that you can learn a ton of information that would've taken maybe a week to research, but you don't have to do that research. All you have to do is watch a 10-minute video." - P10

Creating "quality" content was extremely important to our participants. Though participants acknowledged that what constitutes "quality" or "good" content is vague, they highlighted factors such as the time put into thoughtful curation of the viewer experience (e.g., visual elements, clarity of information (P5, P10)) and helping the audience "learn something" (P4, P8) through accurate scripts (P3, P5). To support the creation of "quality" content, participants faced monetary expenses for things like subscription editing services (P1, P3, P4, P5, P6, P8, P10, P11, P12), licensing sound and visuals (P1, P11), and personnel to edit scripts (P1, P3, P7, P9) and videos (P3, P5, P7, P12). Creators additionally stressed their substantial time commitment and "exhausting" (P10) production schedules (P1, P10). P3 believes this time commitment is "not common on YouTube" but important for high-quality educational content to maintain both engagement and accuracy. For example, two participants reported taking time to verify the accuracy of their content through hired editors (P7) or volunteer teachers who use the content in their classrooms (P4).

Estimates of the average length of time creators invest per video are difficult to determine. While a large creator like MrBeast (334 Million subscribers as of December 2024) can spend hundreds of hours on a single video with an editing team [63], other YouTubers have shared in community forums that videos can take between several hours and upwards of 200 hours to create [114, 116]. Our participants tended to be on higher end of this range. P3, who works with a team, stated that they collectively work "about 250 [hours] making each video." P9, who works alone, spends 120 hours per video. This effort is not just creating content but includes administrative work, including managing emails, monetization, and personal sites (P4, P8). Full time creators without large teams

(P1, P9, P10) noted consistently working over 40 hours a week, while one participant noted working over 30 hours a week on top of another job (P4).

4.2.3 Educational Creators are Collaborative on a Competitive Platform. Community allows creators to learn new strategies about effective promotion and monetization. Participants sought out general monetization advice by looking at the "examples of other creators" (P6) on YouTube, podcasts (P6), and blogs (P11). Some creators (P6, P7, P8) used creator talent agents or organizations to understand the platform. Personal connections to those in business additionally benefited creators (P5, P7, P11, P12). Creator conferences, such as VidCon, allowed participants to network and learn new strategies from both peers and experts in the industry (P1, P3, P6, P7, P8, P12). These strategies are similar to those employed by a variety of YouTube creators [143].

However, our participants saw educational content as a distinct form of content that necessitates targeted support. Creators have turned to other educational content creators for this advice (P1, P3, P4, P5, P6, P8). As P4 explains: "what we do is so different from what other people do, even other YouTube people" (P4). Participants believed they must maintain higher standards for their content to maintain accuracy, limiting their ability to comfortably engage with profitable strategies (See Section 4.3.2 and Section 4.5). Importantly, information about educational content is understood to flow "pretty generously" (P5), despite the creators all trying to establish themselves on a crowded and competitive platform. P1 states, "we all talk behind the scenes, we're all collaborating" (P1). Established creators (P: 3, 8) find substantial support from a small group of friends who started YouTube at a similar time, while newer creators (P1, P4, P6) find support from larger online community spaces, such as an educational creator Slack community (P4).

4.2.4 Creators Seek Out a Diverse Audience to Broadly Share Education. Educational creators try to "appeal to [a] wider audience" (P12) to increase their viewership and revenue (P1, P3, P5, P7, P8, P9, P10, P11, P12). One common strategy was to quickly highlight pertinent background information but not be too repetitive for those with background knowledge (P1, P8, P9, P10, P12). Creators, particularly those with history channels, focused on telling a story, making the video entertaining to watch even if a viewer is already familiar with the topic (P1, P6, P7). Participants gauged who their audience is using YouTube analytics (P6, P7, P8, P9, P10), comments on their videos, and even surveys of their viewers (P1). P3 stated they are "constantly surprised by who watches [their] stuff."

All participants were U.S.-based, but three participants (P3, P10, P12) explicitly sought out global audiences, despite lower advertising payout rates (P10). These participants gave measurements in metric units (P3, P11) and created additional channels to dub their videos into different languages (P3). P3 reported that videos on their dubbed channels have sometimes outperformed their English language content.

However, participants were sometimes disappointed that they were unable to reach a more diverse audience. Five participants (P6, P7, P8, P10, P12) reported that their video analytics showed their viewers were mainly 25–35 years old and overwhelmingly male. Two participants (P3, P7), who were full-time YouTubers, turned to external platforms like TikTok and Facebook to specifically target women and younger viewers, despite limited monetization on these platforms. Additionally, although some creators wanted to create content for younger audiences, there are particular challenges with producing kids' content (see Section 4.3.6).

4.3 "Ris[ing] Above the Noise": Promoting Content on an Algorithmic Platform

While creators hope to appeal to a wide audience to support education, they also see a broad audience as a way to increase their profit (P1, P3, P5, P7, P8, P9, P10, P11, P12). Participants believed that appealing to the YouTube *algorithm* was an essential gateway for reaching a wide *audience*,

including casual viewers who are not subscribed to their channel. P5 describes this as creating content that is "interesting to the YouTube audience via the algorithm" (P5).

4.3.1 Understanding the Algorithm. As explored by Wu et al. for general online content creators, perceptions of the algorithm can influence how creators make content [143]. Five participants (four of whom were large and established) asserted that the key to success on YouTube was to simply make "good" content that appeals to viewers (P3, P5, P8, P10, P11). These creators believe YouTube's recommendation algorithm is "just trying to figure out what you want to watch and get you to click" (P5). Nevertheless, creators are inundated with advice from peers and YouTube about how to best promote their videos and all of our participants employed some strategy. For example, some participants made longer content to increase watch time (P5, P8), while others (P7) continued to create short videos believing they are easier for the algorithm to promote. Although some participants prioritized searchability (P6), like using technical language and popular keywords in titles (P2, P4, P6) and video descriptions (P9), most content was understood to be recommended at "the whims of the [YouTube] algorithm" (P3).

Participants sought to make sense of their strategies by looking at at YouTube analytics to see if content was "hitting the algorithm" (P11) and pulling in viewers beyond their subscribers (P3, P6, P11, P11). Creators felt urgency to pull viewers in before a video lost its "moment in the limelight" (P11) with the YouTube promotion algorithm (P3, P11) or was de-prioritized after the algorithm discovers it is lecture-focused content (P4). Participants sought ways to "rise above the noise" (P7) of entertainment-focused content while maintaining their educational integrity, sometimes turning to strategies like clickbait that they saw as at odds with what is educational.

4.3.2 Making Clickbait Work for Education.

> "[T]his is Google's game and I am a player and they make all the rules." - P10

Clickbait is nearly inescapable on YouTube, particularly when grabbing viewer attention with a title and thumbnail. Participants characterized clickbait as "sexy and sensational" (P12) content designed with the sole purpose of getting more clicks on a video. Every participant believed clickbait-style content was heavily promoted by the YouTube algorithm. Most participants (N = 10), across income sources, expressed frustration with clickbait. Some even expressed disdain for using these practices (P7, P9, P10, P11). Nevertheless, clickbait was seen as an important strategy and nearly every participant (N = 10) admitted using "clickbait practices" (P11).

Strategies our participants identified as "clickbait" include playing on trends (P3, P5, P6, P7, P12), inciting emotion (e.g., promoting negativity) (P3, P4, P10), and utilizing over the top claims or visuals (e.g., edited images with bright backgrounds) (P7, P8, P9, P11, P12). Several participants (P5, P7, P10) even conducted A/B testing on their titles and thumbnails and were able to see clear differences in promotion. Though this practice is common among YouTubers [15, 68, 134], P10 used it as a way to conduct "everyday algorithm auditing" [121] to see if their perceptions of the algorithm were true. They performed an A/B test on a positive and negative title for the same video and reported the negative video got "10 times the views," explaining "people like to click on things that they can be mutually upset about." Despite this experience, P10 keeps their content positive. They are not interested in unnecessarily promoting negativity.

While these strategies could cause audiences to feel "lied to" (P11) in any genre of content, participants felt that some of these tactics were directly at odds with "accurate" (P7) educational information. Two participants (P2, P8), one who relied on YouTube for income (P8) and one who did not (P2), stated explicitly that they do not intend to make clickbait content, situating themselves away from "the things that people [who] are trying to make money do" (P2). Other creators (P7, P9, P10, P11) expressed similar "contempt" (P11) towards clickbait, but felt it was essential since "you

can't survive without some degree of playing the game" (P11). P7 explains: "you're trying to be accurate and give the most information you can. And then that can kind of degrade the quality of the thumbnail. So it's something that we're constantly kind of trying to realign with." Some tactics, such as thumbnails with over-the-top facial expressions, were considered to be effective (and not fully unaligned with their values) but made some creators feel "cringey" (P12). To walk this line, educational creators turn towards viewer-focused education-based strategies like creating a "knowledge gap" (P7) or by "demonstrat[ing] something unexpected" (P11) in the thumbnail. Participants also created "relatable" (P11) titles and thumbnails based on trends (P3, P5, P6, P7, P12). These topics are informed by viewer suggestions (P9) and popular topics on the "Google research tool" (P6) and social media (P3, P7). P7 notes going back to previous videos to update the title and thumbnail to be relevant to current search trends. Incorporating trends allowed creators to directly appeal to audiences without feeling like they were misleading viewers (P1, P3, P5, P6, P7, P11, P12).

4.3.3 "Leaving a Breadcrumb": A Multi-Platform Promotion Approach to Pull in Viewers. Even when using clickbait-style practices, participants found it hard to break out of their niche audience on YouTube (P3, P6, P7, P9). For example, P9 hoped to engage with skeptics about impacts of climate change, but believed the content was only shown to those with similar viewpoints (see Section 4.3.6). While a variety of YouTubers use a "multi-platform" approach [88], having additional avenues for promoting content is particularly important for educational creators who limit the strategies they employ for promotion to maintain educational integrity. Beyond trying to appeal to the YouTube *algorithm*, participants have turned to posting on unprofitable media platforms to lead a new *audience* to ad-supported YouTube. P12 explains this strategy as "leaving a breadcrumb where other folks might be looking more frequently than they are on the main stage platform" (P12).

These practices were discussed by both creators who relied on YouTube revenue and those who were otherwise employed. Six participants (P3, P6, P7, P8, P9, P10, P12) described editing YouTube content into a vertical format for scrolling on mobile platforms. Four creators (P7, P8, P9, P10) hired editors to help "optimize" (P10) their videos for different platforms. Participants reported posting content related to their YouTube channel on: TikTok (P3, P4, P5, P6, P7, P8, P9, P12), Facebook (P3, P4, P7, P9, P10, P12), X (formerly Twitter) (P3, P4, P7, P10, P12), Instagram (P3, P4, P6, P7, P8, P10, P12), Reddit (P3, P5, P9, P12), personal websites (P2, P4, P8), and Discord (P12). Only four creators mentioned earning ad-supported revenue on these platforms (TikTok (P3, P7), X (P12), and Facebook (P10)) and believed the payout was low. Creators hoped this led some new viewers back to YouTube.

