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Music Education on YouTube and the Challenges of Platformization

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Abstract

In this paper, I critically examine platformized music education on YouTube. I suggest YouTube's platform mechanisms influence music teaching and learning on the platform. The influence is present throughout the production, distribution, and monetization structures that YouTube-based music educators experience. I discuss how creators make videos with broad autonomy over what they produce but with a need to conform to platform affordances and to foment interaction with their content due to platform mechanisms such as datafication and commodification. Distribution is crucial to their work, yet YouTube's algorithm and governance structures operate in powerful and opaque ways forcing music educators to navigate platform influences on their livelihoods and teaching. Finally, as creators earn money through their work, they encounter monetization structures and programs heavily entrenched in YouTube's business model and have little agency or voice in shaping these structures and programs.

Keywords

YouTube, platformization, platform studies, ukulele, informal learning

Music educators on YouTube are reaching hundreds of thousands of learners. By most any metric, their reach exceeds that of even the most prolific school-based music educator. For example, YouTubers such as music theorist Rick Beato, bass teacher Scott Devine, music producer Andrew Huang, and ukulele teacher John Atkins have built audiences of more than one million subscribers[1] through YouTube channels that focus on education and tutorial content. While they have perhaps reached celebrity levels of influence and notoriety, a music educator need not build an audience of millions to be successful. For example, within just the ukulele community, there are numerous creators[2] with subscriber counts that are a fraction of the big stars, yet they can make their living through teaching on YouTube (E. O'Leary 2020). As Dave Wiskus, the CEO of the online learning platform Nebula, commented, "for the entirety of human history until 17 years ago, there was no such thing as a middle-class content creator" (Patel 2022), but platforms have made this a possibility today. YouTube-based music educators' work is not just online; it is platform-based and influenced by YouTube's affordances, policies, and governance structures. However, YouTube is not a neutral actor.

YouTube-based music educators' work is platformized, which Poell, Neiborg, and Duffy (2022) explain is "the penetration of digital platforms' economic, infrastructural, and governmental extensions into the culture industries" (5). The lessons music educators share through YouTube, especially because they lack the ephemerality of school- or classroom-based instruction, become cultural products. However, they are not just videos; they are loci of interactions and community (Cayari 2011, 2017; O'Leary 2022; Waldron 2011, 2013, 2016) where viewers can comment, like, dislike, and share videos, often including interactions with the YouTuber who produced the content. As media scholar Jean Burgess (2021) explained, "platforms are both computational architectures on which features and services can be built and discursive spaces for cultural expression and audience engagement" (26).

The potential to interact, share, like, and comment sets platformized music education on YouTube apart from prior pedagogical products such as play-along recordings (Thibeault 2022) and similar media. Critically examining teaching and learning on YouTube requires more than just looking at the actions of the teachers and learners; the platform's influence and position must be considered. As Waldron (2018a) explained, "we must continually question, scrutinize, and

critically think about … [platforms'] respective business models because of the effect that those have on the system as a complete "sociotechnical construct" (106).

Education is central to how people use YouTube. Google's metrics indicate that of the top ten reasons people turn to YouTube, five refer to some type of educational activity including "to learn something new, to help me solve a problem, or to improve my school or job skills" (O'Neill-Hart 2017). In music education, scholars have investigated how YouTube might be used in formal classroom settings (Rudolph and Frankel 2009), the quality of tutorial videos in instrumental instruction (Hansen 2018; Kruse and Veblen 2012), and YouTube's use in community music engagements (Veblen and Waldron 2012; Waldron 2011). While it is not known at this time if YouTube is used as a supplementary or primary source of music instruction, the proliferation of professional YouTube-based music educators in multiple different genres (J. O'Leary 2020; Miller 2012), and the remarkable numbers of subscribers and engagement these YouTubers generate, indicates that YouTube is at least a part of the music education of hundreds of thousands of people.[3]

In this paper, building on scholarship in platform studies (Burgess 2021; van Dijck et al. 2018), I explore the following research question: how does platformization shape music teaching and learning on YouTube? Borrowing a framework from Poell, Neiborg, and Duffy (2022), I will discuss YouTube's influence on how music educators produce content, how the content is distributed, and the monetization embedded in the process. Most YouTube-based music educators I have encountered started their channels as hobbies that became increasingly professionalized through a serious leisure process (Stebbins 2017). While I recognize that platformization impacts anyone who chooses to post a video on YouTube (Bates and Shevock 2020), in this paper, I am discussing specifically professional YouTubers for whom revenue earned through YouTube's partner program (Bergen 2022; Burgess and Green 2018) are central to their livelihoods. Additionally, throughout I will provide examples of YouTube music educators and creators, many specializing in ukulele instruction. This is mainly through my prior experience and engagement with these channels (E. O'Leary 2020, 2022), but the critique would be valid for most any type of musical content.

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Platform Mechanisms and Dynamics

YouTube is a subsidiary of the Alphabet corporation, one of the largest technology companies in the world whose other products include Google, the world's most popular search engine, and the mobile device operating system Android. YouTube, according to Statista (2019), is the second most visited website in the world, and it rose to prominence, according to media scholars Jean Burgess and Joshua Green (2018), through "the combination of the mass popularity of particular user-created videos and the ability to watch mainstream media content" (8). That user-created videos exist alongside content from the world's largest media companies is a defining feature of YouTube and powerful for YouTube-based music educators. Most anyone with a camera and internet access can upload a video that YouTube distributes alongside the most viewed content in the world. This is a function of what Shirky (2008) described as a "publish, then filter" model. Unlike traditional media structures where content is vetted before it is shared with a market or audience, there are few gatekeepers or barriers to sharing content on YouTube (Burgess and Green 2018). This allows professional YouTube-based music educators to create videos that reside on the same platform as, and can be recommended with, content by major artists and cultural producers.

