



# DIY education in the digital era: youth-driven learning strategies and curricula for the future of work opportunities

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## Abstract

Our article unpacks the emergent and dynamic relationship between learning needs and approaches and the evolving landscape of the gig economy in the country. This research seeks to comprehend the contextual collapse of generic, utility-driven, and structured educational models to create space for a personalized and Do-It-Yourself (DIY) approach to acquiring skills and competencies. We argue that the platformization of learning, user-generated learning resources, and peer networks of communication and collaboration enable this DIY model of learning. We interviewed 16 young digital designers (graphic designers and user experience (UX) designers) from three cities in India—Delhi, Mumbai, and Bangalore. We complemented our interview data with social media ethnography to understand how young urban learners who work or aspire to join the gig economy design their learning experiences. Our goal was to understand how young artists who worked as gig workers or wanted to enter the gig economy defined education and learning in the context of the changing forms of employment and professional aspirations in the global South's digitally connected and emerging market. Our analysis reveals the chasm between the rigidity of formal education and the future of work in India, including the evolving learning needs of young workers in a rising platform economy.

**Keywords** Gig economy · Do-it-yourself learning · Digital media · Online peer networks · Informal education · Adult learning

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## 1 Introduction

People use the Internet to generate commercially viable and scalable content within the evolving digital media landscape (Cunningham & Craig, 2021). Creator is a term used to reference influencers, bloggers, vloggers, liver streamers, gamers, pod-casters, camgirls, and digital artists. The creator culture and economy have risen due to the new digital tools and resources individuals use to produce economically viable forms of employment. The creator culture thus amplifies the shift from standard and organized labor conditions to short-term, contractual, independent, and precarious arrangements. Though there is precarity involved in creator work online, it also embeds innovation, economic flexibility, and business development opportunities for native social media (aspiring) entrepreneurs. The creator economy in India is growing at a compound annual rate of 25%. According to industry reports by Deloitte and Adlift, India's creator economy was valued at 75 to 150 USD million in 2022 (Srivastava, 2022).

The creator culture and economy enable more people to commercialize their expertise, curiosity, and crafts to generate a running income sustained through 100 to 1000 fans/followers (Bianchini, 2021). Though content creation online is becoming a financially viable career path in the mushrooming creator economy, it sustains forms of unorganized labor. It reinforces precarious working conditions, especially without well-established legal and social protections (Warburton, 2022).

Though there are conversations in media and industry about this rise of the creator economy, only some studies unpack the impact of the rising demand for creator work and evolving professional aspirations of digitally savvy people concerning the educational systems, learning goals, and expectations. Formal education models in India continue to be examination-driven and fail to nurture students' competencies required to thrive in creator-work-driven environments. In India, 1.5 million schools follow an examination-driven model based on rote-learning skills (Chan, TW., Looi, CK., Chen, W. et al., 2018). Formal educational institutions follow fixed curricula and offer negligible scope for pedagogical changes that respond to individual needs and aspirations. As alternative and dynamic forms of creator work emerge, there is a need to reimagine learning and education: How do these emerging participants in the creator economy acquire the skills and competencies required to be gainfully employed as they aspire to alternative forms of work and engagement? The definition of learning needs to broaden to include paths to knowledge and competencies that enable young people to thrive in labor markets where full-time, onsite, and permanent employment opportunities may neither be available nor desirable.

Our research inquiry supports the argument that traditional schooling structures and curricula alone cannot fulfill learning goals for young people who want to thrive as creators in a digitally connected world. There is a chasm between young people's occupational aspirations to engage with creative work in flexible environments and the limited learning opportunities afforded by existing educational systems. There is a need to seek alternative learning approaches and strategies. Current literature on the creator economy primarily focuses on how young individuals chart the digital media landscape as aspiring or established entrepreneurs, the challenges they encounter, or the strategies they use to promote their brand and earn an income (Tabares, 2019;

Warburton, 2022), and the commercial value of online creators for marketing, advertising, and public relations (Hudders and De Jans, 2021; Vrontis et al., 2021; Ye et al., 2021). What remains largely unexplored is the critical interlinkages between emergent forms of creator work and the learning needs of young people who aspire to work as content creators online.

Our article unpacks the emergent and dynamic relationship between learning needs and approaches and the evolving landscape of the creator culture and economy in the country. This research seeks to comprehend the contextual collapse of generic and rigidly structured educational models to create space for a personalized and Do-It-Yourself (DIY) approach to acquiring skills and competencies. We argue that the platformization of learning, user-generated learning resources, and peer networks of communication and collaboration enable this DIY model of learning.

For this article, we focus on one of the significant areas of creator work in India, i.e., the design field. We interviewed 16 young digital designers (graphic designers and user experience (UX) designers) from three cities in India—Delhi, Mumbai, and Bangalore. All the participants are creators who use digital platforms to generate designs/media art and contract with individual customers and companies. We complemented our interview data with social media ethnography to understand how young urban learners who work or aspire to join the creator economy design their learning experiences. Our goal was to understand how young designers who wanted to become or worked as content creators defined education and learning in the context of the changing forms of employment and professional aspirations in the global South's digitally connected and emerging market. Our analysis reveals the chasm between the rigidity of formal education and the future of work in India, including the evolving learning needs of young workers in a rising platform economy.