4.3.4 Making Consistent Content or Risk Losing Audience.

> "Well, one of the best . . . pieces of advice that I got about, about community was, 'Don't think of an algorithm, think of an audience."' - P10

Creators perceive that inconsistency in style or personality risks not only confusing their *audience* but the *algorithm* as well. On the whole, the majority of participants (N = 10) felt like they did not understand how the YouTube recommendation algorithm worked and felt at its "mercy" (P1, P7). Even the large organization P7 works with "[doesn't] have a lot of internal knowledge about best practices" to understand its preferences.

With a lack of understanding of the YouTube algorithm, participants saw many novel choices as precarious. Five creators (P1, P2, P7, P10, P12) expressed concerns over creating "behind-the-scenes" (P10) content or changing the video "aesthetic" (P3). Six participants (P2, P3, P6, P7, P9, P12) believed a single low-performing video would impact the overall performance of their channel. Content that is "niche and fun and things like that" (P7) is either posted sparingly, sidelined to paid platforms like Patreon (see Section 4.5.2), or not posted at all. Changes in "aesthetic" (P3),

such as narrator (P9) or visual style (P3), had caused measurable drops in anticipated viewership for the video for two creators (P3, P9). However, neither observed the long-term impacts to the performance of their channels that they feared (P3, P9).

While creators were concerned about the algorithm, when considering consistency creators generally focused on audience. With clickbait and posting on multiple platforms participants sought to pull-in casual or new viewers. Maintaining consistency allows creators to maintain their established audience (e.g., subscribers). Participants generally sought out a broad audience, but some (P3, P6, P7, P11) found that their content was better suited to a niche group. After learning more details about their audience, three creators (P3, P6, P7) broke up their content into multiple channels to maintain consistency within the channels. By looking at analytics, P6 found they relied on a "small dedicated audience" for their course-related work and a general audience for their history of science content, prompting them to split their channel. P11, who is a newer creator, created content geared towards "math enthusiasts" that assumed viewers had some prior knowledge, but ultimately received confused comments from viewers. They have sectioned this content into playlists and hopes to "attract more subscribers, more people who appreciate my content" (P11) rather than focusing on a broad audience. P11 was still figuring out the best strategy.

Like other creators [17, 51], participants considered not only style but their own image. Creators were concerned about alienating their "target audience" (P11) by making content that was personal or controversial (e.g., political) (P1, P2) and naturally leaned towards remaining neutral (P1, P2, P3, P11). P2 characterized themselves as a "brand" (P2) and believed they were unable to show "any darkness, any frustration, any imperfection" without risk.

4.3.5 Keeping Viewers Watching: Reducing Frustration From AdSense. AdSense in-video ads were widely used (N = 11) and were a central monetization strategy for smaller creators and those newer to the platform (P6, P10, P11, P12). However, since AdSense advertisements play during and between videos, creators must both hold their audience's interest and fight the disruption of ads: "time is valuable and people's attention is short" (P2).

Four creators (P2, P5, P8, P11) expressed concerns about how advertisements could frustrate their viewers. Participants noted getting advice to maximize profit through the algorithm (e.g., putting more advertisements at the beginning of a video (P12), only selecting ads that viewers cannot skip (P9)) but did not believe these strategies considered the impact on the audience. Midrolls, advertisements that play during videos, were a contentious topic since they are conventionally understood to increase revenue (P12), but risked users switching away from content (P7, P8, P9, P11).

In deciding how to best place ads, some participants (P4, P5, P6, P10, P12) relied on the YouTube algorithm to choose. Other creators were less comfortable "letting the machine decide" (P6). Four creators (P5, P7, P8, P10) crafted cliffhangers for their videos and manually selected midrolls at these moments, hoping the educational experience is not disrupted and viewers will keep watching. Three creators have turned off midrolls (P9, P11, P12) entirely to keep their videos "user-friendly" (P9) for their audience. P2, who is employed outside of YouTube, disabled all advertisements due to fears that they will inevitably disrupt the experience and lower educational value.

4.3.6 Handling Hard-to-Monetize Content. Sometimes the content that creators want to post is not content they perceive will do well or be monetized by the platform. Demonetization has been explored in research throughout the YouTube landscape [36, 38, 76, 89, 90]. P6 and P9 hoped to create content on topics such as "eugenics" (P6), the "history of obstetrics and gynecology" (P6), and the "devastation of climate change" (P9). However, they believed that YouTube discourages these topics through demonetization and de-prioritization in recommendations, leading them to decide against making these videos (P6, P9).

Content aimed at kids was particularly challenging to create. Despite being motivated by broad access to education, none of the creators we interviewed made content explicitly for kids (defined as under 13). Being labeled as "for kids" would allow the content to be viewed on YouTube Kids, a subsection of the platform that has heightened content restrictions [61, 91]. However, content aimed at children is then subject to content and monetization restrictions due to COPPA. The potential loss of income and trouble of compliance wasn't worth it for many of our participants (P4, P5, P7). Even large organizations struggle to meet these standards in a profitable way. P7, who works with a large organization of creators, states "it is a hard space for kids' content. Even though I know there's a huge demand…I'm a parent myself and my kids watch YouTube."

P4 faces similar difficulties with their videos that are used by EdTech platforms with embedded YouTube videos such as EdPuzzle. P4 understands that content is poorly monetized due to restrictions on collecting and processing kids' data. This means that the primary way to profit from videos being used by such platforms is through YouTube Player for Education, which was only mentioned by two participants (P4, P7) and details about the service were not well understood.

4.4 No Other Game in Town

"YouTube is king." - P12

Participants (P2, P7, P8, P9, P12) perceived YouTube as the most important platform for online video sharing. P2 explains: "It's the place to see and be seen. And if you're not on YouTube, then you don't exist." P10 expressed surprise that there has not been a "natural competitor" to YouTube. Five participants (P1, P3, P7, P10, P12) (four of whom (P1, P3, P7, P10) rely solely on content creation for their income) have explored other platforms such as Daily Motion (P4), content exclusive for Facebook (P4), and Vimeo (P2), while others ended up being "dying startup[s]" (P10). Other social platforms like TikTok were difficult to monetize and turned limited profit (P6, P10, P12).

P7 even believes that YouTube has usurped television. Four participants continue to work with other long form video platforms (P1, P3, P7, P12), podcasts (P7), and assisting on television programming (P3). Even with exploring these other options, YouTube remains the preferred platform for participants for access to viewers, ease of use, and profit outcomes.

Despite appreciating the platform, participants felt that YouTube does not acknowledge their work as an important public educational service (P4, P7, P9) and underpay creators. P4 explains:

> "I can't tell you how many times I get some sort of communication from somebody who's like, at college somewhere, and they're like, 'I'm using your videos rather than my teacher … that I'm paying all this money to.' …It's interesting how little value is placed on YouTube educators by our society."

Six participants (P3, P4, P5, P8, P9, P11) believed YouTube was taking a large cut of their ad profits. Two (P3, P9) even believe their share of the payout could be decreasing. Other YouTube-based options (e.g., YouTube Shorts, YouTube Premium (P5)) are also understood to have low payout. P10 perceives their long-form content makes "100 times more [than Shorts] on average."

However, because of YouTube's dominance, several participants (P4, P5, P7, P9, P12) noted their reliance on the platform. For many, YouTube houses all of their content and substantial effort has been made to understand it's workings (P4, P9), making it difficult to move elsewhere. Participants were not actively concerned in this moment, but P12 has taken to uploading backup copies of videos to lesser known platforms. Participants noted concerns if something changed about YouTube in the future, noting their livelihoods depended on this platform. P5 explains: "the next Google or YouTube CEO could get greedy and change the deal, right? And make it less profitable for creators. I mean, we're sort of beholden in some ways to YouTube in that sense."

4.5 Monetizing Educational YouTube While Avoiding Commercialization

As discussed in Section 4.2, money is not our participants' stated primary motivation. Nevertheless, with the time and financial commitment of running a "quality" YouTube channel, creators depend on the revenue from their work. Thus, participants' ability to monetize their content was closely related to their ability to continue doing what they love. While participants had complex feelings about advertising on educational videos (P2, P4, P8, P9, P11), P2 (who is a full time professor) is the only participant who turned AdSense off for their videos. Even with advertisements, most participants were still not earning enough money directly from YouTube to survive.

Thus, our participants turned to diverse sources of income both on and off YouTube including sponsorships and direct audience support, such as donations and subscription services. These services pose additional considerations for participants, such as wanting to avoid burdening the audience by asking for direct viewer support (P1, P10, P12). Participants developed personalized monetization strategies based on their perception of their audience and their understanding of the tension between monetization and education.

4.5.1 Sponsorships: Bring the Most Money, but can Influence Content. Sponsorships are seen as the most desirable form of monetization for educational content creators, offering more stability and higher profits than AdSense ads alone (P3, P5, P10, P12). Eight participants (P3, P5, P6, P7, P8, P9, P10, P12), including those who financially relied on content creation and those who did not, had partnered with sponsors. P11 had a call for their first sponsorship deal the morning of their interview. Sponsorships are also seen as the most complex source of revenue for creators, since they require skills associated with a "business" (P3, P12) relationship. Unlike other monetization strategies where creators were able to be proactive, participants (P1, P5, P6, P9, P10, P12) must be contacted by sponsors, as P9 describes: "I was just contacted, you know? It kinda fell on my lap. Nobody told me about it." Creators are left to parse through "mostly junk" (P5) offers to find fair payment and a good sponsor fit.

Payment was often set by sponsors based on historical viewership (P5) and was set to limited time frames (P8) [46]. This means that participants are not only subject to business negotiations but also the unpredictability of the YouTube algorithm (P3, P5, P12). For example, content that becomes popular outside of the sponsor's contracted time frame still promotes the sponsor, but generates no new profit for the creator. Two participants (P10, P12) believed they were met with less "standardization" (P12) and lower payout per view than traditional television advertising.

Despite these frustrations, creators sometimes turned down sponsorship opportunities for reasons other than the financial offer. Similar to what was found by Xia et al. [145], participants (P1, P3, P5, P6, P10) are mindful of working with brands with similar values so as to not discredit their educational content. P1 hopes to get a sponsor to "fill a huge hole in [their] monthly revenue," and explains that despite getting offers, "I've refrained from accepting them because either their offers were too low or they have a bad reputation or I'm not comfortable with their product."

Sponsors would sometimes have particular requests for how their product was introduced or demonstrated. Participants were not always comfortable with these requests, since they could blur the lines between educational and promotional content. Common requests included sponsor breaks placed at integral parts of videos (P3, P9) and "smooth" (P5) transitions between educational and paid content (P5, P12). Two participants (P10, P12) have integrated sponsored tools more seamlessly into their videos akin to product placement [46] when the tools were relevant to the content. However, the more integrated the advertisement, the greater the risk: if a sponsor drops or changes their requirements last minute, creators are left scrambling (P10, P12).