Within this arrangement, YouTube does not produce content but adds value in other ways. The platform functions as a multi-sided market (van Dijck et al. 2018) where its primary role is that of connector or matchmaker (Poell, Neiborg, and Duffy 2022). In the case of music educators teaching on YouTube, YouTube connects them with learners and then further matches potential advertisers who wish to market their products to that audience. The content producers and advertisers within the market are what Poell, Neiborg, and Duffy (2022) call "complementors" (8), and each is vital to YouTube's success. YouTube serves each complementor by bringing these elements together. For educators, the platform provides a means of distribution and a program to monetize their work through shared revenue programs (Bergen 2022). The platform similarly serves advertisers by allowing them to market to focused populations of consumers based on the data the platform aggregates.

YouTube uses platform mechanisms, including datafication, capture, and commodification, to attract complementors and serve the platform's business interests (van Dijck et al. 2018). Aspects such as datafication and capture rely on

the features of the platform, both apparent to the end user and not. Media scholars Taina Bucher and Anne Helmond (2018) explain that platforms are "socio-technological environments that draw users together and which orchestrate the relations between different platform users" (249). Datafied features on YouTube include end users' ability to view videos, like/dislike them, comment, and share the content with others. The element of capture is not always as clear as "every activity of every user can be captured, algorithmically processed, and added to the user's data profile" (van Dijck et al. 2018, 34). These data, along with the cultural products themselves, are commodified by the platforms in ways that van Dijck, de Waal, and Poell (2018) explain are

> simultaneously empowering and disempowering to users. Particularly those platforms we label as connectors allow individual users to market their personal experiences online. They help platforms shift economic power from legacy institutions … to individual users. On the other hand, the same platform mechanisms of commodification involve … the exploitation of cultural labor, and the labor of users (37).

In this sense, commodification makes possible the economic exchanges through the platforms and the exploitation that can accompany such interactions. In the following sections, I will use these platform mechanisms as part of the critique of platform influences on music education.

Producing Music Education Materials on YouTube

Success as a professional YouTube-based music educator involves more than just making compelling educational content. If that were all that was required, commercial and professional materials from major music publishers might dominate music learning on the platform. Instead, viewers on YouTube appreciate the homemade and user-generated content made specifically for the platform (Miller 2012) but do so considering the platform's infrastructure in the process. Platform infrastructure, according to Poell, Neiborg, and Duffy (2022) includes the "hardware, software, and associated protocols and practices that allow for connections to be established, transactions to take place, and regulations to come into effect" (53). In the case of YouTube, this includes the platform features allowing interactions and distribution of content, along with governance policies, copyright enforcement procedures, and the need to build community and platform-based interaction around material (e.g., comments on videos, likes,

channel subscriptions). In this section, I will examine YouTube's influence on the content that music educators produce and how YouTube-based music educators navigate a high-stakes creative rights system while building community and interaction around their teaching.

YouTubers have substantial freedom in what they produce and how they produce it. For example, on YouTube's Creator Academy, a site produced by YouTube to guide aspiring YouTubers through the production process, the first statement is, "Create what you want, how you want" (YouTube Creators n.d.a). There are few constraints on content and length of videos. Since YouTube is primarily a video-distribution platform, participants can use any video tools, production software, or equipment they wish. They only encounter YouTube's technological infrastructure in the final step where they upload the content.

YouTube exerts no overt editorial control over what creators produce. This structure allows niche interests and narrowcasting to flourish (Kim 2012), and music learners now have access to more diverse content than imaginable ten years ago (Waldron et al. 2018). For example, in my prior study of prominent ukulele YouTube channels (E. O'Leary 2020), I found tutorial videos for nearly 1,000 songs across six channels. Of course, that is just a small fraction of the content available. A person wishing to learn to play the ukulele, for example, not only has a remarkable amount of free content available to them, but also varied teaching styles, perspectives, and foci. This is possible because, as media scholar Jean Burgess explained, "for YouTube, participatory culture is core business" (12). The resulting content is inherently spreadable (Jenkins, Ford, and Green 2013), widely accessible (Shirky 2008), and conducive to community engagement (Waldron 2013).

Copyright

YouTube-based music educators navigate complex and opaque copyright enforcement structures as they create content. Copyright is of particular import to music educators because copyrighted work is often central to the content they produce. As in much of participatory culture, learners may start with a particular interest in a specific song rather than de-contextualized skills (J. O'Leary 2020; Tobias 2013). In this area, YouTube-based music educators interact directly with YouTube's governance structures. As Burgess and Green (2018) explain, YouTube

acts as a "mediator among various competing industry, community, and audience interests" (57). It operates the Content ID system as a means to serve each group. Content ID is an automated mechanism that matches uploaded content against an established repository of copyrighted materials (Bergen 2022; Cunningham and Craig 2021). YouTube developed Content ID to placate major media companies' concerns that YouTube would enable copyright infringement to run rampant (Cunningham and Craig 2021). Enforcement is often automatic and as Poell, Neiborg, and Duffy (2022), building on the work of media scholar Tarleton Gillespie (2014), explain, "platforms appeal to an ideal of objectivity, which depends on the notion of mechanical neutrality" (Poell, Neiborg, and Duffy 2022, 92) in that because a machine is the enforcement mechanism, the outcomes are more likely to be unbiased. However, there is a personal element, as copyright holders may request that YouTube remove content. This poses substantial challenges to creators.