This article aims to rethink design education in the context of the creator economy in the global South. We propose a DIY framework to understand young designers' strategies for creating informal, creative, and effective learning spaces, experiences, and opportunities through digital platforms. The DIY framework helps explore how emerging digital learning intermediaries reconstitute student-teacher relationships, evaluative methods, and collaborative styles among platform workers in creative industries.

## **2 Literature review**

### **2.1 Do it yourself education: past to present**

The proliferation of digital technologies significantly influences how young people define, perceive, and experience learning (Sancho, 2010). As young people's access to digital networks and online learning platforms become affordable, young people are increasingly challenging the traditional assumptions that only formal educational institutions can impart privileged and specialized knowledge. Young people are navigating a digitally connected world with analogous and virtual learning platforms, giving rise to diversified learning opportunities (Twenge, 2014) and unanticipated forms of labor (Standing, 2016). Recently, scholars have started examining the

dynamic interlinkages between digital platforms/networks and the emergent forms of learning as they delve deeper into exploring the digital lives of young people in the world. Some critical theoretical arguments from such an analysis include discussions of autonomy, agency, and responsibility as young people design their learning experiences using multiple online and offline resources. The Do-It-Yourself (DIY) movement (Spencer, 2005) is associated with these discussions on how digital technologies and platforms enable young people to participate more actively in designing online learning experiences.

Academic engagements with the DIY movement began in late 1990 (McKays, 1998) when researchers and educators started examining education as one aspect of the larger DIY movement and analyzing the effects of decentralizing knowledge and increasing learners' autonomy in decision-making processes to promote deep-and-lifelong learning (Eisenberg & Buechley, 2008; Lankshear & Knobel, 2010). Let us analyze DIY as an approach to learning. The existing literature suggests two core themes within this culture: DIY is self-directed, and two; it enables people to personalize their learning resources and goals. According to studies, DIY learning is self-directed (Spencer, 2005) as people pursue learning experiences and opportunities that align with their lived realities and aspirations. The resources users create to design learning experiences compatible with their lived realities are dynamic and fluid. As their circumstances, choices, and interests change, they modify their learning resources and practices, topics and disciplines, and styles and methods. Without a fixed and structured learning environment, users develop skills and competencies to navigate technical and resource-related hurdles and circumvent learning difficulties through experimentation and innovation. Curating learning experiences consistent with their personal aspirations and realities, young people engage in experimentation and playful or risk-taking behavior (Sharples et al., 2013).

Our article draws from empirical data and builds this argument to propose that affordable mobile phones and data plans in the emerging markets of India have enabled young people to reimagine education as they design new learning experiences online. Young people increasingly rely on virtual peer networks, online referrals, collective resource generation, collaboration, and co-creation to customize their learning experiences. As a result, DIY learning is multimodal, transcends disciplinary boundaries, and combines diverse fields of practice and knowledge production (Pohl, 2007). Even when we explore and unpack a DIY approach to learning, we steer away from submitting our analysis to a neoliberal logic that is extractive and transfers the burden of learning exclusively onto young people without acknowledging the critical significance of formal education systems and how they enable learners as they collapse under the weight of rigid and unimaginative teaching-learning opportunities (Arora, 2019). Also, literature on the DIY culture primarily alludes to global North cultures as individual-driven and creative; however, the parallel in the global South is captured by business studies literature on *jugaad* innovation, which mainly alludes to low-income groups improvising to make a living. So, there is a gap in addressing everyday creative practices and learning that cuts across class boundaries in literature from both the global North and global South.

As young people situate their learning needs within the felt contours of their lived realities and personal aspirations, they are inclined to design a pathway that addresses

the needs of changing labor markets and work environments, given their varied socio-cultural identities and everyday life experiences. Here, it is essential to consider the second theme of the DIY culture, i.e., the personalization of the curriculum. A DIY approach allows learners more autonomy in identifying their educational needs and curating appropriate resources to achieve personal-cum-professional goals. As young people gain more authority in meaning-making, they continue challenging the authority and rigidity of formal educational practices and systems.

Building on the arguments of Gibbons and Snake-Beings (2018), we argue that DIY learning differs from the neoliberal concept of individualized learning and the construction of atomized learners independent of the workings of the larger socio-economic and cultural contexts they inhabit. DIY approaches to learning have antecedents in the evolving aspirations of young learners situated in environments that support and democratize access to digital technologies. Accordingly, young people actively personalize their learning trajectories instead of merely enrolling in a fixed and prescribed curriculum sponsored by educational institutions and authorities. Formal education systems are also slow to update their learning environments to suit the rapid changes in technologies and work environments. There is a lack of literature examining the significance of DIY approaches to learning as an alternative to formal curricula and educational institutions. Also, DIY is identified as a complementary approach designed to strengthen formal learning practices. In this paper, we demonstrate that many young people with access to digital technologies and networks perceive DIY as the central mode of learning, i.e., an alternative to formal education. The learner practices they design are not entirely removed from traditional approaches and techniques. Instead, the young users create a personalized kit of resources, techniques, and persons to customize their learning experiences. The DIY approach to learning thus resonates with Bolstad et al. (2012) concept of reassembling knowledge to combine elements of old learning with new and evolving literacies.

