# Designing Under the Influence: Exploring the Motivations and Obstacles of Young Design Students

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**Abstract.** Industrial design education takes its cues from the profession of Industrial Design. A century old discipline blending human science, engineering, and art. For better and worse, the design profession's flexibly and obscurity make it difficult for design students to find their way. This paper will analyze the motivations and obstacles that design students face during their academic career. Both internal motivations and external obstacles will be viewed through the lens of the influential people and the presence of existing systems. Concluding the discussion of influential people and existing systems will be three key implementations that can aid design students in maintaining their motivations and outpacing their obstacles.

**Keywords:** Industrial design · Design education · Motivations · Obstacles

## 1 Introduction

The last thing Mom says before we hang up the phone is, "Sweety, do your best." I fake a chuckle and say, "I will". I look like I have my act together, but on the contrary I'm a mere 3 months from graduation and don't know if I can live up to all the expectations. Like many college design students, I wanted to get the perfect internship, land the perfect job, and negotiate the perfect salary all while seamlessly managing a social life. It's an ambitious goal, and standing in the way are struggles, uncertainties, and the fear of inadequacy.

But I was just a college student – there is so much more to look forward to! Industrial designers have the unique ability to make a wide impact on society, but with that freedom also comes endless choices. This first seems like an advantage, but transforms into an overabundance of options that can cause even the best decision makers to falter. And when students need to make decisions they consult the sources that have the most influence. Where do these influences, both positive and negative, come from? What forces are pushing these students forward and encouraging them to be the very best? Inversely, what are the obstacles facing these students that keep them from realizing their goals?

Design students operate in a different environment than most. Rather than traditional testing, students are graded on semester-long projects. Meanwhile, the scope of

their projects can be astronomically different from the one before. Instead of following a set curriculum, design students are tasked with the responsibility of designing for the future. To do this, they have to first construct and evaluate multiple possible futures by examining the intersection of human science, engineering, business, and art. Both sides of their brain are forced to ride in tandem. In terms of design education, the practice isn't that old. In 1919 the Bauhaus emerged in Weimar, Germany making Industrial Design a distinct discipline. It was described as a "utopian craft guild combining architecture, sculpture, and painting into a single creative expression" [1].

Perhaps there has always been and continues to be an issue with identity. This world of design is constantly in flux from the trends of the artistic influences to the technological advancements of the manufacturing sector. For a discipline still defining itself, it's no wonder young design students struggle to find their place.

This paper will analyze the motivations and obstacles that design students face during their academic career. Both internal motivations and external obstacles will be viewed through the lens of the people that influence students and the systems they exist within. The influencers will be unpacked through the subtopics of the individual his or herself, the family, the instructor, their friends, and social networks. The systems explored will cover the subtopics of high school education, professional competition and hiring tendencies, and award giving organizations. Concluding the discussion of the aforementioned topics will be three key implementations that aid design students in maintaining their motivations and outpacing their obstacles.

## 2  People

### 2.1  The Individual

Many of a person's internal motivations are shaped and significantly impacted by external sources. It could be reasonable to skip straight to the external sources that impact the design student, but there is one factor that should be analyzed first: their talent and interest. If a student recognizes that he or she has a natural proficiency, he or she may seek to develop those interests through practice. Dean Simonton describes this realization where, "you all of a sudden find yourself different. You see yourself as different. You have different goals. And these diversifying experiences can take a lot of different forms," and these diversifying influences, "tend to lead to creative genius" [2].

Specified talent and interest at a young age are uncommon. But if talent is rare, then identifying and pursuing an interest at a young age is almost unheard of. Angela Duckworth notes that she, "[doesn't] think most young people need encouragement to follow their passion. Most would do exactly that - in a heartbeat - if only they had a passion in the first place" [3]. Most young people don't know what they want to do for the rest of their lives. This is a good thing. Students need to be given the freedom to explore different career paths before they invest the next decade pursuing a specific vocation.

## 2.2   The Family

Of all the factors that impact a design student, the family is notably the strongest. Industrial Design is still a relatively unknown discipline despite its emergence in the social lexicon in the last few years. The general public, while owning many consumer electronics fail to consider that someone plays a major role in the shaping and interfacing of their favorite products. This lack of public knowledge consequently extends to the mysterious design school environment. Design school, in its inherent structure, greatly differs from the high school educational model. For this reason, families may struggle to comprehend the challenges most design students encounter – for many the blending of engineering, art, human sciences, and business is difficult to comprehend.