A copyright incident involving prominent YouTuber, music theorist, and critic Rick Beato (2021) is emblematic of the experiences of many musicians on the platform (Alexander 2019a). In a video now viewed more than 1.4 million times, Beato shared the story of receiving his first copyright strike for a video analytically praising *Just What I Needed* by the Cars. A copyright strike is one of many enforcement mechanisms YouTube employs, from demonetizing a video to deleting the channel.[4] The challenge here is that Beato had little recourse to resolve the issue. As he explained, he was unaware of how to fight or address the enforcement action and exasperatedly asked: "Who do I write to say, 'Can you please take this copyright strike away?'" He had few resources inside YouTube and no advocate or support network provided through the platform. There was a means to challenge the strike and declare fair use, but the process for adjudicating those appeals was similarly opaque (Alexander 2019b), and the consequences were potentially severe. Here YouTube stood between the interests of two complementors, the independent creator publishing music criticism on the platform and rights holders who could threaten YouTube's business with potential litigation. In this scenario, creators' power and resources pale compared to those of YouTube and the major music label. Additionally, the copyright strike and the results of other copyright enforcement actions taken on a channel are all datafied (van Dijck et al. 2018) and become part of a lasting record of copyright compliance and enforcement that YouTube maintains.

Beato's case is a useful illustration of something that can happen to any music educator on YouTube. For example, within the ukulele tutorials and livestreams[5] that I have attended (O'Leary 2022), creators often mention music they choose not to teach, mainly because the artists or their management might be litigious or punitive in copyright enforcement. They navigate this minefield primarily through word-of-mouth warnings and intuition but also with recognition that they are subject to the platform's decisions and dependent on it for their livelihoods. It presents an interesting contrast to prior discussions in music education about how educators might engage with copyright. Thibeault (2012), for example, encouraged music educators to take a "creative rights approach" and lamented the ambiguity of copyright laws, explaining that "to expect teachers and students to deal with subtle ambiguities around dozens of questions is asking too much, and it is far from clear that there is value in the effort when virtually all questions have ambiguous answers" (109). Similarly, Tobias (2015) explored how music educators might negotiate issues around copyright and creative rights in the process of learning concepts of participatory culture and engagement. Yet, as Thibeault and Tobias explained thoughtful and reasoned ways for educators to engage with these policies, they do so considering situations where enforcement is not automatic and ever-present. School-based educators may have more space to engage in that discussion because, in most school situations, their work is not monitored with the level of scrutiny and oversight that YouTube-based music educators experience. It is a luxury that professional music educators making a living through YouTube do not have. For them, the stakes are substantial, and a misstep may cost them the opportunity to earn money and make a living teaching through the platform.

Building Community

Music education scholars have well-established the role YouTube can play in musical communities (Cayari 2017; Waldron 2018b). Prior scholarship shows how YouTube played a role in hybridized communities (Waldron 2009); or as part of a broader online engagement involving other platforms or sites (Waldron 2011). In each example, we see communities embracing YouTube, but I suggest the nature of the engagement changes when a YouTuber or creator is tasked with fomenting community around their work, as is the case for YouTube-based music educators.

These interactions can serve a pedagogical purpose and represent additional labor creators engage in because of the platform's structures.

Perhaps the most understandable affordance of interaction through YouTube is the comments section appearing below videos. Many teachers use comments as a place to respond to questions, discuss content requests, and offer support. Further, the comments and interactions, according to Patricia Lange (2018), "have the effect of flattening pedagogical structures such that people teach each other nuanced information by interacting at a variety of levels with the video and the surrounding discourse" (6). Figure 1 below, taken from an assortment of videos posted on the Bernadette Teaches Music Channel, illustrates the pedagogical interactions in comments.

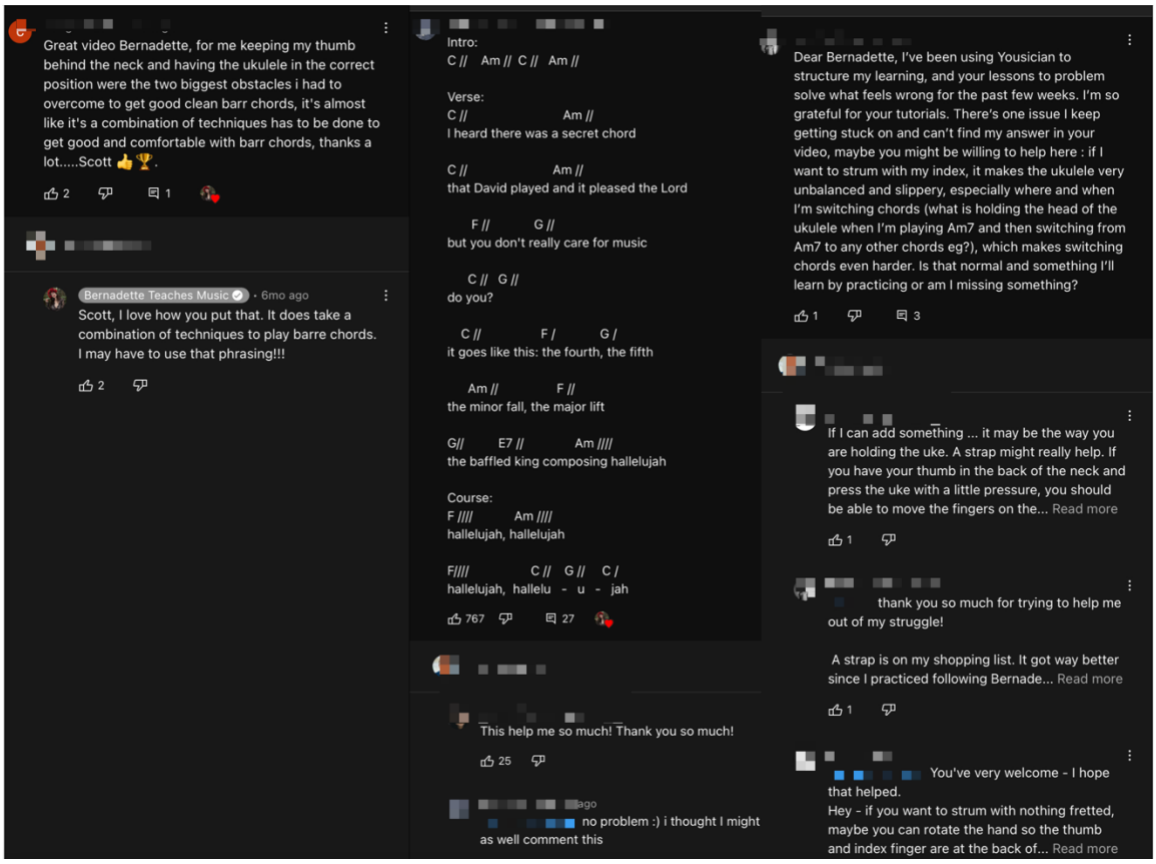

Figure 1. Three separate interactions in the comments section of the ukulele channel, Bernadette Teaches Music.