The process of reassembling knowledge or creating decentralized learning spaces is not an individualistic endeavor. However, many scholars who examine the DIY ethos in the fields of citizenship studies and civic participation emphasize that DIY cultures have altered forms of associational life (Bauman, 2001; Putnam, 2000) and amplified the significance of individual choice and autonomy (Beck, 1992; Beck & Beck-Gernsheim, 2001). These early studies on DIY culture suggest that young people are moving away from traditional community formations and long-term collective actions and towards temporary participation, weak collaboration, and short-lived communities. Fahmy (2006, p. 105) explained the ethos and qualities of DIY citizenship or civic engagement and argued that young people are more likely than the older generation to enact “fluid and unstructured forms of participation.” Many early studies emphasized DIY cultures’ individualized, self-actualizing, and fragmented nature. For example, Bang (2004) theorized an emergent type of citizenship identity through DIY ethos wherein everyday civic actors rely on individual activities to change their local environments. He explains (2004, p. 18).

To be an EM [Everyday Maker] is to be more individualistic, more project-oriented, more ‘on’ and ‘off’ and ‘hit’ and ‘run’ in one’s engagement, more pleasure-oriented, and more fun-seeking than is usually associated with being

civily engaged. EMs consider the political a realm of presence and becoming, which is as much a part of one's own individual identity as an ensemble of practices for coping with common problems in the normal run of things ... EMs ... insist on being ordinary.

We complicate the dominant understanding that DIY cultures exclusively enable and support individual choice and offer little scope to explore collective practices such as community formation and collaboration. In the field of education, DIY practices that reinforce personalization also engenders community-building aspirations through creative work practices and greater collaboration opportunities.

A significant contribution of our article is to propose that DIY approaches to learning increase the scope of personalization and community engagement/collaboration. Greater learner autonomy and choice do not always lead to isolated individuals and the erosion of communal resources and networks. We demonstrate that the forms of collaborations have changed as young people see immense potential in developing learning experiences and communities relevant to their local realities and personal aspirations. Access to digital technologies and online networks ensures that young people can transcend rigid educational structures with an over-generalized approach to designing learning goals and resources for students from diverse backgrounds. Young people are excited about possibly overcoming the “either-or” approach to education. As they assimilate elements from formal educational institutions and their ingenious learning models, they inch closer to a dialectical engagement with learning where they filter, select, and assimilate to build a personalized network of resources and peer groups.

### 3 Methodology

#### 3.1 Data collection

Our methodology is based on the grounded-theory tradition and draws force from qualitative research methods. We adopted a triangulation of methods starting with co-designing an online course and combining social media ethnography with in-depth interviews and non-participant asynchronous observation of online learning sessions.

We conducted semi-structured in-depth interviews with 16 digital designers (graphic and UX) from three urban cities in India—Delhi, Mumbai, and Bangalore. We used snowball sampling to identify and recruit digital designers aged 18 to 24. Before collecting data for this project, we co-designed an online course on hacking digital creativity with a digital designer and influencer, Shrishti, who runs a popular Instagram (78.7k subscribers) and YouTube (2.86k subscribers) channel on digital design and learning. She mentors aspiring and new designers from different cities in India and creates content to address their questions related to design education and career prospects. We requested that she helps us identify and recruit aspiring and new designers from her followers. She connected us with 35 followers, and 16 of them met the following criteria all of which had to be met for inclusion in the study: (a) aspiring or current designers in the age group of 18 to 24 years, (b) aspires to be or

are employed as content creators, (c) uses digital platforms for learning about digital design.

We designed the interview schedule to cover questions on their design learning goals, aspirations, experiences in the formal education system, participation in creator work, and use of digital media to learn about design and employment opportunities. The first interviews with the participants lasted for 60–80 min. We often conducted a second interview to obtain topical elaboration on specific ideas we could not explore during the first round. All the interviews were video recorded and transcribed for analysis. We complemented the interview findings with data gathered through social media ethnography. We followed the participants' social media accounts, asked them to share the digital resources and libraries they had created for design learning, examined their conversations in online communities/groups, and observed their engagement on pages and posts related to design education. We also examined the posts they had archived or saved on their social media accounts, such as Instagram, YouTube, and Facebook.

Additionally, we recorded the online sessions on design education participants attended during the data collection period as a part of our social media ethnography. These sessions gave us a glimpse into the types of learning spaces and experiences participants created for themselves. In analyzing their online engagements and interview responses, we also draw from our engagement with Shristi in co-designing online learning modules in formats compatible with different digital platforms. Our decision to acknowledge how our experiences as design educators and researchers influence our data collection and analysis is informed by critical feminist scholars such as Houston et al. (2010) and Livholts (2012). They encourage the use of multiple and relational frames of data collection. Exploring the situationality surrounding data collection and analysis is also inspired by emerging perspectives in critical digital humanities that emphasize the need to appreciate and illustrate how the data we collect and the knowledge we produce are always partial and situated. We carried out data collection from March 2022 to July 2022.