Yet, more essential to a student's success than their parents' understanding is their parents' support. College students, especially design students, who receive support from their family tend to be more accomplished. Encouraging, well informed parents who grant their children the opportunity to explore multiple interests and professions give their children excellent momentum as they journey through college. However, university itself is but a fraction of a young person's life – the majority of influence and direction that a young student receives from their family happens while under their parents' roof. Support in college is great, but support and guidance while coming of age is of essential.

Households of artistic, engineering, or even design backgrounds aren't necessarily guaranteed to produce design savants. However, exposure to that type of thinking does help. Nico Muhly, the youngest person to ever have a commission from the Metropolitan Opera, was the child of both a painter and a documentary-filmmaker. His parents were supportive of his musical interests, but more importantly they "found the good middle point." What set Nico up to succeed wasn't simply that his parents were artists, but it was that they worked at "creating a household in which ideas were spoken about". Nico expresses that "the real luxury of my childhood was not necessarily being surrounded by art in that way, but by people who read and thought about a million things…" [4].

## 2.3   The Instructor

The role of the instructor in terms of motivation or discouragement of students is well documented. A poor instructor not only frustrates, he or she simultaneously mars a person's interests in a certain topic. Adversely, great teachers evolve good students into great students. Angela Duckworth says that great teachers can actually have more influence than opportunity or inherit talent. A "great coach or teacher" may matter more than anything about the individual [2]. A good professor balances nurturing a student with challenging them to achieve their highest potential. If design students pursue instructors that are known for developing clever and hardworking young professionals, students will surely set themselves up to succeed.

## 2.4    Friends

Friends are an interesting part of the equation in the university setting. Yes, the university serves as a place to prepare for a potential profession, but higher education by default provides students with opportunities to interact and grow socially. College friends are an incredibly important choice. As the old proverb goes, "iron sharpens iron" [5]. Friends have a way of persuading each other: those that prioritize social functions too much can lead even a highly dedicated student astray, while dedicated friends can help keep a student on track and bring out the best in them. This is especially true of peers that are a part of the same cohort. In an article examining the Architectural studio, Boyer and Mitgang noticed a special comradery between students who "stay up late, are never home, spend all their time in studio, and belong to a clique of other architecture students… here in this earliest phase of becoming an architect we see kernels of architects larger values. Such as the principle of peer review…" [6]. By investing time in positive relationships during school, students arm themselves with an arsenal of comrades they can call on once they have gone out into the professional world.

## 2.5    Social Media

The most controversial and misunderstood influence on the college design student is social media. With over 1 billion users [7] and ⅔ within the age range of 18–34 [8], it is undeniable that social media is incredibly pervasive. Though these forms of community prove to be wildly popular, whether or not they are beneficial must be examined.

Because rates of tech and screen addiction are on the rise, there has been an increasing concern for how patrons manage their digital hygiene. Gizmodo editor Kashmir Hill remarks that social media, like many connected services, is "so ubiquitous and fundamental to our lives that [its] offerings have replaced core functions of our brains" [9]. It is interesting to note that computational giants like Bill Gates and Steve Jobs severely limit their children's technology usage [10]. Even the tech companies themselves are aware of the potential damage: Apple has introduced 'Screen Time' as a means for users to better understand and manage the time they spend interacting with a smartphone [11].

Unfortunately, much damage has already occurred. Studies from Nottingham Trent University and Swansea University show that social media like Instagram is addictive. It causes an over dependency of connectedness and results in heightened forms of anxiety. It leads "to greater feelings of social isolation", and leads users to unfairly compare themselves to others. The aggregation of digital 'followers' doesn't inherently produce a better social life. Alice G. Walton says, "there seems to be a cap on the number of friends a person's brain can handle, and it takes actual social interaction (not virtual) to keep up these friendships" [12].