Here we see Bernadette respond to a learner's comments about playing barre chords, another student posts a lead sheet of the song taught in the video in the

comments, and finally, commenters offer support to one another about strumming technique and holding the instrument.[6] Not only does the instructor play a role in the learning and interaction, but interactions amongst and between community members serve a function.[7] Learners benefit from the platform providing a means to interact and engage with teachers and other learners.

These interactions are also valuable to YouTube, and the platform rewards engagement. Each comment or reply that a YouTuber or viewer makes is datafied and captured. Data join other metrics such as likes, views, and watch time. These metrics are important to creators because, at least in part, they are important to YouTube. Looking at YouTube's Creator Academy is again instructive. Through the Creator Academy, aspiring YouTubers learn that "interacting with fans of your channel is a big part of what it means to be a Creator" (YouTube Creators n.d.b) and are similarly encouraged that "the more you engage with your audience, the more they'll engage with you. Talking to viewers and responding to their feedback is key to growing your channel." For YouTube-based music educators, the production process then extends beyond publishing a video to fostering engagement with it on the channel. YouTube positions these interactions as a means to serve fans and communities, but embedded in that process is how much those interactions benefit YouTube and its business interests (VidCon 2022).

Building community goes beyond the typical interactions between teacher and student in school-based music education settings. The sheer scope and reach of the learning materials shared on YouTube make it possible for music educators to achieve levels of micro-celebrity (Arthurs, Drakopoulou, and Gandini 2018) and the accompanying labor involved in managing relationships with a large community. Hou (2019) described this as "managed connectedness" and "staged authenticity," where creators attempt to promote closeness and engagement even though YouTube mediates their interactions. Embedded in this discourse is the notion that micro-celebrities are different than major celebrities known to the general public. For example, fans do not expect a response from Taylor Swift on social media (although they would likely be delighted to receive one). Yet, YouTubers, as Raun (2018) explains, "must signal accessibility, availability, and connectedness—and maybe most importantly authenticity—all of which presuppose and rely on some form of intimacy" (99). Further, Baym (2018) noted that for many musicians doing so requires "relational, communicative, self-

presentation, entrepreneurial, and technological skills that music work had not previously demanded" (11).

The production process for YouTube-based music educators, then, is one where they have broad freedom and control over what and how they teach, must be cautious of the ever-present and opaque copyright enforcement mechanisms, and build community around their content through the engagement structures that YouTube captures, datafies, and commodifies. However, through this process, we see how much labor in which these music educators must engage that is of, at best, tangential value to the actual teaching task.

Distribution

Distribution is vital to teaching music through YouTube. The content has all the elements of Jenkins, Ford, and Green's (2013) notion of "spreadability." On one level, we can consider that YouTube offers a repository of videos available on the internet at no cost to the creators or consumers of the content. Yet, there is more to it. When a creator uploads a video to YouTube, there is no guarantee anyone will view it. YouTube-based music educators rely on the platform to distribute their content and recommend it to potential viewers and learners. In this section, I will discuss how YouTube's algorithm shapes content distribution for YouTube-based music educators and their abilities to reach potential learners.

Algorithms

Music education scholar Matthew Thibeault (2014a) posited that "we are far more likely to become aware of content today through algorithms than through experts" (20). His words ring true eight years later, particularly in the case of music learning on YouTube. For example, I recently wanted to learn *Paperback Writer* by The Beatles on the ukulele and searched YouTube for videos. YouTube provided a ranked and sorted list of content (Figure 2).