### **3.2 Data analysis**

In analyzing the data, including the interview transcripts, social media ethnography notes, and videos of live sessions, we used the two-level coding format proposed by Carspecken (1996) proposed and expanded on by Madison (2019). According to this method, there are two types of coding. Low-level coding includes more concrete and empirical ideas, while high-level coding comprises theoretical and abstract themes. We first examined the data using low-level codes designed to group different pieces of empirical data. For instance, the code “learning goals” included data related to participants' design education needs and aspirations. At the second level, we started grouping these low-level codes under high-level codes informed by theoretical ideas. For instance, the theoretical concept of aspirational learners (Arora, 2019) was used to classify all low-level codes illustrating that learners in the creator economy and emerging markets of the global South are motivated more by aspirations than utilitarianism. For instance, digital designers want to become content creators because they are motivated by the autonomy and flexibility of work hours and location that

platform work offers. These young learners are willing to ignore the lack of utilitarian prospects of organized employment, such as fixed and regular payments. They are motivated by aspirations for more meaningful experiences and personally-compatible ways of working.

Based on the high-level codes, we created three themes that translate as the core dimensions of the DIY learning approach to design education in the creator economy. The first dimension is Design Thinking (DT) as the underlying principle informing young people's learning goals and needs in design education. We define DT as a research-centric and critical approach that young people use to create a personal and collaborative educational trajectory with the help of digital platforms and networks. DT debunks the formal approach to education that trains students to solve predetermined problems and tasks. In a creator economy where problems, tasks, and opportunities are neither fixed nor predetermined, young learners need skills and competencies that would enable them to create novel strategies for navigating new and challenging situations. We demonstrate that the participants' DIY learning approach to design education was embedded in DT and offered a convergence of vocational training and critical thinking.

The second dimension is Support Networks and Communities, which are crucial to the effectiveness of DIY learning. We elaborate on how our participants harnessed digital networks to form or participate in peer groups and online communities and enriched their learning experiences. The process of seeking support and guidance through collaborations and collective thinking plays a role in debunking the notion that DIY approaches to learning are often individualistic and isolating, with minimum scope for any meaningful peer relationships. Findings related to the support networks and communities help us redefine what social capital means with regard to the algorithmic logic of platformed and DIY learning experiences.

The final dimension is Knowledge Production and Redistribution, which examines who produces the knowledge and intellectual resources that participants use. In this section, we explain the political economy of the digital curricula participants created to learn about digital design and opportunities for creator work. We also look at how the participants produce these knowledge resources, for what purposes, and how they are accessed and repurposed for personal learning goals and aspirations.

## 4 Findings and analysis

### 4.1 Design thinking

Design Thinking (DT) has different definitions in various fields, such as engineering (Todd & Magleby, 2004), business and marketing (Dunne & Martin, 2006), and formal academic environments such as schools and universities (Owen, 2007; Rotherham & Willingham, 2009; Shute & Torres, 2012). Building on the existing works of design thinking scholars in different fields (Do & Gross, 2001; Nagai & Noguchi, 2003), we argue that young designers working in the creator economy use DT principles to develop a combination of technical competencies, critical thinking skills, and collaboration opportunities for professional development and growth. Their DT



approach to design learning in a technologically mediated environment is research-driven, based on the concepts of problem-solving and iterative learning processes. Instead of examining how the participants applied their DT skills to produce design deliverables, our focus in this section is to reveal how they used DT to create an educational trajectory for themselves.

Preeyanshi, a 21-year-old student in a public design course in Delhi, explained that public and formal courses in design education deploy a structured approach and teach the students to solve a series of predetermined tasks and problems. She argued that digital technologies had altered this formal structure by making possible the constant upgrades to designing applications, the development of new technologies, and emerging possibilities of production, circulation, and collaboration. “We cannot rely on a set of problems when we begin our learning process because that will allow us to harness only a limited set of techniques required to solve the problems that educators could identify and list,” she explained. According to Preeyanshi and other participants, DT was different from learning approaches in formal education systems in two significant ways. First, the formal learning approach prescribed a set of techniques and strategies designers were encouraged to use to solve various problems they encountered. To develop these strategies, the educators had first to identify a set of recurrent problems, solve them, and standardize the process to create guides and manuals. While this approach is time-efficient when dealing with commonly occurring learning problems, it does not respond effectively to the new problems that arise due to the evolving learning environments that designers inhabit through digital technologies.