Some participants felt little agency in negotiations since they "need their money" (P9). More established creators have been able to negotiate specific formats they believe are the least misleading (P3, P5, P7). These strategies include clear transitions (P3) and only having sponsorships at the end of videos since "the people who stick around to the end of your video are the most likely to sign up for whatever you're pitching anyway" (P5). P8 expressed strong aversion to sponsorships and was critical of the practice in general out of concern that sponsors could influence content. They have made the decision to rely heavily on Patreon to ensure their content stays "sponsor-free" (P5).

4.5.2 Direct Support from Viewers. As discussed in Section 4.3.3, creators direct viewers from multiple platforms to YouTube. Creators also link from YouTube to outside services that allow for direct support from viewers. This might include single-time payments, such as merchandise, as well as longer term support, like subscription services. Creators think critically about how to leverage these strategies while reducing exclusivity.

One-Time Viewer Support: Donations and More.

> "I basically about once or twice a year, I will make a video that basically begs for money from people to support what I'm doing." - P4

Donations are particularly appealing to creators since they allow for freedom in content (P10) and allow viewers to show direct support for a creator (P2). Participants believed it has become "exceedingly convenient" (P11) to set up donation services like PayPal (P4, P12) and Venmo (P1, P4) since they do not require an application. Viewers may also already have accounts on these platforms, making it easy to give. On platform, YouTube offers direct donations through Super Thanks (P2, P3, P7) for qualifying creators on the YouTube Partner Program.

Participants expect these donations are coming from people they have helped, be it teachers who used content in a class (P4) or students who learned something new (P2, P8). Though P2 does not utilize AdSense, they promoted viewer support: "I've always felt like, um, the world needs more tip jars." Other participants (P1, P10, P12) perceived donations as placing a burden on their audience.

Some creators prefer one-time payments to involve tangible benefits. For example, several channels managed by P7's organization hold yearly fundraisers selling commemorative items at high costs to viewers as a "memento of their support" rather than explicitly soliciting donations. Other creators use Amazon affiliate links to topical items (e.g., books, tools used during a video) (P1, P2, P10), links to a creator's published book (P1, P2, P3), and channel-specific merchandise (e.g., shirts, stickers) (P1, P3, P4, P7, P8, P10). Participants believe Amazon affiliate products and their books benefit viewers by allowing them to learn more about a topic. The six participants (P1, P3, P4, P7, P8, P10) who sell merchandise rely on content creation for their income but none saw merchandise as a major contributor. Creators believed selling unique or useful items (e.g., branded notebooks (P8)), would appeal to their audiences and be more worthwhile for creators (P1, P7, P8).

Long Term Viewer Support: Subscription Services. All participants set up a way for viewers to make regular, recurring payments to their channel. Patreon is the dominant subscription platform and was used by every participant. Patreon enables "consistent" (P11) revenue where viewers "pay-it-forward" (P8) for future videos to be created. The platform allows creators to offer monthly "tiers" [108] of membership, which can include rewards such as exclusive content. For a larger creator, like P8, revenue from Patreon supports keeping sponsors out of videos. Participants believed that they were expected to have a Patreon. P1 created a Patreon even before monetizing on YouTube, while P5 was prompted to create one by their viewers. Five creators (P1, P3, P4, P8, P9) with different channel sizes and income dependency rely heavily on Patreon for their channel income, with P1 reporting that Patreon accounts for over 70% of their revenue. For three participants (P1, P5, P10) Patreon is an interim measure to fill gaps until securing other funding.

Most participants wanted to make sure that a subscription service did not lead to their content becoming "more exclusive" (P10). Seven participants (P1, P5, P6, P7, P8, P9, P11) offer exclusive content to subscribers, but thoughtfully consider not placing important content behind a paywall. The most common "perk" was early access to videos before they are posted to YouTube (P1, P5, P6, P7, P8, P11). While this perk is offered by many types of creators [65, 108], it was a way for educational creators to maintain their commitment to public access. P11 explains that they prioritize "reach and accessibility first." In some cases, participants (P1, P6, P8, P9) even post rough drafts of new content and solicit feedback from viewers. This arrangement allows creators to provide viewers an opportunity to participate in the content creation process and gives creators insight into how they can improve their content without holding back a finished product from a public audience. When participants did post exclusive content they posted content that they did not believe needed to be publicly available (e.g., vlogs, entertainment content, see Section 4.3.4) (P5, P6, P8).

Participants mostly assumed that Patreon members were generous viewers who want to show support (P2, P5, P7, P8, P9), rather than subscribing for perks. P5 offers one-on-one interviews for their highest subscription tier, though has found "hardly anybody ever takes me up on them" (P5). While P7 found that stopping the time consuming task of shipping monthly physical perks (e.g., stickers) had little bearing on their managed channels' Patreon revenue. However, participants (P2, P11, P12) who did not provide any perks struggled to gain members.

Only two participants hosted content on Nebula, a competing platform that requires a monthly subscription from viewers [101]. Similar to how participants use Patreon, the creators offer early access to their content. These participants are additionally paid by Nebula to post exclusive documentary-style content, but take care to not post the work they deem most important for viewers. The support gained from being on this platform allowed creators to turn their attention towards their main focus, their publicly accessible YouTube channel.

4.5.3 Paid Educational Content for Viewers and Schools. Unique to the educational space, participants are able to sell materials directly to academic institutions. P2 and P4 leveraged their experience as teachers to sell course-related materials. P2, a college professor, links to a paid online course (hosted on Coursera) built on their YouTube videos that offers personalized support and a completion certificate, allowing them to turn off advertising on their videos. P4, a high school teacher, has joined other creators in selling review materials for common classes. They "don't really know how that's going to be financially" (P4) since it was relatively new at the time of the interview, but were optimistic.

Four participants (P3, P4, P7, P8), who rely on content creation for their income, license ad- and sponsor-free content to educational video services like Boclips (P3, P4, P7, P8) and Discovery Education (P4). P3 explains that these services enable their content to be shown in schools, online textbooks, in-flight entertainment, and so on. P7 sees content licensing as a major benefit since profit can be derived from a "video file that we already had from years ago."

4.6 Longevity and Stability on an Algorithmic Platform

Participants perceived it was becoming increasingly difficult to become a creator due to the number of "well-established channels" (P12) who have flooded the platform with content (P4, P9, P12). Most participants dreamed of more stability on the platform (P1, P2, P3, P4, P5, P6, P7, P9, P12), while those with employees hoped for consistent funding to support them (P3, P7). P6 believes "survivorship bias" has influenced the dominant promotion strategies, which might not be best for every creator. P1 found a "ceiling" to the benefits of these strategies once they became popular. New creators (P1, P6, P12) are drawn to streaming platforms like Nebula for financial "insurance" (P1) and ability to talk about important nuanced topics that could be demoted by the algorithm (P6) (see

Section 4.3.6) [101]. P1 likened Nebula to a hard-to-break-into group of "the cool kids" with exclusive networking events with prominent creators. Participants face similar difficulties with exclusive application-based groups (e.g., DFTBA, a service to sell exclusive merchandise [33]),negotiating sponsorship deals, and early knowledge of YouTube programs like the Player for Education (P4, P7). It is not enough to simply be networked into part of the educational YouTube community.

YouTube is understood to be an unstable platform for payout (P2, P9, P11). Even using YouTube analytics to glean how much they will make on a future video provides inconsistent insight (P11). P9 is friends with a number of educational YouTubers who are getting views, but struggling to make ends meet. This has led them to consider YouTube a "hobby" (P9) during retirement. P2 similarly considers YouTube a "boost" to their career, rather than a career itself. P5 made the decision to become a professor despite making enough to support themselves on YouTube, citing "healthcare, a pension" and the hope for security from a tenured position.

P12 on the other hand, hopes they are able to transition from industry to making YouTube content full time. Two participants (P7, P8) who work with YouTube full-time see YouTube as the foundation of their careers going forward. P8 explains: "I don't think YouTube is gonna go anywhere, 'cause I think it's kind of synonymous with the internet now" despite the "ebbs and flows in terms of popularity of different sites."

Many participants continue to seek "consistent and sustainable" (P11) educational content careers (P1, P3, P11, P12). P11 hopes for stability in the next "two to three years" by employing broad monetization strategies beyond YouTube alone. P1 is "finding that this is starting to bring me opportunities to do other things." In some cases participants who rely on content creation income are seeking more conventional ways to monetize educational content, including speaking engagements (P8), writing books (P1, P3), and pitching content for television (P1).

5 Discussion

Participants in our study were motivated by a desire to reach a diverse audience with free high-quality content to support education. This desire is complicated by the attention-focused media landscape of YouTube. Though this freedom to create has benefits, creators must find ways to finance their content. Funding publicly-accessible educational media has faced long running challenges that can be seen through the history of public broadcasting in the United States. However, YouTube seems to offer educational content a new path. In this section, we discuss how educational YouTubers face similar funding challenges to educational public broadcast, but additionally experience the challenges and *benefits* of a platform built on user-generated content.

5.1 The Sustainability of an Educational Public Service

In the United States, public broadcast television (PBS) has historically offered free access to programming that is educational or provides non-commercial value for citizens [44, 72, 83, 119]. PBS is partially funded by the U.S. federal taxes [11, 42, 102]. The public television broadcasting mandate in the United States is informed by a number of values including (1) reaching a diverse audience, (2) creating high-quality content, and (3) limiting advertising [43, 44, 69, 102, 104]. However, for both financial and content reasons, the long-term outlook for public broadcast has been presented as dire for decades [11, 32, 104]. Public broadcast has been framed as over-commercialized [64, 93] and to be lacking content that is truly designed for the desires of the public [83, 104]. Numerous media scholars have suggested that the solution for the longevity of audience-focused content is a movement towards decentralization and independent media [11, 32, 64, 83, 93, 104]. New digital media platforms, such as YouTube, have been noted as an alternative to traditional broadcast [49, 93].

Participants were in some ways realizing media scholars' recommendations for decentralization and independent media in support of the longevity of publicly accessible educational media [11, 32,

64, 83, 93, 104]. Unlike public broadcast (with an uncertain future), participants were optimistic about continuing to make content for YouTube. Our study finds that many of the values in public broadcast were prized by our participants: **educational creators aimed to create informative and engaging content that is freely accessible and unimpeded by a paywall**. For example, when met with a homogeneous (e.g., white, male) audience on YouTube, participants turned to other platforms even if they were not profitable with the goal of reaching a more diverse set of viewers. Our study shows that the values and challenges of public broadcasting are shared by educational YouTubers, who try to prioritize their values while making educational content that is profitable on an entertainment platform.