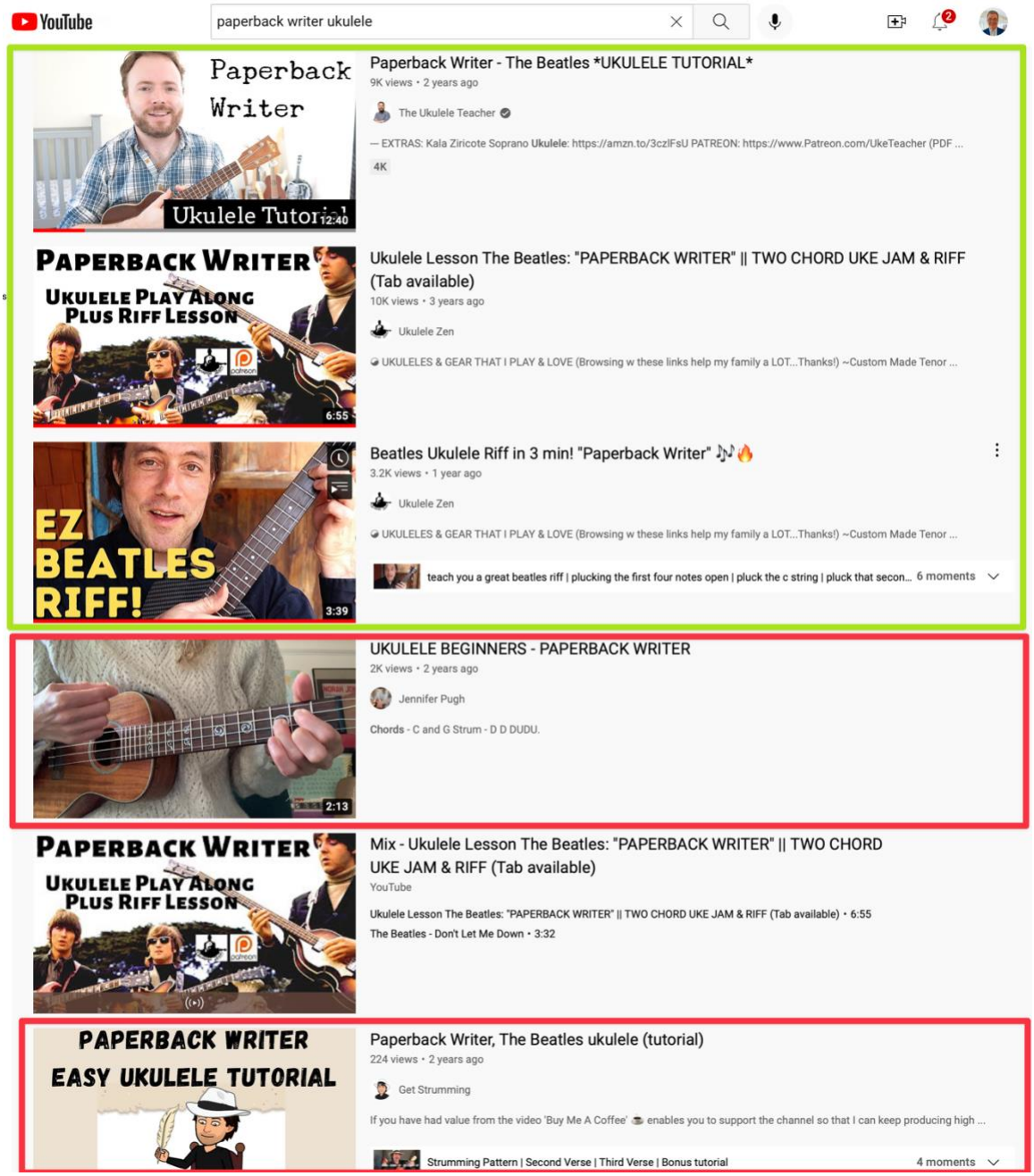

Figure 2. Results of a YouTube search for "paperback writer ukulele." Items outlined in green are from content I had subscribed to, and those in red are from channels I had not subscribed to.

Looking at the results, I see no obvious sorting variable or overall taxonomy. The items are not in order by the number of views or recency. Some content is from channels I subscribe to (outlined in green), and some are from channels I had never seen (outlined in red). Of particular note is the fifth selection labeled as a "Mix."

This is an algorithmically compiled playlist based on this search and my prior watch history (YouTube Help n.d.).[8] As a learner looking for content, my needs were met through the search results. YouTube presented several videos that would help me achieve my goal of learning the song on the ukulele, and the algorithm has the potential to further connect me with other content I would enjoy. However, for a professional creator, the results are vital to acquiring viewers, especially since the majority of views on YouTube come from viewers who do not subscribe to the particular channel (VidCon 2022). Understanding the algorithm and how it functions is a vital part of their work.

There is a prevailing notion that the algorithm represents the "wisdom of the masses," but it is not that simple (Thibeault 2014a). While the algorithm is considered unbiased and "mechanically neutral" (Gillespie 2014), critical media scholar Tarleton Gillespie (2018) explained that humans create algorithms that are

> designed to invite and shape participation toward particular ends. This includes what kind of participation they invite and encourage; what gets displayed first or most prominently; how the platforms design navigation from content to user to exchange; and how they organize information through algorithmic sorting, privileging some content over others, in opaque ways. (254)

Journalist and author Cory Doctorow (2018) has labeled the algorithmic mystery as a sort of "Kremlinology" where YouTubers "labor in a confusing and arbitrary workplace, covered by YouTube's secret and ever-shifting algorithm, which can downlink them to obscurity in an instant." YouTube offers some guidance on how to succeed through the algorithm (YouTube Creators n.d.a, n.d.b), but the actual parameters are a closely guarded trade secret. Perhaps the best explanation occurred at a recent panel at VidCon where Mr. Beast, one of the most successful creators on YouTube, interviewed YouTube's Director of Product Management, Todd Beaupré (VidCon 2022). In the video, Beaupré discusses the algorithm and how it melds aspects of personalization and performance in recommending titles.

Evident throughout this discussion are creators' desires to understand the algorithm and make content that will make the algorithm function in their favor. This has led to the rise of a class of algorithmic "experts" that media scholar Sophie Bishop (2020) explains "piece together careers by selling theorizations of algorithmic visibility on YouTube to aspiring and established creators" (1). It also creates more labor for professional YouTube-based music educators. For example,

within videos, YouTubers are encouraged to produce "calls to action" (YouTube Creators 2021), such as title cards, links embedded in the video, and playlists to encourage viewers to consume more content. This labor benefits the creators potentially through increased revenue, but it perhaps most benefits YouTube, whose interests are simultaneously served. YouTube-based music educators may feel pressure to produce content often out of fear of the algorithm no longer recommending their work. For example, ukulele channels such as Ukulele Zen and U Can Uke include in their channel banners that new videos come out every week, and most other successful ukulele channels feature some sort of at least weekly production. They know, and YouTube tells them, that regular production increases their opportunities to be recommended (YouTube Creators 2017). Yet, this need to constantly produce has been cited as a cause of burnout among creators (Ip 2019) and even led YouTube's chief executive Susan Wojcicki (2019), to address creators' concerns about the consequences of taking time off explaining, "if you [creators] need to take some time off, your fans will understand." But, of note here is that Wojcicki discusses this from fans' perspective, when it is likely algorithmic punishment that creators fear (Doctorow 2018).