On the other hand, DT allows young designers to use “... some level of productive chaos in their ways of thinking so that they can develop an iterative strategy to solve problems and evaluate evolving solution concepts,” explained Rutuja, a 24-year-old graphic designer from Mumbai. DT is a learning approach that is conducive to the dynamic nature of digital technologies that are participatory and collaborative. Instead of drawing from a fixed manual of dos and don’ts, young designers observe others, experts and amateurs alike, to customize learning goals and a timeline that works for them. Aparna, a 23-year-old designer from Bangalore, explained how DT in her DIY learning approach is significantly different from the working of formal education in design,

Why do young people prefer DIY design learning to formal design school curricula? It is simple. When I use digital resources to learn design, I know the connection between the process and outcome. I know exactly how what I am trying to learn will help me. Formal education is disconnected. We do not always know how what we learn in a class can be applied. Also, formal education pays such close attention to a fixed course outline that there is little scope for innovation... There is little scope to introduce changes in a design program’s curriculum at a college. How can we have a fixed curriculum in a field where new applications are launched daily?

We emphasize Aparna’s argument that DIY design learning is based on identifying how ideas are actionable and used to solve problems. It is characteristic of the DT

principle that developing solutions to problems is an iterative process and cannot emerge from following a fixed course of action. A primary difference between DT in DIY learning and the formal systems of education is the ease with which designers can translate abstract concepts into plans and solutions. As DT encourages designers to solve problems in small and concrete steps, changing the plan of action at every step, learners find it easier to visualize the effect and outcomes of their decisions, skills, and knowledge. Contrarily, formal design education does not provide ample opportunities for learners to envision the connection between their process and expected outcome beforehand for them to modify and reevaluate the tentative solutions. DT in DIY learning facilitates the rapid alteration of different modes of activity, solutions, problem definitions, and outcomes to accommodate the dynamism of digital technologies and their effect on design learning. The participants did not claim that the formal educational approach was redundant or obsolete and that the DIY approach was a substitute. Their central argument was that they selectively chose aspects of the formal approach to education while harnessing the potential of innovative DT strategies to develop a DIY approach that was customizable, flexible, and receptive to changes in the learning environments and their personal goals and aspirations.

The second primary difference between DT in DIY learning and formal design education structures and institutions is that DT changes the nature of knowledge produced, circulated, and consumed. Formal education affords limited access to educational resources and is conceived to “systematize, standardize and account for learning” (Ng, 2020). Given that learning goals are tightly structured in sequential order in formal education, it is challenging to develop situational learning that is context-specific and experience-dependent (Jenkins, 2011). On the other hand, DT in DIY approaches to design learning has roots in self-motivation, practice, and actual experiences of the learners, thus making the process participatory and collaborative. DT in DIY design learning does not involve a clear vision for what the learners wish to achieve and accomplish. Instead, the DT in the DIY approach ensures that these goals and processes are intrinsic to the learner’s personal aspirations and the specific contexts they inhabit. Within such a DIY approach, DT guides methods of knowledge gathering and application away from structured manuals and instructions and towards experimentation, play, and increased risk-taking to innovate complex learning pathways. Using a DIY learning approach and DT principles embedded within may also enable learners to take partial ownership and expand on the learning afforded them through formal systems of education (D’Amore, 2006). For Ravish, a 19-year-old designer from Delhi, digital technologies have altered his approach to learning design in many ways. He explained,

Digital platforms have allowed me to learn design using three approaches: watch and observe, learn to use new or advanced applications, and practice—creating open-access projects. Yes, open access... is what I was looking for. DIY design learning is open-access and participatory. There is no pressure to memorize unimportant concepts. Your reward is not marks but a final project that can become a part of your portfolio.

Ravish explained that the DIY design learning process was open access with regard to available online learning resources created by other designers who wanted to mentor young designers and create social capital for themselves. The open-access label did not apply to the tools required to create the content, such as the design applications they used. While some design applications offer a free and beginners version, most advanced features were only accessible when users subscribed to the applications and paid for the features.

It also became exceedingly clear through our interviews with Ravish and other participants that DT in DIY manifested as the opportunities afforded to experiment, have fun, and take risks while continuing to draw strength from the structured nature of scientific methods of education prevalent in formal institutions. While the scientific method of formal education assumes that chaos and unpredictability can be bracketed through rigorous practice and standardized protocols, DT appreciated that digital technologies are inherently volatile, wherein processes and solutions cannot be permanent or fixed. According to DT, consistency is neither standardized nor fixed. Consistency, in terms of the effectiveness of the DIY approach to design learning, requires acquiring skills that help them build flexible plans and solutions that can be altered and changed. DT is when learners create flexible systems and processes related to issues of access (who can access what) and participation (how the learning resources are accessed, learning goals defined, and outcomes evaluated).

The following section will elaborate on how flexible participation translates into creating support communities and networks using the DIY approach to design learning.