5.2 Attention in a "Vast Wasteland": Making Concessions to Survive

Like YouTube, television in the United States was not founded with learning in mind, leaving educational content to adapt to the platform [44, 117]. Early educational programming consisted of academic content (e.g., lectures, scientific visualizations), but was considered bland and received low ratings [11, 23, 44, 69]. This educational content was vying for viewer attention in what the chairman of the U.S. Federal Communications Commission Newt Minow called the "vast wasteland" [97] of highly engaging game shows and sitcoms in 1961 [11, 23, 104]. When federal funding for public broadcasting was formalized with the Broadcast Act of 1967, educational media shifted from academic content to story-based "public television" programming like *Sesame Street*, *Electric Company*, and *Mister Rogers' Neighborhood* which resonated with audiences [23, 32, 69, 119].

In some ways, YouTube has realized the goals of early public-access instructional programming by bringing *academically-oriented* content into the home and into schools [8, 98, 145]. However, educational YouTubers must compete for viewer attention in a similar landscape of endless entertainment, in addition to appealing to the YouTube algorithm. Participants believed that employing techniques related to entertainment (e.g., storytelling, fast talking, and flashy graphics [66, 123, 145]) has allowed them to engage the attention of a wide range of viewers. Previous work has highlighted the effectiveness of these strategies for appealing to the audience [12, 24, 66, 85, 107, 123, 145] and supporting learners in educational settings with storytelling [87].

However, under the attention economy of the YouTube algorithm, creators believe they must also engage with over-the-top promotion to appeal to the algorithm and gain viewers to support their ad revenue. Creators explicitly avoided tactics that caused them discomfort such as negativity or content they deemed misleading. While clickbait-style titles and thumbnails are common on YouTube [3, 115], participants were averse to the practice and even saw it as an affront to accurate educational work. Although clickbait is not the only metric for audience engagement, it is a metric that participants believed they had to play into within the current YouTube recommendation environment. **Participants leaned towards trends and unique topics that allow for clickbait-style content without being deceitful to viewers.**

Participants were interested in creating high-quality and time-intensive content for their viewers, something that has even been discussed by entertainment creators as a basis for increased user engagement [63]. Research suggests that in addition to clickbait, quality is an important factor in long-term user engagement [67], though one not directly promoted by recommendation algorithms. Platforms like YouTube should explicitly incentivize the creation of quality content and take quality into greater consideration for promotion. Making this consideration for the platform could bring benefit to creators and viewers. We suggest that platforms like YouTube explore how to implement these strategies on their platforms.

5.3 In an Informal Economy Creators Define Their Own Educational Standards

Federally-funded television programming has been subject to a number of restrictions (e.g., limited time for sponsor messaging [41, 44, 69, 104, 124], limitations on the language used to promote products [11, 32, 44, 64, 83, 104]) to maintain "noncommercial integrity" [124] and differentiate public broadcast and commercial television. Over time, these restrictions have loosened to sustain the service in an increasingly attention-driven environment [11, 32, 44, 64, 83, 104]. While user-generated educational content is not regulated in a similar way, the decisions made by participants surrounding monetization show a similar sentiment to the intentions of the regulations placed on public broadcasting [43, 44, 69, 102, 104]: *maintaining educational legitimacy*. Creators on YouTube are subject to an even more complex and denser attention environment than television, making the need to compete and commercialize more imperative.

However, we found that participants effectively set their own standards for education and knowingly limited their options for promotion and monetization. These standards are informed by the broader educational YouTube community, but are also personal to each creator. Participants worked to minimize advertising on their content even if it went against best practices for increased profit (e.g., limiting mid-rolls, limiting non-skippable ads, changing content length [5]).

To support creators in making monetization decisions, we recommend that future work explore the impacts of monetization on audience perceptions of truthfulness to help educational creators decide on effective monetization strategies that limit the negative impact on educational content. The idea of "trust" has been explored on YouTube, particularly in the context of misinformation and disinformation. For example, viewers can perceive content as trustworthy when videos utilize citations to other sources [4, 74]. Other research has looked at flagging the non-disclosure of affiliate marketing within videos [128]. Better information on the boundaries of advertising and truthfulness would help educational creators minimize the impact of advertising on educational content. Furthermore, though there are benefits to the decentralized nature of YouTube for the persistence of publicly accessible educational content, less regulation can make verifying claims difficult. Public broadcasting is subject to some standards on educational content (particularly for children) [41]. Researchers should consider not only *perceptions* of trust, but the impacts of monetization truthfulness of content broadly.

5.4 Diverse Monetization in an Unstable Environment

While participants were not primarily driven by money, five participants relied solely on educational content creation for their livelihoods, making monetization a necessity. Though YouTube is monetized, full-time content creators on YouTube are often not able to support themselves on the revenue from YouTube alone. Content creators use a "multi-platform" [88] approach to draw viewers to their primary monetized platform (i.e., YouTube) and leverage diverse off-platform strategies to supplement their income [65, 76, 100, 150]: *sponsorship deals*, *donations*, *merchandise*, and *subscription services*. While these strategies are broadly used in the educational space, they can make limiting commercialization difficult.

Similar fears of commercialization influencing educational content have persisted across the history of publicly accessible educational media [11, 32, 44, 64, 83, 104]. While YouTube revenue is impacted by an unknowable algorithm, allocations of federal funding for public broadcasting are limited and influenced by changes in political administration [72, 83]. Public broadcast stations have thus sought out diverse funding similar to YouTubers: *sponsorship deals*, *donations* from viewers [44, 83], branded *merchandise* [11], and partnering with *subscription services* [72].

Navigating numerous monetization strategies can be tiring for creators [17, 51, 88] and in some cases lead to burnout [120, 146]. While none of our participants were considering leaving the

platform, they desired more time to work on creating the educational content itself. Participants imagined being funded by grants from the federal government or education-based foundations, since they perceived their content as filling an important niche in education. Yet, the limitations and lack of stability of grant funding turned public broadcasting towards alternative monetization strategies [72, 83, 104]. Thus, it remains an open question if grant-style funding would give creators the stability they seek.

Although most of our participants used external platforms to help financially support their channels, YouTube itself already offers several of the same monetization features internally. For example, YouTube has instantiated funds to support creators making content for kids in efforts to allow creators to invest in content that is otherwise hard to monetize [82]. However, participants were unclear about how to access these funds or make their content fit within the restrictions of COPPA. The YouTube Player for Education offers creators who have videos embedded on student-focused EdTech platforms (e.g., EdPuzzle) compensation even though advertisements are not shown. While this theoretically fills a gap, it was only mentioned by two participants, suggesting it is underutilized or not well known. Participants also expressed confusion over YouTube services for direct viewer support such as "Super Thanks" and "Channel Memberships", despite these programs being established years before our interviews (since 2021 [92] and 2018 [99], respectively).

This lack of usage suggests that YouTube could improve its communication on how to qualify and use these funding opportunities. Future work could explore more deeply why creators are not engaging with existing YouTube services (e.g., channel memberships) and are instead moving towards external platforms (e.g., Patreon) for similar functionality. At the same time, centralizing funding on a single platform comes with risks mitigated by a multi-platform approach. While our participants were not overly worried about their reliance on YouTube, other types of content creators and platform workers have used platform diversification to defend against deplatforming and shadow banning [37, 48, 88]. There exist some services targeted towards creators and businesses to help manage posting and tracking performance across multiple platforms (e.g., Hootsuite [62]), though these services are paid and could be expensive for individual creators. Future work could explore how a diverse platform strategy could be less onerous to creators, e.g., through further integration of external platforms with YouTube or new tools for multi-platform management.

5.5 Maintaining Public Access While Offering Subscriptions

One common monetization approach for both educational YouTubers and public broadcast is to offer subscriptions. Subscription services allow for long-term direct support from a dedicated audience. Some participants opted for subscription content to limit sponsorships or advertisements on their videos. YouTubers making different genres of content also seek out subscription platforms like Patreon for "stability" [51] and "autonomy" [17, 51, 88]. While subscriptions were understood to reduce commercialization of content on YouTube, our participants raised concerns about creating a financial barrier to educational materials.

Generally, on Patreon creators offer exclusive rewards and opportunities for direct interaction with the creator [17, 51]. Our participants focused mainly on providing early access to content when posting on subscription platforms like Patreon or Nebula to limit content placed behind a paywall. Similarly, PBS has offered early access to *Sesame Street* through a partnership with the streaming service *HBO Max* [72]. Some participants reported additionally making exclusive documentary-style content for subscribers. Even though this content was exclusive, **creators did not post content behind a paywall that they felt could have an important educational purpose**. Instead, the content participants posted behind a paywall was about niche topics that were generally not taught in academic settings or entertainment-style content (e.g., vlogs).

This use of platforms like Patreon differs from other types of creators. Unlike the more personal connections creators developed with fans on subscription services [17, 51, 89, 142], our participants reported limited one-on-one contact with their audience. Participants did not believe highly exclusive content (e.g., monthly physical goods, one-on-one meetings) was necessary for receiving support. Participants believed their supporters wanted them to spend time making new *public* content. Future work could explore how educational YouTubers perceive their direct creator-audience relationship. From our study, educational creators seem to create content on topics they find interesting or would appeal to a broad audience, rather than content to appease financial supporters. Understanding the relationship between educational creators, their paying audience, and the content they create could further highlight the diverging experiences of educational creators. In particular, this may illuminate opportunities for platforms like Patreon to better tailor their platform to account for the various ways their users relate to their audiences.

6 Conclusion

While the concerns of commercialization have extended through the history of educational video, YouTube creators face unique challenge on an algorithmic platform. After interviewing 12 popular educational YouTubers, we find that while monetization and education are sometimes at odds, participants used numerous monetization strategies to support their content. On an attention-driven platform, participants worried that standard monetization approaches would threaten the integrity and availability of their content. In response, creators have developed self-imposed strategies to maintain the distinction between education and advertisements. We find that participants modified popular monetization tactics to fit within their values (such as posting early access or rough draft content on paid subscription platforms, rather than exclusive content).

We note that many of these trends mirror the history of public broadcast educational content in the United States, where federal funding is insufficient and subject to change. Public access stations similarly diversify their revenue streams while prioritizing free and accessible content for a broad audience. However, participants often worked alone including managing multiple platforms and building relationships with sponsors, on top of their content creation.

The decentralized nature of YouTube allows creators to set their own standards and serves as a possible long-term platform for publicly accessible educational content. Educational creators are able to survive on YouTube without grant-style funding and future work would need to be completed to understand if this is a sustainable option. We suggest that YouTube continues to provide an environment where creators are able to set their own priorities and limit the impacts of commercialization. To support this environment, future work should look at how creators build relationships with viewers and how platforms (like YouTube) can communicate programs more effectively with creators. Though agency is beneficial to creators, it could also lead to deceitful content. Further study of how monetization practices impact educational integrity and viewer trust could help educational creators limit commercialization.