The algorithm is central to YouTube's role as a connector or matchmaker (Poell, Neiborg, and Duffy 2022). How YouTube uses and designs the algorithm signals its focus and which complementors it most wants to serve. The change can be seen even in YouTube's advertising. The platform began in 2007 with a focus on user-generated content and the slogan "Broadcast Yourself." The slogan was important; as media scholar Jean Burgess (2015) explained, taglines are "representations of what platforms are 'for'" (283). But YouTube's focus has shifted. "Broadcast yourself" was dropped as a slogan more than a decade ago and many creators now express frustration online, such as a 2019 article on *The Verge* lamenting that "YouTube was built on the backs of independent creators, but now YouTube is abandoning them for more traditional content" (Alexander 2019b, par. 1). Their frustrations and concerns may be well-founded. According to Poell, Neiborg, and Duffy (2022), when platforms are young, they depend on content creators to drive engagement and viewership, but as the platforms "mature" they may alter policies and governance structures with little concern for those that are impacted.

The environment for YouTube-based music educators, then, is one where the algorithm can determine their success. They are left making content with

potentially competing interests, the need to serve the learners who would view the video, and the desire to be algorithmically successful. These interests may align and ultimately lead to better videos and instruction, but this competing interest is not present in school-based or other music education contexts. This is particularly the case because YouTube is not just a means of distribution. It also monetizes and pays creators directly.

Monetization

Media scholar Henry Jenkins (2022) commented, "capitalism has always intervened in participatory culture," and music teaching and learning on YouTube is a prime example. As discussed earlier in this paper, YouTube does not produce content but shapes what is made through its algorithms and recommendation platform mechanisms (van Dijck et al. 2018). This is particularly important when those processes are central to creators' livelihoods. Yet, the economic exchange between an end user and creator is opaque and minimally understood by most (Bergen 2022; Shtern and Hill 2021).

YouTube-based music educators teach in an environment where their compensation and employment structures are unknown to their students. It is dramatically different from most other music teaching and learning contexts. For example, when I take a studio lesson from a private teacher, I pay the educator an agreed-upon fee for a lesson of a particular length. Similarly, as a university professor, my students and I both understand that I am paid by my institution using money that includes, to some extent, their tuition dollars and government funding that supports the university. There is no doubt whether this is my full-time work or my primary source of income. My occupational identity is apparent. But on YouTube, this arrangement is obfuscated in several ways. First, viewers have little concept unless it is explicitly mentioned during a video if they are learning from a creator for whom YouTube is a hobby or their primary source of income. Further, it may be the case that the occupational identity may not be clear for the creator either. As Poell, Neiborg and Duffy (2022) explained, crediting the work of Hesmondhalgh (2019), "the occupational boundary between an amateur and a professional cultural producer has always been rather fuzzy" (12). Poell, Neiborg, and Duffy (2022) elaborate that "platforms have only made it easier to switch between these two roles" (12).

Confounding the challenge is the fact that the learner likely pays nothing directly for the content. This arrangement is central to YouTube's success as a connector (Bergen 2022; Burgess and Green 2018; Poell, Neiborg, and Duffy 2022) as people are more likely to try free content than that behind a paywall. YouTube's Partner Program is at the center of the monetization process as it is the mechanism through which YouTube shares advertising revenue with creators (Burgess and Green 2018). I suspect most people understand that advertising is involved in YouTube's business model, as ads are present on most platforms featuring user-generated content (Taylor 2018), but most viewers likely have little knowledge of the financial arrangement between the platform, advertiser, and creator. Compounding the challenge is the fact that this program operates at an astonishing scale. Bergen (2022) explained that in 2020 YouTube had "more than two million creators in its partner program," making it "one of the largest, most complicated payment systems on the planet" (382). Individual creators in this environment are a part of a massive community of people making money through the platform. This scope also allows YouTube to make broad policies with little consideration for individual communities, creators, or interests (Poell, Neiborg, and Duffy 2022).

Datafication, Learning, and Monetization

The obfuscated financial structure and datafied interactions on YouTube complicate understanding of how people teach and learn on the platform. For example, YouTube-based music educators have little assessment information and few opportunities to see directly if their teaching is effective. Unlike school-based music educators, their interactions with students are mediated by the platform, and they are left to infer what and how people learn through "analytics" (Burgess and Green 2018) and platform affordances (Bucher and Helmond 2018). Yet these analytics are platform- rather than learner-focused and are the same metrics used to determine compensation and monetization. Beyond comments, which can be descriptive and meaningful (Lange 2014, 2019; Baym 2010), metrics such as watch time, views, average view duration, and click-through rate (YouTube Creators 2021) are quantitative measures of user behavior accessible to creators through their dashboards. They represent a form of "mediated impoverishment" (Baym 2010) where teacher and learner can still interact through text-based comments and in many cases do so quite meaningfully. But the interactions lack some of the

rich face-to-face interpersonal exchanges that might be present in a different modality.[9] There is a common-sense rationale where creators may assume that people will watch educational content that they find helpful, and thus more views and watch time would indicate effective teaching. However, the pedagogic information still must be filtered and interpreted through metrics designed for other means. These metrics, and how the platform uses them, present a situation where YouTube-based music educators are incentivized to create content that excels in what YouTube values, and learners are left with educational materials that are developed with limited information about how they are learning, or how the materials might be more responsive to their needs or interests.