## **4.2 Support networks and communities**

Our data demonstrate that DIY design learning is not an individualistic or atomized learning experience. The learners do not aspire to work without peer support, expert mentorship, critical and subjective feedback, or professional networking opportunities. The DIY approach to design learning is primarily relevant to the emergence of digital platforms—social media and online applications, that operate on the logic of recommendation algorithms (Gu et al., 2020; Yuan et al., 2020; Shi et al., 2019). Recommendation algorithms are based on deep learning, developed through an automated and continuous analysis of user activity, reviews, and implicit feedback. They serve as filters determining the kinds of networks and conversations people can access and inhabit. While the recommendation algorithms help create models that effectively filter people and content, these systems are also used to create support networks and communities as learners customize their DIY approach to design education. Young designers spent time cultivating learning networks online to access the latest design-related resources shared through these networks. “If I like some famous designer’s educational post on Youtube, it influences the recommendation I receive,” explained Ruthvik, who worked as a UX designer on a contract basis with two not-for-profit organizations in Bangalore. He identified as an amateur designer and had developed online networks to support his learning goals and timeline. Our social media ethnography revealed that he subscribed to a well-thought-out list of YouTube channels, followed the Instagram and LinkedIn accounts of famous and

well-established designers on Instagram, and was a member of Facebook pages UX Beginner: Design Community, UI and UX Designers, and Figma UI/UX Designers. While describing his process of creating support networks and learning communities, he said,

Cultivating learning networks online takes much work and time. Some of these social media connections focus on promoting contract positions and jobs, and others are about problem-solving and technical skills improvement with regard to using design software. It took me almost six months to know the leaders in design teaching and learning online. One of the most important things I learned was that online courses and certifications do not matter in the industry and for jobs. What matters is a portfolio of work samples. There are ways to make that happen: volunteer for UX design positions, collaborate on projects, and take up small projects for the experience. I learn much more when I go through the entire cycle of producing a design.

The DIY approach that young designers like Ruthvik create relies on online support networks and communities for two primary reasons: (1) expanding their occupational aspirations beyond the perceived possibilities afforded by formal education, and (2) building critical aspects of formal education such as feedback and mentorship in their DIY learning approach.

First, learning design in a platformed economy requires undoing the boundaries between vocational training and research-driven educational models. Deploying a DIY learning approach is critical for young learners to explore job and learning experiences beyond the perceived opportunities provided through formal educational institutions. Often, formal education systems mandate equipping learners with fixed, occupation-specific educational credentials (Heckhausen & Tomasik, 2002; Sacchi, Kriesi, and Buchmann, 2016). Exclusive reliance on such a formalized vocational training and education system falls short of enabling young learners to develop the critical thinking skills required to become gainfully employed in the creator economy. As Nimesh, a 24-year-old graphic designer from Mumbai, explains,

There is no one set of skills that we need. You should know almost everything when you are contracting. You are, in a sense, the owner of a business. You need research skills to understand the new trends in the industry and evolving client needs, and then hone technical skills to execute plans to fulfill the unmet needs. Moreover, you cannot do it through one institution that knows only a set of issues and contexts. You need networks that transcend your geographical reach and connections that expand the breadth of your experiences with design-related issues.

Nimesh explained that adopting a DIY approach to design learning helped him connect with people—design leaders, online instructors, and peers— and access resources such as learning materials, technical guides to master design applications, and guidance/mentorship for project-or-application-specific issues. At the heart of a DIY approach to learning design is a convergence of elements of vocational training that

tracks learners as doers and the characteristics of research-oriented learning wherein the learners are trained to emerge as critical thinkers who ideate, conceptualize, innovate, and adapt. This convergence is made possible through support networks and communities that the young designers cultivated to retain aspects of formal education such as mentorship, guidance, and technical competencies, and their aspirations to work as independent professionals who can initiate higher-order thinking tasks critical to working in a platform economy.

The second reason young designers nourish and use support networks and communities involves their need for feedback and mentorship. Guidance is at the heart of the hierarchical student-teacher relationship in formal education systems. Though the hierarchical relationship with mentors in formal systems prevents learners from enacting autonomy in finalizing learning resources, goals, and outcomes, they appreciate and request the evaluative feedback of design experts in the informal system to improve their processes, techniques, and deliverables. In other words, young designers emphasized that feedback was central to their development as designers, so they actively tried to weave this mechanism into the DIY approach they designed. The young designers we interviewed actively looked for mentors online and sought feedback on all aspects of their design learning endeavors. This finding is innovative for this kind of DIY learning. It encourages us to look for ways to build on and depart from Lave and Wegner's (1991) classic theory on peer-based situated learning and community learning. Designers look for feedback from their peers and across professional and expert hierarchies, pushing us to revisit some classic theories that have served as a foundation for informal community-based learning. Vishal, a 22-year-old aspiring graphic designer from Mumbai, insisted that mentorship was a core goal of his DIY learning approach. He explained,

We [young designers] try to connect with people who are established. A design idea can be very artistic but worthless if it does not appeal to the audience and users. Online mentors serve as that bridge between our technical knowledge and industry expectations. We actively engage with what these designers post on their social media accounts to initiate a more interpersonal relationship that can convert into a one-on-one mentorship opportunity. This relationship is different—there is no fixed structure to the type of mentoring one can expect.