Acknowledgments

We would like to thank our participants for sharing their experiences. We would additionally like to thank Blase Ur and Marc Downie for providing feedback on the paper. Finally, we would like to thank our reviewers for their constructive comments.

References

[1] Adiya Abisheva, Venkata Rama Kiran Garimella, David Garcia, and Ingmar Weber. 2014. Who watches (and shares) what on youtube? and when? using twitter to understand youtube viewership. In *Proceedings of the 7th ACM*

international conference on Web search and data mining (WSDM '14). Association for Computing Machinery, New York, NY, USA, 593–602. doi:10.1145/2556195.2566588

[2] Khan Academy. 2024. https://www.khanacademy.org/about

[3] HeyTony Advertising. 2023. Best Clickbait Thumbnails for YouTube. https://heytony.ca/best-clickbait-thumbnails-for-youtube/

[4] Aditto Baidya Alok, Fardin Huq, Shamsil Arafin Ullah, Riya Ghosh, and Jannatun Noor. 2024. Navigating Truth in the Sea of Content: Exploring Influential Factors Shaping User Perceptions of Trustworthiness in YouTube Content. In *Proceedings of the 7th ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies* (New Delhi, India) *(COMPASS '24)*. Association for Computing Machinery, New York, NY, USA, 107–116. doi:10.1145/3674829.3675065

[5] Eitan Altman and Tania Jiménez. 2019. Measuring Audience Retention in YouTube. In *Proceedings of the 12th EAI International Conference on Performance Evaluation Methodologies and Tools* (Palma, Spain) *(VALUETOOLS 2019)*. Association for Computing Machinery, New York, NY, USA, 79–85. doi:10.1145/3306309.3306322

[6] Inoka Amarasekara and Will J Grant. 2019. Exploring the YouTube science communication gender gap: A sentiment analysis. *Public Understanding of Science* 28, 1 (Jan. 2019), 68–84. doi:10.1177/0963662518786654 Publisher: SAGE Publications Ltd.

[7] Mariana Arantes, Flavio Figueiredo, and Jussara M. Almeida. 2016. Understanding video-ad consumption on YouTube: a measurement study on user behavior, popularity, and content properties. In *Proceedings of the 8th ACM Conference on Web Science (WebSci '16)*. Association for Computing Machinery, New York, NY, USA, 25–34. doi:10.1145/2908131.2908159

[8] Marlene Asselin, Teresa Dobson, Eric M. Meyers, Cristina Teixiera, and Linda Ham. 2011. Learning from YouTube: an analysis of information literacy in user discourse. In *Proceedings of the 2011 iConference (iConference '11)*. Association for Computing Machinery, New York, NY, USA, 640–642. doi:10.1145/1940761.1940851

[9] Cameron Ballard, Ian Goldstein, Pulak Mehta, Genesis Smothers, Kejsi Take, Victoria Zhong, Rachel Greenstadt, Tobias Lauinger, and Damon McCoy. 2022. Conspiracy Brokers: Understanding the Monetization of YouTube Conspiracy Theories. In *Proceedings of the ACM Web Conference 2022 (WWW '22)*. Association for Computing Machinery, New York, NY, USA, 2707–2718. doi:10.1145/3485447.3512142

[10] Jose M. Barlis, Josefin D. Fajardo, and Benjie M. Manila. 2023. The Evolution of Science Education: You Don't Know? YouTube It. *SAGE Open* 13, 2 (April 2023), 21582440231168778. doi:10.1177/21582440231168778 Publisher: SAGE Publications.

[11] David Barsamian. 2001. *The Decline and Fall of Public Broadcasting*. South End Press, Cambridge, MA.

[12] Jacob Beautemps and André Bresges. 2021. What Comprises a Successful Educational Science YouTube Video? A Five-Thousand User Survey on Viewing Behaviors and Self-Perceived Importance of Various Variables Controlled by Content Creators. *Frontiers in Communication* 5 (April 2021), 14. doi:10.3389/fcomm.2020.600595 Publisher: Frontiers.

[13] Daniel Belanche, Carlos Flavián, and Alfredo Pérez-Rueda. 2017. User adaptation to interactive advertising formats. *Telematics and Informatics* 34, 7 (Nov. 2017), 961–972. doi:10.1016/j.tele.2017.04.006

[14] Md Momen Bhuiyan, Carlos Augusto Bautista Isaza, Tanushree Mitra, and Sang Won Lee. 2022. OtherTube: Facilitating Content Discovery and Reflection by Exchanging YouTube Recommendations with Strangers. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22)*. Association for Computing Machinery, New York, NY, USA, 1–17. doi:10.1145/3491102.3502028

[15] Matt Binder. 2023. YouTube Will Launch Thumbnail A/B Split Testing for Creators. https://mashable.com/article/youtube-test-and-compare-thumbnail-ab-testing

[16] Boclips. 2024. Boclips Library. https://www.boclips.com/library

[17] Ross Bonifacio, Lee Hair, and Donghee Yvette Wohn. 2023. Beyond fans: The relational labor and communication practices of creators on Patreon. *New Media & Society* 25, 10 (2023), 2684–2703. doi:10.1177/14614448211027961

[18] Ross Bonifacio and Donghee Yvette Wohn. 2020. Digital Patronage Platforms. In *Companion Publication of the 2020 Conference on Computer Supported Cooperative Work and Social Computing* (Virtual Event, USA) *(CSCW '20 Companion)*. Association for Computing Machinery, New York, NY, USA, 221–226. doi:10.1145/3406865.3418332

[19] Bettina Boy, Hans-Jürgen Bucher, and Katharina Christ. 2020. Audiovisual Science Communication on TV and YouTube. How Recipients Understand and Evaluate Science Videos. *Frontiers in Communication* 5 (Dec. 2020), 18. doi:10.3389/fcomm.2020.608620 Publisher: Frontiers.

[20] Cynthia J. Brame. 2016. Effective Educational Videos: Principles and Guidelines for Maximizing Student Learning from Video Content. *CBE—Life Sciences Education* 15, 4 (Dec. 2016), es6. doi:10.1187/cbe.16-03-0125 Publisher: American Society for Cell Biology (lse).

[21] David Buckingham and Margaret Scanlon. 2003. *Education, Entertainment, and Learning in the Home*. Open University Press, Buckingham, England.

[22] Jean Burgess. 2013. YouTube and the formalisation of amateur media. In *Amateur media: Social, cultural and legal perspectives*, D. Hunter, R. Lobato, J. Thomas, and M. Richardson (Eds.). Routledge, United Kingdom, 53–58.

doi:10.4324/9780203112021
[23] Robert A. Carlson. 1971. Educator Vs. Broadcaster in the Development of ETV: A Brief History of Educational Television in the United States. *Educational Technology* 11, 7 (1971), 13–16. http://www.jstor.org/stable/44417705
[24] Yueh Hsiu Giffen Cheng and Kuan Ting Fur. 2023. From Internet Celebrity to Teacher – The Evolutionary Challenge of Design Courses. In *Social Computing and Social Media: 15th International Conference, SCSM 2023, Held as Part of the 25th HCI International Conference, HCII 2023, Copenhagen, Denmark, July 23–28, 2023, Proceedings, Part II*. Springer-Verlag, Berlin, Heidelberg, 31–48. doi:10.1007/978-3-031-35927-9_3
[25] Pooja Chokshi. 2023. 3 Ways YouTube Player for Education is Making Edtech Better for Learners. https://blog.youtube/news-and-events/player-for-education-making-edtech-better-for-learners/
[26] Kristin Cohen. 2019. YouTube Channel Owners: Is Your Content Directed to Children? https://www.ftc.gov/business-guidance/blog/2019/11/youtube-channel-owners-your-content-directed-children
[27] Coursera. 2024. www.coursera.org/
[28] Coursera. 2024. Unlimited access to 7,000+ world-class courses, hands-on projects, and job-ready certificate programs—all included in your subscription. https://www.coursera.org/courseraplus
[29] YouTube Creators. 2022. How YouTube Recommends Videos Using "The Algorithm". https://www.youtube.com/watch?v=GOHWPVMPq84&t=1s
[30] Stuart Cunningham, David Craig, and Jon Silver. 2016. YouTube, multichannel networks and the accelerated evolution of the new screen ecology. *Convergence* 22, 4 (Aug. 2016), 376–391. doi:10.1177/1354856516641620 Publisher: SAGE Publications Ltd.
[31] Thomas H. Davenport and John C. Beck. 2001. The Attention Economy. *Ubiquity* 2001, May, Article 6 (may 2001), 1 pages. doi:10.1145/375348.376626
[32] James Day. 1995. *The Vanishing Vision: The Inside Story of Public Television.* Univ of California Press, Berkeley and Los Angeles, CA London, England.
[33] DFTBA. 2024. Partner With Us. https://store.dftba.com/pages/partner-with-us
[34] Yuan Ding, Yuan Du, Yingkai Hu, Zhengye Liu, Luqin Wang, Keith Ross, and Anindya Ghose. 2011. Broadcast yourself: understanding YouTube uploaders. In *Proceedings of the 2011 ACM SIGCOMM conference on Internet measurement conference (IMC '11)*. Association for Computing Machinery, New York, NY, USA, 361–370. doi:10.1145/2068816.2068850
[35] Malik Ducard. 2018. YouTube Learning: Investing in educational creators, resources, and tools for EduTubers. https://blog.youtube/news-and-events/youtube-learning-investing-in/
[36] Brooke Erin Duffy, Urszula Pruchniewska, and Leah Scolere. 2017. Platform-Specific Self-Branding: Imagined Affordances of the Social Media Ecology. In *Proceedings of the 8th International Conference on Social Media & Society* (Toronto, ON, Canada). Association for Computing Machinery, New York, NY, USA, Article 5, 9 pages. doi:10.1145/3097286.3097291
[37] Michael Dunn. 2020. Making gigs work: digital platforms, job quality and worker motivations. *New Technology, Work and Employment* 35, 2 (2020), 232–249. doi:10.1111/ntwe.12167
[38] Arun Dunna, Katherine A. Keith, Ethan Zuckerman, Narseo Vallina-Rodriguez, Brendan O'Connor, and Rishab Nithyanand. 2022. Paying Attention to the Algorithm Behind the Curtain: Bringing Transparency to YouTube's Demonetization Algorithms. *Proceedings of the ACM on Human-Computer Interaction* 6, CSCW2 (Nov. 2022), 318:1–318:31. doi:10.1145/3555209
[39] Discovery Education. 2024. Nurture Curiosity for Every Student/Educator/Classroom. https://www.discoveryeducation.com/
[40] Motahhare Eslami, Karrie Karahalios, Christian Sandvig, Kristen Vaccaro, Aimee Rickman, Kevin Hamilton, and Alex Kirlik. 2016. First I "like" it, Then I Hide it: Folk Theories of Social Feeds. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (San Jose, California, USA) *(CHI '16)*. Association for Computing Machinery, New York, NY, USA, 2371–2382. doi:10.1145/2858036.2858494
[41] FCC. 2022. The Public and Broadcasting. https://www.fcc.gov/media/radio/public-and-broadcasting
[42] Corporation for Public Broadcasting. 2019. Overview Fact Sheet. https://www.cpb.org/sites/default/files/CPB_Overview_Fact_Sheet_2020-01-22.pdf
[43] Des Freedman and Vana Goblot. 2018. *Future for Public Service Television.* Goldsmiths Press, London, England.
[44] Twentieth Century Fund and Richard Somerset-Ward. 1993. *Quality Time? The Report of the Twentieth Century Fund Task Force on Public Television: With Background Paper by Richard Somerset-Ward.* Twentieth Century Fund Press, New York, NY.
[45] Matthew Fyfield. 2020. YouTube in the secondary classroom: how teachers use instructional videos in mainstream classrooms: Technology, Pedagogy and Education: Vol 31, No 2. doi:10.1080/1475939X.2021.1980429
[46] Claudia Gerhards. 2019. Product placement on YouTube: An explorative study on YouTube creators' experiences with advertisers. *Convergence* 25, 3 (June 2019), 516–533. doi:10.1177/1354856517736977 Publisher: SAGE Publications Ltd.