A publication from the University of Pennsylvania [13] simply states that "(w)hen you look at other people's lives, particularly on Instagram, it's easy to conclude that everyone else's life is cooler or better than yours." This significantly impacts students who are in the design curriculum. It takes years to develop the visual communication

skills of an accomplished designer, yet when they open Instagram design students see the best work that the best designers have to offer they instantly feel inadequate.

Rather than seeing the mistakes and the messy parts of the process, students only see the obsessively crafted final product. Students get the impression that they have to produce the highest level of visual output to gain acceptance in the profession. There seems to be a fear of being identified as "not there yet" and rather than face public ridicule, students hesitate to share their work, even in safe spaces like the design studio. Fearful of judgement from "followers" or "friends", students remember the mantra that's been whispered in their ears: one cannot fail what one never attempts.

However, social media isn't all bad– it exposes design students to a wide world of creatives who share many things in common. Ed Glaeser says that having access to a large and interactive community "plays to our ability to learn from one another"… "Ideas colliding, on purpose and by accident. Also, there's competition"… "and with that competition comes strong incentives to create" [2]. Social media also serves as a significant source of aesthetic inspiration. Because there is a low barrier to entry, there is also freedom to post without worrying about whether an archaic system believes the content is permissible or is impermissible.

## 3    Systems

### 3.1    High Schools

Most high schools and their prevailing pedagogy don't prepare students for creative industries. These schools focus on giving students a base set of skills necessary for successful careers or to pursue higher education. Unfortunately, design students carry the mindset and ideology of that system into the design classroom, where that system has no place. While test taking, the memorization and recollection of facts, is the preferred measurement of quality for the high school system, this form of assessment doesn't translate well into the studio. Design schools rarely give tests and design prompts almost never have a purely right or wrong answer.

Siloed learning environments also impede future design students. The design world is project-based and requires designers to recruit the skills of other talented professionals in order to execute a large goal. Group work and project-based learning activities are rare at most schools, and when tests are the primary source of assessment "failure" is viewed as a student's worst possible outcome. In design school peer collaboration is essential. Early, frequent failure can provide incredible insights and accelerate the pace of a project. High schools don't set out to inhibit students from pursuing creative careers, it's just that old systems and hard to define career paths don't gel very well.

Not all high schools are created equally – though rare, certain schools are uniquely geared to prepare students for the creative profession. These specialty schools grant students the opportunity to identify their interests and begin to craft a passion that could drive an individual throughout their entire creative career. In terms of hard skills, like visual communication, these specialized schools give their students an early start on the "10,000 h needed for an individual to become an expert on a topic" [14]. Students who

receive such design skills (drawing, form-giving, and computer modeling) are, as a result, potentially years ahead of their classmates.

## 3.2 Professional Domains

Bookending the other side of a student's college career stands the professional world. The professional domain can be an interesting motivator or obstacle depending on the interests of the design student. One such obstacle can be location: certain career opportunities occur more or less based on the part of the county a student lives in. For instance, many tech jobs are located on the West coast while more traditional design jobs are housed in the Midwest. Regardless of the type of design a student chooses to pursue, the profession as a whole is competitive.

Frequently, skillful students find job placement while a portion of graduating seniors end up finding employment outside of the design profession. While the scope of design extends into the health, governmental, interfaces, systems, and service fields, the bulk of industrial design still resides in manufacturing. A healthy consumer market allows many students to enter the design field while a slower economy can quell even the most talented of young designers.

## 3.3 Design Employers' Tendencies

Industrial Design is a problem-solving endeavor, and acts as the intersection of engineering, humanities, business, and art. Designers have always been proud of and vocal about the superiority of its process but there still lies a very human problem: everyone loves talent, natural giftedness. Chia-Jung Tsay simply states that, "we do love naturals" There have been many cases where capable students who have superior ideas, more work experience, and heightened teamwork abilities get overlooked simply because of their lack of visualization skills. Chia's research, "pulls back the curtain on our ambivalence toward talent and effort. What we say we care about may not correspond with what - down deep - we actually believe to be more valuable. It's a little like saying we don't care at all about physical attractiveness in a romantic partner and then, when it comes to actually choosing whom to date, picking the cute guy over the nice one" [3]. There is nothing malicious about this approach. It is simply human nature: we enjoy things that are attractive and effortless.