The need for feedback, mentorship, and guidance resonated with all the participants in this study. They described the different pathways they designed to establish a meaningful relationship with design experts through their online engagements. As they participated in online communities and nourished support networks, they were invited to share their designs in groups for feedback and guidance. They had to build a rapport with the community members and actively respond to posts by other designers if they wanted to receive feedback on their designs. "If I do not like, comment, and engage with other members' posts, they will be less likely to evaluate my design when I submit a post. It is like class participation. If you are actively participating in these online groups and communities, you are building goodwill. You are presenting yourself as a genuine person who is ready to support other people," explained Meenakshi, a 24-year-old designer from Bangalore. She described the process of building

these support communities as a simple “give and take” process where the help a member receives is equivalent to the help they offer to others. Also, she stressed that active engagement is critical in ensuring that famous and established designers notice the new designers and provide feedback on their group posts. “We ask a follow-up question on the feedback they provide on our group post in a direct message, and that can be the start of a mentor-mentee relationship,” explained Nimesh.

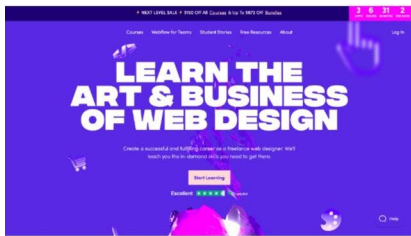
Support networks and communities are an integral part of the young designers’ DIY approach because it allows them to combine essential aspects of formal education with the more fluid and autonomous DIY approach they design to meet their evolving learning needs and occupational aspirations. This finding resonates with our argument that community-based efforts and interactions inform the DIY approach to design learning. It also debunks the notion that intervention by designers who are mentors in these spaces would restrict learners’ autonomy, given the power difference between an established and amateur or emerging designer. We also argue that there are instances of discrimination inherent to the relationship between established and aspiring designers. Also, even though online communities and networks are decentralized to a large extent, the hierarchy of occupation status flows into and informs the interactions within these spaces. As a result, young learners actively seek out well-established designers who work in reputed companies, often in full-time and permanent roles. These findings indicate that learning expectations and occupational aspirations promoted in formal education sometimes seep into the DIY approaches and online communities for design learning.

### 4.3 Knowledge production and redistribution

The young designers we interviewed spent at least 40 h per month creating a digital curriculum complete with learning and networking resources. Their digital curricula had knowledge resources of two different kinds. First, they finalized a list of online channels, videos, and reading materials they could use to learn the technical skills required to use various design applications effectively. For example, a few of the designers we interviewed collected materials shared on different social media platforms related to Figma (a web application for interface design)—how to use the various tools/features, how to resolve and prevent errors while using the application, and what are the infrastructural needs to run the application smoothly (including questions about laptop model, internet connection and speed, and so on). Many young designers actively searched for detailed YouTube tutorials to “master the application,” “identify possible problems and solutions,” “explore advanced and sophisticated uses of the features,” and “create products [designs].” As they curated the technical component of their digital curricula, they extensively relied on channels and teaching resources on YouTube. They subscribed to channels of famous UX designers such as Ran Segall, who runs Flux academy—an online education platform to help designers develop competencies to succeed as a UX/UI designer. They created a playlist of videos from different channels related to design tutorials on applications such as Adobe Illustrator, Adobe XD, Proto, Figma, PixlrX, and others. An interesting observation from our conversations with the designers is that each social media platform served a specific learning goal. For instance, YouTube tutorials were used when participants

wanted a detailed lesson on how to use an application; Facebook groups were used when young designers wanted to ask specific questions or required feedback; and Instagram was used to showcase the work they had created and establish an informal online portfolio.

What was particularly interesting to observe was how the young designers assigned credibility and value to the resources they added to their curricula. For many designers, the occupational status of the content creator was a significant consideration in assigning value to the resources. Accordingly, resources produced and shared by famous or established designers who had full-time and permanent jobs as designers in major companies received greater engagement and support. Additionally, these established designers produced and shared content related to technical skill development to gather more followers on their channels. Participants expressed that there was an expectation from mentors to sustain a culture of learning based on voluntary labor, thus reinforcing the extractive labor practices often normalized within the creator economy. As a result, when expert designers offered learning guides and mentorship for free, learners used the resources exhaustively. Expert designers often used these free resources to build their reputation. They used these large networks built through voluntary labor to advertise that they offered mentorship and online courses to aspiring designers for a fee. The first component of their digital curricula was vocational and training-intensive and involved mastering and applying technical skills.