[47] Phillipa Gill, Vijay Erramilli, Augustin Chaintreau, Balachander Krishnamurthy, Konstantina Papagiannaki, and Pablo Rodriguez. 2013. Follow the money: understanding economics of online aggregation and advertising. In *Proceedings of the 2013 conference on Internet measurement conference (IMC '13)*. Association for Computing Machinery, New York, NY, USA, 141–148. doi:10.1145/2504730.2504768

[48] Zoe Glatt. 2022. "We're All Told Not to Put Our Eggs in One Basket": Uncertainty, Precarity and Cross-Platform Labor in the Online Video Influencer Industry. *International Journal of Communication* 16 (2022), 3852–3871.

[49] Vana Goblot and Natasha Cox. 2018. *A Future For Public Service Television.* Goldsmiths Press, London, Chapter Afterward, 335 – 339.

[50] Alice Good, Ada Scupola, Arunasalam Sambhanthan, and Samantha Thelijjagoda. 2018. Investigation of an Extended Typology for Marketing Destinations with YouTube. *International Journal of Knowledge-Based Organizations* 8, 3 (July 2018), 47–62. doi:10.4018/IJKBO.2018070103

[51] Lee Hair, Ross Bonifacio, and Donghee Yvette Wohn. 2022. Multi-platform Practices Among Digital Patronage Creators. *Convergence* 28, 5 (2022), 1438–1456. doi:10.1177/13548565221104990

[52] Study Hall. 2024. Earn Credit as You Ease Into College. https://gostudyhall.com/courses/

[53] Bo Han. 2020. How do YouTubers make money? A lesson learned from the most subscribed YouTuber channels. *International Journal of Business Information Systems* 33, 1 (Jan. 2020), 132–143. doi:10.1504/ijbis.2020.104807

[54] YouTube Help. 2020. Set Your Channel or Video's Audience. https://support.google.com/youtube/answer/9527654?sjid=7321240764680937344-NC#what_happens&zippy=%2Cif-you-set-your-channel-as-made-for-kids%2Cif-you-set-a-video-or-live-stream-as-made-for-kids%2Chow-do-i-know-if-ive-set-my-videos-audience-correctly%2Cwhat-happens-if-i-set-my-videos-audience-incorrectly

[55] YouTube Help. 2024. Add video thumbnails on YouTube. https://support.google.com/youtube/answer/72431?hl=en#strategies-zippy-link-1&zippy=

[56] YouTube Help. 2024. Choose How You Want to Monetize. https://support.google.com/youtube/answer/13429240?sjid=17639681922376238900-NC

[57] YouTube Help. 2024. Manage Mid-Roll Ad Breaks in Long Videos. https://support.google.com/youtube/answer/6175006#zippy=%2Cfrequently-asked-questions

[58] YouTube Help. 2024. Thumbnail & title tips - YouTube Help. https://support.google.com/youtube/answer/12340300?sjid=10350248985568832059-NC

[59] YouTube Help. 2024. Understand Ad Revenue Analytics. https://support.google.com/youtube/answer/9314357?hl=en#zippy=%2Cwhy-is-my-rpm-lower-than-my-cpm%2Cwhats-the-difference-between-rpm-and-cpm%2Cwhy-is-rpm-important%2Chow-can-i-increase-my-rpm%2Cif-my-rpm-is-going-up-or-going-down-what-does-it-mean%2Cwhat-doesnt-rpm-tell-me-about-my-revenue%2Cwhy-is-cpm-important%2Cwhy-is-my-cpm-changing

[60] YouTube Help. 2024. YouTube Advertising Formats. https://support.google.com/youtube/answer/2467968?hl=en

[61] Brianna Hightower, Kelly Sheehan, Alexis Lauricella, and Ellen Wartella. 2019. Exploring Parent Use of Early STEM Media to Inform Design for Children. In *Proceedings of the 18th ACM International Conference on Interaction Design and Children (IDC '19)*. Association for Computing Machinery, New York, NY, USA, 102–108. doi:10.1145/3311927.3323124

[62] Hootsuite. 2025. Save time and get REAL results on social media. Hootsuite makes it easy. www.hootsuite.com

[63] The Iced Coffee Hour. 2022. How MrBeast Spends $200,000 Per Day. https://www.youtube.com/watch?v=N26B7IHLpJA&t=0s

[64] William Hoynes. 1994. *Public Television for Sale : Media, the Market, and the Public Sphere.* Westview Press, Boulder, CO.

[65] Yiqing Hua, Manoel Horta Ribeiro, Thomas Ristenpart, Robert West, and Mor Naaman. 2022. Characterizing Alternative Monetization Strategies on YouTube. *Proceedings of the ACM on Human-Computer Interaction* 6, CSCW2 (Nov. 2022), 283:1–283:30. doi:10.1145/3555174

[66] Tianle Huang and Will J. Grant. 2020. A Good Story Well Told: Storytelling Components That Impact Science Video Popularity on YouTube. *Frontiers in Communication* 5 (Oct. 2020), 15. doi:10.3389/fcomm.2020.581349 Publisher: Frontiers.

[67] Nicole Immorlica, Meena Jagadeesan, and Brendan Lucier. 2024. Clickbait vs. Quality: How Engagement-Based Optimization Shapes the Content Landscape in Online Platforms. In *Proceedings of the ACM Web Conference 2024* (Singapore, Singapore) *(WWW '24)*. Association for Computing Machinery, New York, NY, USA, 36–45. doi:10.1145/3589334.3645353

[68] Creator Insider. 2024. A deep thumbnail discussion with Chucky (MrBeast) and Todd (YouTube Algorithm). https://www.youtube.com/watch?v=HP-rqigfw2s

[69] Petros Iosifidis. 2007. *Public Television in the Digital Era: Technological Challenges and New Strategies for Europe.* Palgrave Macmillan, Houndmills, Basingstoke, Hampshire and New York, NY.

[70] Nicholas Jackson. 2011. Infographic: The History of Video Advertising on YouTube. https://www.theatlantic.com/technology/archive/2011/08/infographic-the-history-of-video-advertising-on-youtube/242836/ Section: Technology.

[71] Kylie Jarrett. 2008. Beyond Broadcast Yourself™: The Future of YouTube. *Media International Australia* 126 (2008), 132 – 144.
[72] Elizabeth Jensen. 2020. PBS Showed TV the Future. But What Does Its Own Look Like? https://www.nytimes.com/2020/10/13/arts/television/pbs-future.html
[73] Suyog Karnawat. 2024. Supercharge your Sales with Shopify and the YouTube Shopping Affiliate Program. https://blog.youtube/news-and-events/shopify-expansion/
[74] HaeEun Kim and Daniel Gatica-Perez. 2023. Referencing in YouTube Knowledge Communication Videos. In *Proceedings of the 2023 ACM International Conference on Interactive Media Experiences* (Nantes, France) *(IMX '23)*. Association for Computing Machinery, New York, NY, USA, 60–70. doi:10.1145/3573381.3596163
[75] Jin Kim. 2012. The institutionalization of YouTube: From user-generated content to professionally generated content. *Media, Culture & Society* 34, 1 (Jan. 2012), 53–67. doi:10.1177/0163443711427199 Publisher: SAGE Publications Ltd.
[76] Sara Kingsley, Proteeti Sinha, Clara Wang, Motahhare Eslami, and Jason I. Hong. 2022. "Give Everybody [..] a Little Bit More Equity": Content Creator Perspectives and Responses to the Algorithmic Demonetization of Content Associated with Disadvantaged Groups. *Proceedings of the ACM on Human-Computer Interaction* 6, CSCW2 (Nov. 2022), 424:1–424:37. doi:10.1145/3555149
[77] Sarah Kohler and Tabea Clara Dietrich. 2021. Potentials and Limitations of Educational Videos on YouTube for Science Communication. *Frontiers in Communication* 6 (May 2021), 10. doi:10.3389/fcomm.2021.581302 Publisher: Frontiers.
[78] Thomas Koller and Helmut Grabner. 2022. Who wants to be a Click-Millionaire? On the Influence of Thumbnails and Captions. In *2022 26th International Conference on Pattern Recognition (ICPR)*. IEEE, Montréal, Canada, 629–635. doi:10.1109/ICPR56361.2022.9956202 ISSN: 2831-7475.
[79] Wanmo Koo. 2023. Ways to Implement Effective Product Placement on YouTube. *International Journal of E-Business Research* 19, 1 (March 2023), 1–15. doi:10.4018/IJEBR.320232
[80] Susanne Kopf. 2020. "Rewarding Good Creators": Corporate Social Media Discourse on Monetization Schemes for Content Creators. *Social Media + Society* 6, 4 (Oct. 2020), 1 – 12. doi:10.1177/2056305120969877 Place: Thousand Oaks, United Kingdom Publisher: Sage Publications Ltd..
[81] Katie Kurtz. 2023. A New Path to Higher Education That Begins on YouTube! https://blog.youtube/news-and-events/higher-education-on-youtube-study-hall/
[82] Robert Kyncl. 2021. 10 Ways to Monetize on YouTube. https://blog.youtube/news-and-events/10-ways-monetize-youtube/
[83] Marilyn Lashley. 1992. *Public Television: Panacea, Pork Barrel, or Public Trust?* Bloomsbury Academic, Westport, CT.
[84] Nathan Jacky Lee, Muhammad Devin Nayottama A.P., Anderies, and Andry Chowanda. 2023. How Digitally Extractable Attributes of YouTube Video Thumbnails and Titles Affect Video Views. In *2023 IEEE 7th International Conference on Information Technology, Information Systems and Electrical Engineering (ICITISEE)*. IEEE, Banyumas, Indonesia, 82–87. doi:10.1109/ICITISEE58992.2023.10405243
[85] Daniel Liddle, Victoria Braegger, Allison Durazzi, Yoonji Kim, Elena Kalodner-Martin, and Jacob Richter. 2022. Channeling Experience: Reflections on Developing a Technical Communication YouTube Channel. In *Proceedings of the 40th ACM International Conference on Design of Communication (SIGDOC '22)*. Association for Computing Machinery, New York, NY, USA, 102–106. doi:10.1145/3513130.3558984
[86] Kathryn Lim, Claire Kilpatrick, Julie Storr, and Holly Seale. 2018. Exploring the use of entertainment-education YouTube videos focused on infection prevention and control. *American Journal of Infection Control* 46, 11 (Nov. 2018), 1218–1223. doi:10.1016/j.ajic.2018.05.002
[87] Anna Ly, Tingting Zhu, and Andrew Petersen. 2024. Evaluating Storytelling Videos Using YouTube Analytics. In *Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 2* (Portland, OR, USA) *(SIGCSE 2024)*. Association for Computing Machinery, New York, NY, USA, 1730–1731. doi:10.1145/3626253.3635503
[88] Renkai Ma, Xinning Gui, and Yubo Kou. 2023. Multi-Platform Content Creation: The Configuration of Creator Ecology through Platform Prioritization, Content Synchronization, and Audience Management. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. ACM, Hamburg Germany, 1–19. doi:10.1145/3544548.3581106
[89] Renkai Ma and Yubo Kou. 2021. "How advertiser-friendly is my video?": YouTuber's Socioeconomic Interactions with Algorithmic Content Moderation. *Proceedings of the ACM on Human-Computer Interaction* 5, CSCW2 (Oct. 2021), 1–25. doi:10.1145/3479573
[90] Renkai Ma and Yubo Kou. 2022. "I am not a YouTuber who can make whatever video I want. I have to keep appeasing algorithms": Bureaucracy of Creator Moderation on YouTube. In *Companion Publication of the 2022 Conference on Computer Supported Cooperative Work and Social Computing (CSCW'22 Companion)*. Association for Computing Machinery, New York, NY, USA, 8–13. doi:10.1145/3500868.3559445
[91] Renkai Ma, Zinan Zhang, Xinning Gui, and Yubo Kou. 2024. Labeling in the Dark: Exploring Content Creators' and Consumers' Experiences with Content Classification for Child Safety on YouTube. In *Proceedings of the 2024 ACM Designing Interactive Systems Conference* (Copenhagen, Denmark) *(DIS '24)*. Association for Computing Machinery,