Overt Commercialization

While few understand the monetization structures and policies involved with YouTube, I suspect most would recognize that the learning environment is explicitly commercialized throughout. For example, in a music lesson, YouTubers cloud the space with self- and platform-serving requests unheard of in other settings. These include the ubiquitous calls to "like, comment, and subscribe" (Bergen 2022), actions that benefit the creator's standing through YouTube's algorithm and provide data for YouTube to commodify. Requests to support creators directly through purchasing merchandise, sponsored content placement, or supporting the teacher on other platforms with more direct revenue options are common. Yet the benefits to the learner are indirect at best and subject to platform mechanisms throughout. As discussed earlier in the production section of this paper, creators attempt to foment engagement and may take advantage of parasocial relationships (Ferchaud et al. 2018) to encourage viewers to altruistically engage through the platform in ways they might not otherwise (Bergen 2022; Miller 2012). In a music-specific example, in a prior study examining live-streamed ukulele sessions on YouTube (O'Leary 2022), the ukulele teacher leading the sessions explained the need for audience interaction with the platform as being vital to their livelihood: "Go ahead and hit that like button if you haven't already. That helps YouTube recommend the video, and that helps me grow the channel and continue having this as a job."

Again, that element of commercialization had nothing to do with the content being learned, but generated a relationship between the viewers and the host to

foment support. In this process, we see a directed focus on the teachers' part to garner success through the data available to them and valued by the platform. Additionally, the teacher connects those actions to support their work and livelihood. Through this process the learner is bombarded with requests for support and calls for action that detract from the learning experience. It is a fascinating commodification of teaching similar to what Thibeault (2014b) discussed with recorded music. He explained that content "available previously only face-to-face, rich with social connection and requiring significant skill, is often now a commodity experienced via devices" (37) and, I would add, reduced to platformized interactions.

Discussion and Conclusion

In this paper, I have discussed how YouTube's platform mechanisms influence music teaching and learning taking place on the platform. The influence is present throughout the production, distribution, and monetization structures that YouTube-based music educators experience. Creators make videos with broad autonomy over what they produce. Still, they need to conform to platform affordances and foment interaction with their content due to the datafied and commodified mechanisms that YouTube places between creator and viewer. In addition, distribution is crucial to their work, and YouTube's algorithm operates in a powerful but opaque manner. Finally, as creators monetize their work, they are beholden to the revenue system YouTube created and the terms YouTube sets. The influences here are heavily entrenched in YouTube's business model, and as Waldron (2018a) commented, "gaining knowledge of a platform's business model (and its unique underlying agenda) is the only way to gain some degree of user empowerment" (107).

That empowerment may come through recognizing the broad market structures involved. For example, legal scholar Rebecca Giblin and technologist and author Cory Doctorow (2022) offer a compelling discussion of how platform and market forces influence creators. They suggest that YouTube, and most platforms featuring user-generated content, operate as monopsonies. In this structure, as opposed to a monopoly with only one commodity seller, a monopsony exists where the platform is the lone buyer. YouTube is the buyer and thus a requisite part of how creators earn money. Giblin and Doctorow further explain

that "monopsonies are always bad for workers, but creative workers have proved especially vulnerable," arguing, through a quote from William Deresiewicz's (2020) text *The Death of the Artist*, "If you can only sell your product to a single entity, it's not your customer; it's your boss" (168). While I recognize some hyperbole to this characterization for YouTube-based music educators, it highlights how YouTube's role in the middle, as the matchmaker or connector, is influential and lucrative. To this point, Giblin and Doctorow elaborate that platform influences are

> especially pervasive in creative labor markets, where corporations have demonstrated particular ingenuity in finding ways of burrowing between audiences and culture producers to capture the value that flows between them. (14)

Instead of considering the interaction between culture producer and audience, in the case of people teaching music on YouTube, the platform then stands in the middle between teacher and learner, and the market structure shapes and informs their work.

Throughout this article I have highlighted how platformization particularly impacts people making their livings through teaching music on YouTube and used the label "professional YouTube-based music educators" with some tension. These teachers take different paths to their careers than school-based music educators who often earn degrees in education and complete requirements for teacher certification. I find the term "professional" useful in communicating that people can make a living teaching on YouTube, but problematic in that it may imply qualifications that simply are not required of YouTubers. Shirky (2008) discussed this phenomenon as a "mass amateurization," (68) where barriers to entry into a profession are eliminated by a platform. Key to Shirky's discussion is his assertion that

> a professional learns things in a way that differentiates her from most of the populace, and she pays as much or more attention to the judgment of her peers as to the judgment of her customers when figuring out how to do her job. (69)

The presence of the platform at the center of interactions between teacher, learner, and other educators complicates what we might consider "professional" in platform-based contexts. Professionals are not evaluated by their peers and the algorithm and other platform mechanisms intervene in ways that determine success. The result is a proliferation of content of varying quality, of which learners

are on their own to evaluate. As mentioned earlier in the paper, YouTube does not edit or limit what can be posted, and the algorithmic recommendations are based on metrics unrelated to learning.

The question of platformization becomes increasingly urgent when we consider that this phenomenon will likely continue to influence music teaching and learning for the foreseeable future. From just the ukulele community, we can see that hundreds of thousands of people are interested in this content, but what is not known is if these learners are turning to YouTube to supplement work with a music educator, in lieu of school-based opportunities, because of lack of in-person options, financial or time constraints that prevent engaging a private teacher or group learning experience, or because this might be their preferred modality for learning (see Baym 2010). However, music educators might take note that as music education grows on YouTube, it may signal curricular shortcomings in our school-based programs. Further, the breadth of educational content available on YouTube comes with limitations in engagement. As these music educators literally teach thousands of students, opportunities for interaction, mentorship, and meaningful connection are limited and the contrast between the learning experiences available in schools and those through the YouTube platform is stark.

What Can Be Done?

Music education is no stranger to corporate intrusion or commercial interests clouding the practices of teachers and learners. Platformization presents new challenges in this area. As van Dijck and colleagues (2018) explained, "education, as traditionally part of the public sector that is uniquely entrusted with democratic public values, is rapidly inflected by the techno-commercial architecture of corporate platforms" (135). As more people teach and learn through YouTube, the platform's mechanisms have an increasingly troubling influence. A first step, as Waldron (2018a) commented, may be increasing understanding of the system and its influences.