The digital curricula's second component involved resources on building networks, establishing connections, and searching the market for industry experiences and employment openings. It also included looking for opportunities to participate in collaborative projects, volunteer or intern with organizations and companies for experiences, or reach out to people in the field and seek their guidance on the job search and interviewing process. These resources were critical in enabling the young designers to create a portfolio, resume, cover letter, and other materials for establishing themselves as independent contractors. The resources also included events, conferences, online chat sessions, and peer-based virtual gatherings to share experiences, ask questions, and learn in a collaborative environment. Mitali, a 20-year-old designer from Delhi, explained that gathering resources on networking and work opportunities was a major component of her DIY curricula because it was the most difficult to find online. "You can always find many great video tutorials on how to use Figma for designing a poster, but there is a lack of resources on how to design your resume to suit the workings of the Application Tracking System (ATS) that many companies use. It is always difficult to hear about personal experiences on how to interview, when they create a portfolio for a particular job posting, and most importantly, how

to establish connections with hiring managers and recruiters for jobs,” she explained. According to the young designers in this study, their digital curricula also included screenshots of conversations they had with some seniors in the field, recordings of video conferences with design professionals who agreed to mentor them, and notebooks filled with notes from interviewing experiences and informational calls with recruiters. According to Rohit, a 19-year-old UX designer from Delhi, “Learning how to become a designer involves selling your skills, communicating your worth, and showing promise. You have to tell them you know enough to do the job, but you are an active learner and would improve with experience. It is difficult for one teacher in a classroom to mentor 40 to 50 students about everything. That is why we create a list of online resource persons. We reach out to them, have informal chat sessions, and gain an understanding on what are the intangible and non-teachable moments in our journey as designers.”

Therefore, knowledge production and distribution within the DIY approach to design learning is a combination of self-motivated or voluntary work (young design learners) and opportunities to translate popularity and credibility into a revenue-generating model (the design experts who run online courses and training). Social media and digital networks help decentralize learning as young designers develop personal curricula—learning goals, occupational aspirations, and evaluation methods. However, the DIY learning approach lets designers capitalize on their technical expertise and create paid mentorship opportunities for profit-making.

## 5 Conclusion

The empirical evidence generated through our research contributes to understanding a critical dimension of the emergent DIY cultures—learning and education. Specifically, the paper unpacks the dynamic relationship between young people’s learning needs and India’s rapidly evolving creator economy with a focus on design education. It examines various approaches and strategies young designers develop to acquire the necessary skills and competencies for entering and surviving creator work that can be simultaneously precarious and rewarding. As our participants unanimously point out, formal education lacks the agility to respond to the speed of transformations in technology, platform architectures, and markets. DIY curation of curricula, however, is seen as a supplement and not a substitute for formal education. Affordable data plans and mobile phones have opened up new pathways to learning through access to virtual networks, tutorials, mentors, and collaborators.

Three themes emerge as core dimensions of the DIY learning approach to design education from the analysis—Design Thinking as the underlying principle for DIY design education; the importance of support networks and communities in DIY learning; and knowledge production and distribution methods that show evidence of innovative youth-led practices and simultaneously carry a sizeable hangover of the established practices from formal design education. Through a detailed discussion of these three themes, we highlight the context-sensitive, multi-modal, and agile nature of DIY learning and rupture the dominant neo-liberal conceptualization of DIY cultures by outlining how young people engage with different forms of collaboration and



community-building practices. Our findings of their DIY learning cultures highlight that young people demonstrate a sustained need for guidance and mentorship, feedback, and professional guidance.

DIY curation of learning resources involves consistent effort, a considerable investment of time, and many frustrating moments. We do not celebrate DIY learning as a substitute for formal education and place the sole responsibility of acquiring professional skills and competencies on young people. Our critical analysis of DIY learning reveals how young and expert designers reckon with the precarious nature of the creator economy and find ways to negotiate the extractive practices enabled through digital technologies. The relationship between young and expert designers stands testimony to the relevance of “deep labor of goodwill” within DIY learning that compels designers to offer free labor to build their reputation and networks in the field. Such an analysis indicates the need to reform our educational systems and mitigate some of this responsibility placed on the young generation to form a DIY learning culture. The present system reinforces a learning environment where participants sustain the expectations for free labor of the networked communities to fuel the creator economy. Such a DIY learning culture is bound to increase burnout and mental health issues among the youth and perpetuate an unhealthy culture of neoliberal design education.

Our goal in unpacking the DIY learning cultures among designers is to appreciate the initiative and innovative nature of the youth in carving their pathways for new forms of learning by leveraging digital tech via DIY without losing sight of its extractive practices. Our findings encourage scholars to pay sufficient attention to the need to reform the learning environment within creative fields in a creator economy. Though we recognize the resilience of young learners in the face of rising difficulties in the future of work in the precarious creative industry, we also emphasize that it is critical to analyze and identify the instrumentality and free labor at the core of these informal systems online. Our findings present an exciting possibility of blending formal education with another approach to learning that responds to the personal aspirations and lived realities of young people whose lives are profoundly changed by the changing nature of work. Future research can explore how new educational approaches can alleviate problems inherent to the platformization of creator work, including information about intellectual ownership of content and copyright. It is also critical to emphasize that the growing class of non-traditional educators, i.e., amateur experts, will define the learning needs and strategies of young people aspiring to choose creator work online as a career path. As these amateur experts don the hat of mentors, career coaches, and professional advisers, they challenge the viability and pervasiveness of traditional educational models and practices. Exploring the virtual curricula and learning experiences the amateur experts design for aspiring creators will enrich research on DIY learning and the creator economy.

**Data access statement** Due to privacy concerns and the sensitive nature of the research, no interviewees consented to their data being retained or shared.

## Declarations

**Conflict of interest** None.

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