New York, NY, USA, 1518–1532. doi:10.1145/3643834.3661565
[92] Barbara Macdonald. 2021. Introducing the Newest Member of the Supers Family - Super Thanks. https://blog.youtube/news-and-events/introducing-newest-member-supers-family-super-thanks/
[93] Michael P McCauley, B Lee Artz, Deedee Halleck, and Paul E Peterson. 2003. *Public Broadcasting and the Public Interest.* M. E. Sharpe, Armonk, NY.
[94] William Merrin. 2012. Still Fighting "the Beast": Guerrilla Television and the Limits of YouTube. *Cultural Politics* 8, 1 (March 2012), 97–119. doi:10.1215/17432197-1572012
[95] Candice Meyers. 2011. School's Out For Summer, but Still Open on YouTube. https://blog.youtube/news-and-events/schools-out-for-summer-but-still-open/
[96] Leslie Miller. 2024. A New Partnership and Resources to Expand Media Literacy Education for Teens. https://blog.youtube/news-and-events/2024-media-literacy-education-for-teens-partnership/
[97] Newt Minow. 1961. Television and the Public Interest. https://www.americanrhetoric.com/speeches/newtonminow.htm
[98] Sedigheh Moghavvemi, Ainin Sulaiman, Noor Ismawati Jaafar, and Nafisa Kasem. 2018. Social media as a complementary learning tool for teaching and learning: The case of youtube. *The International Journal of Management Education* 16, 1 (2018), 37–42. doi:10.1016/j.ijme.2017.12.001
[99] Neal Mohan. 2018. VidCon 2018: Helping Creators Earn More Money and Build Stronger Communities. https://blog.youtube/news-and-events/vidcon-2018-helping-creators-earn-more/
[100] Neal Mohan and Robert Kyncl. 2018. Additional Changes to the YouTube Partner Program (YPP) to Better Protect Creators. https://blog.youtube/news-and-events/additional-changes-to-youtube-partner/
[101] Nebula. 2024. Nebula Talent. https://talent.nebula.tv/
[102] Carnegie Commission on Educational Television. 1967. *Public Television, a Program for Action.* Bantam Books, New York, NY.
[103] MIT OpenCourseWare. 2024. https://ocw.mit.edu/
[104] Laurie Ouellette. 2002. *Viewers Like You: How Public TV Failed the People.* Columbia University Press, New York, NY Chichester, West Sussex. doi:10.7312/oull11942
[105] Jaimie Yejean Park, Jiyeon Jang, Alejandro Jaimes, Chin-Wan Chung, and Sung-Hyon Myaeng. 2014. Exploring the user-generated content (UGC) uploading behavior on youtube. In *Proceedings of the 23rd International Conference on World Wide Web (WWW '14 Companion).* Association for Computing Machinery, New York, NY, USA, 529–534. doi:10.1145/2567948.2576945
[106] Cynthia Pasquel-López, Lucía Rodríguez-Aceves, and Gabriel Valerio-Ureña. 2022. Social Network Analysis of EduTubers. *Frontiers in Education* 7 (2022), 11. doi:10.3389/feduc.2022.845647
[107] Cynthia Pasquel-López and Gabriel Valerio-Ureña. 2022. EduTubers's Pedagogical Best Practices and Their Theoretical Foundation. *Informatics* 9, 4 (Oct. 2022), 84. doi:10.3390/informatics9040084 Number: 4 Publisher: Multidisciplinary Digital Publishing Institute.
[108] Patreon. 2024. Starting a Patreon is Free. https://www.patreon.com/pricing
[109] Daniel Pattier. 2021. The Gender Gap Among EduTubers and the Factors Significantly Influencing It. *Journal of New Approaches in Educational Research* 10, 2 (July 2021), 313–329. doi:10.7821/naer.2021.7.732 Number: 2.
[110] Daniel Pattier. 2021. Science on Youtube: Successful Edutubers. *TECHNO REVIEW. International Technology, Science and Society Review /Revista Internacional de Tecnología, Ciencia y Sociedad* 10, 1 (Feb. 2021), 1–15. doi:10.37467/gka-revtechno.v10.2696 Number: 1.
[111] Daniel Pattier. 2021. Teachers and YouTube: The use of video as an educational resource. *Ricerche di Pedagogia e Didattica. Journal of Theories and Research in Education* 16, 1 (June 2021), 59–77. doi:10.6092/issn.1970-2221/11584 Number: 1.
[112] Nicole E. Pottinger. 2018. Don't Forget to Subscribe: Regulation of Online Advertising Evaluated through YouTube's Monetization Problem Notes. *Kentucky Law Journal* 107, 3 (2018), [i]–546. https://uknowledge.uky.edu/klj/vol107/iss3/6
[113] Xavier Ribes. 2020. Is the YouTube Animation Algorithm-Friendly? How YouTube's Algorithm Influences the Evolution of Animation Production on the Internet. *Animation* 15, 3 (Nov. 2020), 229–245. doi:10.1177/1746847720969990 Publisher: SAGE Publications.
[114] r/NewTubers. 2018. How long does it take you to create one video (on average)? https://www.reddit.com/r/NewTubers/comments/94z7fx/how_long_does_it_take_you_to_create_one_video_on/
[115] r/NewTubers. 2022. How to Clickbait as an educational youtuber? www.reddit.com/r/NewTubers/comments/ue6hxh/how_to_clickbait_as_an_educational_youtuber/
[116] r/NewTubers. 2024. How long does it take you to make a video? https://www.reddit.com/r/NewTubers/comments/1dbsc2r/how_long_does_it_take_you_to_make_a_video/