## 3.4 Awarding Bodies

In conjunction with the human tendency to admire surface over substance, there lies the design awards. By no means do students live or die by their acceptance or rejection from design competitions. However, success in this arena can boost students' confidence while rejections leave them questioning their own propensity to create good design.

Consider this, in the early 2000's Kobe Bryant, Adidas, and Audi teamed up to make an automotive inspired shoe. The result of their interaction led to the adidas Kobe ONE and subsequently the Kobe TWO. The Kobe TWO was described as having a "clean design and subtle branding" and was awarded an IDSA silver in the

IDSA IDEA awards of 2002 [15]. Not only did the shoe perform poorly in the marketplace, but this is the last shoe that Adidas made for the 'Black Mamba'. The embarrassment was so great that Kobe Bryant chose to not produce a shoe at all for the 2002–2003 season [16]. The following year he signed with Nike.

Winning awards is good and can assist in professional development but should never be the goal in creating quality design. Competitions have their own agenda and are judged by humans entitled to their own opinions and biases. Just because a design doesn't receive an award doesn't mean that the design is inherently bad. Oppositely, just because a design receives an award doesn't mean that it will be successful in the 'real world'.

As we wrap up the internal and external forces that come from the systems like high school education and professional tendencies it's wise to consider adopting the mindset of controlling what one can control and letting the rest go. Because these systems are slow to change, it benefits young designers to rely upon and develop personal and professional relationships that will encourage them to thrive. If young designers surround themselves with encouraging voices, consult the wisdom of concerned mentors, and stop comparing themselves to every post on social media, they will develop into the well-rounded change agents that the design profession needs.

## 4 Conclusions

Identifying motivations and obstacles, both internal and external, are good practice for any design student. More importantly, they must decide how they will respond to these influences. In order to overcome these obstacles, design students may increase their success while promoting a healthy departmental culture by implementing the following three practices.

### 4.1 Destigmatize Failure

We have to destigmatize failure. The design studio should be a space where new and controversial ideas can grow and flourish. It should act as a place of transparency where all participants are given permission to try and fail without judgment. Professors need to strike a delicate balance between demanding greatness though competition and having students invest in one another through collaboration. Academia is not the career field. The classroom should serve as their training ground, a habitat for challenging oneself more and more. Failure is a pathway to success, not the enemy of it.

### 4.2 Team Selection

The next step is to choose the correct people to surround oneself with. The relationships students build and maintain with others will have the most profound impact on their creative future. Learning from experienced mentors and peer feedback is essential to development, so it is imperative students select that group carefully. One cannot please everyone, and more importantly not everyone has the authority to give feedback. Students must choose their influencers thoughtfully.

We are influenced by what they see, what our minds take captive. All stimuli, including those from social media need to be viewed through a critical lens. Students need to make an active choice to follow designers who have integrity and are transparent in their design process. They need to make the effort to locate and champion people who change the world with their creations [17] rather than those who produce excellent renders of boujee headphones.

In person relationships are easy to address, but connections through social media are murkier. Digital connections have a duality: social media can be used for influence and inspiration, but it can also be an escape or entertainment. The average person scrolls through 5 miles of social media content in a year [18]. Considering its addictive nature and ability to impact the psychology of a user, digital connections need additional caution.

All humans have a mere 24 h in a day. Therefore, if one is investing time they must consider the return on that investment. Design students need to create an agenda and be mindful of where their attention is directed. The design student should treat digital connections as a growing tool, while also seeking opportunities to interact, in person, with these connections.

### 4.3   Develop Grit

The last step is more of an attitude, an attitude that must be adopted for students to achieve true success in and beyond the classroom. There exists a common misunderstanding that the magical pixie dust called 'creativity' is what makes a good designer. Nothing could be farther from the truth. The abundance of natural talent, or lack thereof, has little bearing on the future success of a design student. Great design students are marked by the presence of grit – a tenacity to try, fail, learn, and try again. Angela Duckworth states that, "no matter the domain, the highly successful had a kind of ferocious determination that played out in two ways. First, these exemplars were unusually resilient and hardworking. Second, they knew in a very, very deep way what it was they wanted. They not only had determination, they had direction" [3]. The greats became great because they possess the perseverance to get back up, tune out the noise, and try again.

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