> Educating ourselves and our students on the complex intricacies of how the Web works is the first place to begin. Information—aligned with critical thought—is power (and empowerment). After that comes informed action. (107)

However, informed action needs to be of similar scope and reach as the platforms it addresses.

The enormity of YouTube and the corporation of which it is part, make any type of meaningful change challenging. The problems are systemic, and Giblin and Doctorow explain that "systemic problems can't be solved with individual actions alone.... If we want to change the world, we have to fix the system.... The most important individual action you can take is to join a movement" (145). The challenge becomes even broader considering that the business model and platform structures discussed here are not specific to music education content. As Poell, Neiborg, and Duffy (2022) explain, "the creative practices of YouTubers may be informal and diverse, but the business practices are anything but [informal and diverse]" (29).

Systemic interventions and change are likely to be messy. Take, for example, the recent case of the Canadian government considering legislation to promote Canadian creators to platform viewers in Canada (Woolf 2022). The legislation would represent one of the clearest interventions of a government on the algorithmic processes, and Canadian YouTubers reacted strongly with substantial concerns over government intrusion into the algorithm that is central to their livelihoods (Seles 2022). Similarly, YouTube celebrities may take on roles as labor leaders in creators' interactions with platforms and major media companies (Alexander 2019b; Polhamus 2022), all potentially leading to the "emergence of solidarity and collective forms of organizing in platform work" (Woodcock 2021, 71). For YouTube-based music educators, though, the future likely remains much the same as it is now, with them being a small part of a massive creator economy (Cunningham and Craig 2021) that they must learn to navigate to make a living and serve the communities they have cultivated.

The proliferation of music education content on YouTube presents challenges for music teacher education and school-based music educators. First, the fact that educators may make a living through producing music education content on YouTube indicates that there is a demand for learning in this modality. This could represent learners whose needs are presently not served by school- and community-based music educators. While more research is needed into how people learn through YouTube, and what drives their choice to learn through the platform, school-based music educators might consider if there are programmatic or curricular changes that might complement or serve as alternatives to the learning opportunities online. Second, teacher educators might consider if creating asynchronous learning content, like that found on YouTube, might be a valuable

skill for aspiring educators to develop alongside traditional skills in face-to-face music instruction. Third, we should consider that music educators will achieve levels of micro-celebrity (Cocker and Cronin 2017) through YouTube, and with celebrity comes increasing visibility and influence. This influence could extend into the schools. For example, several ukulele manufacturers presently feature YouTube-based ukulele teachers as "featured artists" (Kala n.d.) or have "signature model" ukuleles endorsed by YouTubers (Flight n.d.), honors previously reserved for famous performing artists. School-based music educators should consider how students extend their learning outside of the classroom and be prepared to complement and react to what students encounter online.

In closing, I would like to consider the overall theme of the conference at which the papers in this special issue were presented: "Social Media for Good or Evil in Music Learning and Teaching" (MayDay Group 2022). The rise of YouTube as a viable venue for music educators to make a living has made possible music learning opportunities for millions that otherwise would not exist. As Waldron (2018a) commented, "social media platforms … deserve special attention in bridging the divide between formal music and out-of-school contexts" (108), and this paper further shows how music educators on YouTube, in particular, have done so. Looking solely at the examples from the ukulele community, we can see a vibrant landscape of teachers and learners able to engage with a scope and diversity of materials otherwise unavailable in most school contexts. Similarly, scholars in music education have documented the profound benefits of exploring musical learning through digital and participatory culture, often highlighting platform-based engagements (Cayari 2020; Tobias 2013; Waldron et al. 2018). Yet this all comes at a price. The platform's influence remains omnipresent, and viewers and teachers on YouTube work through and with the datafied, commodified structures that make the platform's business model function. We should remain cognizant and critical of what and how we learn through YouTube and continue with an awareness that teaching and learning is always on the platform, placing YouTube firmly in between the teacher and student.

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Notes

[1] For more information on subscriber counts and other metrics, see discussion in Burgess and Green (2018). Subscriber counts are considered to be indicative of viewers who would desire prolonged engagement with a creator's content.

[2] Creator is a widely used term in social media parlance to encompass anyone who produces cultural content and shares through platforms. The term YouTuber is colloquially used to describe creators who are active on that platform.
[3] For a detailed discussion of YouTube metrics and audience engagement with YouTube tutorials for music learning please see O'Leary's (2020) study on YouTube channels focused on ukulele content.

[4] More details about enforcement mechanisms are available through the "Copyright strikes basics" article on YouTube: https://support.google.com/youtube/answer/2814000?hl=en

[5] Livestreams refer to synchronous broadcasts of content directly from a creator to an audience through the platform. Livestreams are often more informal, longer, and more improvisatory than the asynchronous tutorial content produced (see O'Leary 2022). A more detailed discussion of livestreaming is available in *Watch Me Play* by T. L. Taylor (2018).

[6] I curated these examples from a brief sampling of videos I chose at random from this ukulele channel. The examples here are just a sample of what I believe is a ubiquitous aspect of many YouTube music channels. Further research might explore contents and interaction through comments in more detail.

[7] Community can be considered in multiple contexts. For a thorough discussion of communities of practice and affinity spaces in social media see Jared O'Leary's (2020) chapter in *The Oxford Handbook of Social Media and Music Learning*.

[8] Media studies scholar Tarleton Gillespie (2014, 2018) has written extensively about algorithms and how they function.

[9] Baym (2010) uses the term "mediation as impoverishment" to discuss how platform and mediated communication lack some of the social cues we experience in face-to-face interactions. However, Baym also suggests that factors such as people's familiarity with the platform and the types of relationships they desire through the platform influence how meaningful interactions online can take place. These interactions, and the mediated nature of them, may be the types of engagement that learners desire and be part of why they choose to learn through the platform. Baym posits throughout that despite the mediated nature

of communication, interactions and community can be quite rich and meaningful.

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