[117] Laurie Hines Robert Levin. 2003. Educational Television, Fred Rogers, and the History of Education. *History of Education Quarterly* 43, 2 (2003), 262–275.
[118] Johnny Saldaña. 2021. *The Coding Manual for Qualitative Researchers.* SAGE publications Ltd, Los Angeles, CA. 1–440 pages.
[119] Wilbur Schramm and Lyle Nelson. 1972. *The Financing of Public Television.* Communications and Society, Palo Alto, CA.
[120] Tom Scott. 2024. After ten years, it's time to stop weekly videos. https://www.youtube.com/watch?v=7DKv5H5Frt0
[121] Hong Shen, Alicia DeVos, Motahhare Eslami, and Kenneth Holstein. 2021. Everyday Algorithm Auditing: Understanding the Power of Everyday Users in Surfacing Harmful Algorithmic Behaviors. *Proc. ACM Hum.-Comput. Interact.* 5, CSCW2, Article 433 (Oct. 2021), 29 pages. doi:10.1145/3479577
[122] Akari Shimono, Yuki Kakui, and Toshihiko Yamasaki. 2020. Automatic YouTube-Thumbnail Generation and Its Evaluation. In *Proceedings of the 2020 Joint Workshop on Multimedia Artworks Analysis and Attractiveness Computing in Multimedia (MMArt-ACM '20).* Association for Computing Machinery, New York, NY, USA, 25–30. doi:10.1145/3379173.3393711
[123] Abdulhadi Shoufan and Fatma Mohamed. 2017. On the Likes and Dislikes of YouTube's Educational Videos: A Quantitative Study. In *Proceedings of the 18th Annual Conference on Information Technology Education (SIGITE '17).* Association for Computing Machinery, New York, NY, USA, 127–132. doi:10.1145/3125659.3125692
[124] Madhulika Sikka. 2018. When is an Ad not an Ad? https://www.pbs.org/publiceditor/blogs/pbs-public-editor/when-is-an-ad-not-an-ad/
[125] Chareen Snelson and Ross A. Perkins. 2009. From Silent Film to YouTube™: Tracing the Historical Roots of Motion Picture Technologies in Education. *Journal of Visual Literacy* 28, 1 (Jan. 2009), 1–27. doi:10.1080/23796529.2009.11674657
[126] Brian Stelter. 2008. YouTube Videos Pull In Real Money. https://www.nytimes.com/2008/12/11/business/media/11youtube.html#:~:text=Making%20videos%20for%20YouTube%20%E2%80%94%20for,incomes%20from%20the%20Web%20site.
[127] Anjana Susarla, Jeong-Ha Oh, and Yong Tan. 2012. Social Networks and the Diffusion of User-Generated Content: Evidence from YouTube. *Information Systems Research* 23, 1 (March 2012), 23–41. doi:10.1287/isre.1100.0339
[128] Michael Swart, Ylana Lopez, Arunesh Mathur, and Marshini Chetty. 2020. Is This An Ad?: Automatically Disclosing Online Endorsements On YouTube With AdIntuition. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) *(CHI '20).* Association for Computing Machinery, New York, NY, USA, 1–12. doi:10.1145/3313831.3376178
[129] Mark Sweney. 2007. First Ads Appear on YouTube Clips. https://www.theguardian.com/media/2007/aug/22/advertising.digitalmedia
[130] Abdul Wadood Tadbier and Abdulhadi Shoufan. 2021. Ranking educational channels on YouTube: Aspects and issues. *Education and Information Technologies* 26, 3 (May 2021), 3077–3096. doi:10.1007/s10639-020-10414-x
[131] The YouTube Team. 2007. You Drive the YouTube Experience. https://blog.youtube/news-and-events/you-drive-youtube-experience/
[132] The YouTube Team. 2007. YouTube Elevates Most Popular Users to Partners. https://blog.youtube/news-and-events/youtube-elevates-most-popular-users-to/
[133] The YouTube Team. 2020. Updates to YouTube's Terms of Service. https://blog.youtube/news-and-events/updates-to-youtubes-terms-of-service/
[134] Meaghan TeamYouTube. 2024. Thumbnail Test & Compare Rolling Out For All Creators in The Coming Weeks! https://support.google.com/youtube/thread/279488115/thumbnail-test-compare-rolling-out-for-all-creators-in-the-coming-weeks-%F0%9F%A5%B3?hl=en
[135] Ashutosh Tripathi, Kusum Kumari Bharti, and Mohona Ghosh. 2020. A Study on Characterizing the Ecosystem of Monetizing Video Spams on YouTube Platform. In *Proceedings of the 21st International Conference on Information Integration and Web-based Applications & Services (iiWAS2019).* Association for Computing Machinery, New York, NY, USA, 222–231. doi:10.1145/3366030.3366078
[136] Veritasium. 2021. Clickbait is Unreasonably Effective. https://www.youtube.com/watch?v=S2xHZPH5Sng
[137] Patrick Vonderau. 2016. The Video Bubble: Multichannel Networks and the Transformation of YouTube. *Convergence* 22, 4 (2016), 361–375. https://doi-org/10.1177/1354856516641882
[138] Johanna Voolich. 2024. A Future Full of Opportunities, Made On YouTube. https://blog.youtube/news-and-events/made-on-youtube-2024/
[139] Waluyohadi and Agnieszka Lopatka. 2022. 90 Days to Achieve Monetization: Implementing Design Thinking in a YouTube Channel. *Procedia Computer Science* 207 (Jan. 2022), 4207–4216. doi:10.1016/j.procs.2022.09.484
[140] Noel Warford, Tara Matthews, Kaitlyn Yang, Omer Akgul, Sunny Consolvo, Patrick Gage Kelley, Nathan Malkin, Michelle L Mazurek, Manya Sleeper, and Kurt Thomas. 2022. Sok: A Framework for Unifying At-Risk User Research.

In *2022 IEEE Symposium on Security and Privacy (SP)*. IEEE, IEEE, USA, 2344–2360. doi:10.1109/SP46214.2022.9833643

[141] WeCreateEdu. 2017. WeCreateEdu (@WeCreateEdu) / Twitter. https://twitter.com/WeCreateEdu

[142] Donghee Yvette Wohn and Guo Freeman. 2020. Audience Management Practices of Live Streamers on Twitch. In *Proceedings of the 2020 ACM International Conference on Interactive Media Experiences* (Cornella, Barcelona, Spain) *(IMX '20)*. Association for Computing Machinery, New York, NY, USA, 106–116. doi:10.1145/3391614.3393653

[143] Eva Yiwei Wu, Emily Pedersen, and Niloufar Salehi. 2019. Agent, Gatekeeper, Drug Dealer: How Content Creators Craft Algorithmic Personas. *Proceedings of the ACM on Human-Computer Interaction* 3, CSCW (Nov. 2019), 1–27. doi:10.1145/3359321

[144] Junxian Wu, Yujia Zhang, and Xiaoguang Zhao. 2023. Visual enhanced hierarchical network for sentence-based video thumbnail generation. *Applied Intelligence* 53, 19 (Oct. 2023), 22565–22581. doi:10.1007/s10489-023-04726-x

[145] Haijun Xia, Hui Xin Ng, Zhutian Chen, and James Hollan. 2022. Millions and Billions of Views: Understanding Popular Science and Knowledge Communication on Video-Sharing Platforms. In *Proceedings of the Ninth ACM Conference on Learning @ Scale (L@S '22)*. Association for Computing Machinery, New York, NY, USA, 163–174. doi:10.1145/3491140.3528279

[146] Kaya Yurieff. 2019. YouTube Burnout is Real. Creators are Struggling to Cope. https://www.cnn.com/2019/12/18/tech/youtube-creator-burnout/index.html

[147] Savvas Zannettou, Sotirios Chatzis, Kostantinos Papadamou, and Michael Sirivianos. 2018. The Good, the Bad and the Bait: Detecting and Characterizing Clickbait on YouTube. In *2018 IEEE Security and Privacy Workshops (SPW)*. IEEE, San Francisco, CA, 63–69. doi:10.1109/SPW.2018.00018

[148] Weigang Zhang, Chunxi Liu, Zhenjun Wang, Guorong Li, Qingming Huang, and Wen Gao. 2014. Web video thumbnail recommendation with content-aware analysis and query-sensitive matching. *Multimedia Tools and Applications* 73, 1 (Nov. 2014), 547–571. doi:10.1007/s11042-013-1607-5

[149] Renjie Zhou, Samamon Khemmarat, and Lixin Gao. 2010. The impact of YouTube recommendation system on video views. In *Proceedings of the 10th ACM SIGCOMM conference on Internet measurement (IMC '10)*. Association for Computing Machinery, New York, NY, USA, 404–410. doi:10.1145/1879141.1879193

[150] Jacob Ørmen and Andreas Gregersen. 2023. Institutional Polymorphism: Diversification of Content and Monetization Strategies on YouTube. *Television & New Media* 24, 4 (May 2023), 432–451. doi:10.1177/15274764221110198 Publisher: SAGE Publications.

A Interview Protocol

A.1 Introduction:

Hello, my name is [Interviewer Name] and I am a researcher at [University Affiliation]. Thank you for taking the time to complete this interview. Our meeting today will allow us to better understand how content creators understand the promotion of their content and how they monetize.

Today I will be asking you some questions about your monetization scheme. You can skip any questions and we will move forward. We could also stop at any time. This meeting will be audio recorded. This recording will be transcribed and then deleted. We expect the interview to take an hour. You will be paid $15 an hour as an Amazon gift card.

Do you have any questions at this time?

Are you comfortable continuing with the interview?

I will begin audio recording the meeting now.

Warm-Up:

- How did you begin creating educational content on YouTube?
- When did you first start making money creating YouTube content?
  - Where did you find this funding?
- Do you create YouTube videos full-time?
  - How many hours a week do you spend creating YouTube content?
    - Including planning and promotion. Everything to maintain your channel.
  - Do you work any other jobs?
    - How do you split your time between different platforms?
- Describe your content and how it is educational?
- What do you do to make your content entertaining?

Questions About Creator's Specific Content:

- What was the most recent piece of content you have posted? [Decide if you want to ask about it, or ask for another recent pieced of content]
  - Could you describe the process behind creating and posting this content?
    - If they do not answer it, followup with: What prompted you to create this piece of content?
    - What was the type of this content?
    - Who was your intended audience?
    - Who ended up being your audience?
    - What had to be paid for to create this content?
      - Did anyone help you pay for these resources?
    - Was this content monetized?
      - Could you describe what you did to make this content monetized?
    - How do you think this content was promoted by the platform you posted it on?
      - How do you feel about the ways your content is promoted?
    - Could you describe any advice you got about gaining viewers that you utilized when creating content like this?
      - Where did you get this advice?
    - Could you describe any advice you got about gaining profit with your content that you utilized when creating content like this?
      - Where did you get this advice?
- If previous is not Youtube content: What was the last YouTube video you posted about?

  - Could you describe the process behind creating and posting this content?
    * If they do not answer it, followup with: What prompted you to create this piece of content?
    * What was the type of this content?
    * Who was your intended audience?
    * Who ended up being your audience?
    * What had to be paid for to create this content?
      · Did anyone help you pay for these resources?
    * Was this content monetized?
      · Could you describe what you did to make this content monetized?
    * How do you think this content was promoted by the platform you posted it on?
      · How do you feel about the ways your content is promoted?
    * Could you describe any advice you got about gaining viewers that you utilized when creating content like this?
      · Where did you get this advice?
    * Could you describe any advice you got about gaining profit with your content that you utilized when creating content like this?
      · Where did you get this advice?
- What was the last YouTube video you posted that was different from your conventional video style?
  - Could you describe the process behind creating and posting this content?
    * If they do not answer it, followup with: What prompted you to create this piece of content?
    * What was the type of this content?
    * Who was your intended audience?
    * Who ended up being your audience?
    * What had to be paid for to create this content?
      · Did anyone help you pay for these resources?
    * Was this content monetized?
      · Could you describe what you did to make this content monetized?
    * How do you think this content was promoted by the platform you posted it on?
      · How do you feel about the ways your content is promoted?
    * Could you describe any advice you got about gaining viewers that you utilized when creating content like this?
      · Where did you get this advice?
    * Could you describe any advice you got about gaining profit with your content that you utilized when creating content like this?
      · Where did you get this advice?

General Perceptions of YouTube:

- What factors do you believe are favored on YouTube?
  - Either:
    * For getting viewers?
    * For the promotion algorithm?
- Is there any content that you would not post on YouTube (that you would like to post)?
- At this moment, what is the most difficult aspect of monetizing your YouTube content?
- At this moment, what is the most beneficial resource for monetizing your YouTube content?

  - Follow up: Have you recently found any benefits to posting videos on platforms other than YouTube?
- What is the most profitable monetization strategy you currently utilize?

Retrospective:

- What would you tell a friend with a mid-sized YouTube channel to do to maximize profit?
  - Either:
    * What would you do off platform?
    * What would you do on the YouTube platform?
- What would you tell a friend to do to maximize profit from YouTube videos only utilizing the YouTube platform and programs?
- How do your monetization strategies for creating a video today compare to your strategies when you first started creating profitable content on YouTube?

Forward-looking:

- Do you see Youtube creation as a long-term career?
  - What would you do if YouTube was no longer profitable?
- Have you ever considered moving your videos to another platform?
  - How would you (or would you) maintain your audience when migrating to a new platform?
- How would you like your content to be funded in the perfect world?

Close-out:

- Is there anything else you would like to share regarding online video content and finances?
- Can we reach out to you with further questions?
- Do you know any other YouTube content creators who would be interested in participating in our study?

Received July 2024; revised December 2024; accepted March 2025