



Design Synthesis

http://www.matt-franks.com/synthesis_workshop.pdf

Then Moy: Flickr

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Today

What is Design Synthesis, and why is it important?

What are methods I can use?

Activity: Affinity Diagramming

Activity: Insight Generation

Activity: Insight Combination

How this is used in real life – [MyEdu Case Study](#)

Rules

We will go extremely fast.

Turn off the inner voice.

Hold questions until the end.

Make fun of everything.

Get your monies worth.

Theory



Jeff Veen

Founder of Adaptive Path | VP of Product : Adobe

“Good designers can create normalcy
out of chaos”

(Veen, 2000)

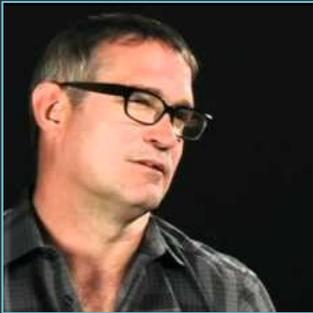


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(Veen, 2000)



Jim Wicks

Director of Motorola's Consumer Experience Group

“Design is always about synthesis – synthesis of market needs, technology trends and business needs.”

(Wicks, 2006)



Jon Kolko

Founder of Austin Center for Design

“During synthesis, designers attempt to organize, manipulate, prune and filter gathered data into a cohesive structure for information building.”

(Kolko, 2007b)



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“Synthesis reveals a cohesion and sense of continuity... Yet design synthesis is a frustrating because the act of synthesis – the revelation of clarity – is frequently performed privately.”

(Kolko, 2011)



Gathered Inputs > The revelation of clarity > Object



Synthesis is the process of making meaning



Synthesis is the process of making meaning



*How humans make meaning,
or rather, solve problems..*

**Well-
Structured
Problems**

**Ill-
Structured
Problems**

**Wicked
Problems**

Well-
Structured
Problems

Ill-
Structured
Problems

Wicked
Problems

In a well structured problem, all of these are true:

We can test our solution.

We can identify problem, goal, and interim states.

We can identify solutions steps.

We can identify domain knowledge.

We can solve the problem while obeying the laws of nature.

We can solve the problem using only practical levels of effort.

Herb Simon, 1973

Well-Structured Problems

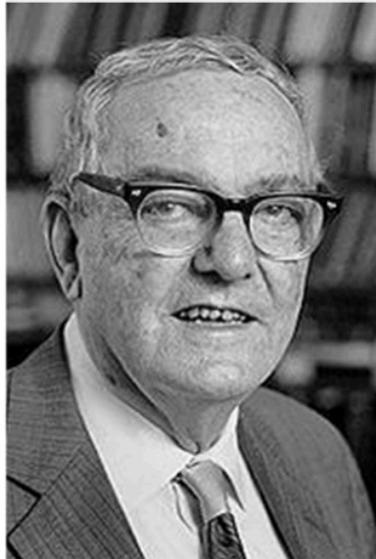
Ill-Structured Problems

Wicked Problems

In a well structured problem, all of these are true:

We can test our solution.
We can identify problem,
We can identify solutions
We can identify domain k
We can solve the problem
We can solve the problem

Herb Simon, 1973



- Carnegie Mellon
- Artificial Intelligence
- Decision Making
- Problem Solving
- Bounded Rationality
- Nobel Memorial Prize in Economics
- Think-Aloud User Testing

Well-
Structured
Problems

Ill-
Structured
Problems

Wicked
Problems

In an ill-structured problem, some of these are true:

We cannot test our solution, or cannot test it easily.

We cannot easily identify problem, goal, or interim states.

We cannot identify all of the solution steps.

We cannot identify domain knowledge (it maybe tacit).

We may be constrained by the laws of nature.

Solutioning may outweigh practical efforts.

Herb Simon, 1973

Well-
Structured
Problems

Ill-
Structured
Problems

Wicked
Problems

In a wicked problem, the following are true:

Wicked problems have no definitive formulation.

Wicked problems have no criteria upon which to determine “solving”.

Solutions to wicked problems can only be good or bad.

There are no complete list of applicable “moves” for a solution.

There are always more than one explanation for a wicked problem.

Every wicked problem is a symptom of another problem.

No solution of a wicked problem has a definitive, scientific test.

Every wicked problem is unique.

Horst Rittel, 1973

Well-
Structured
Problems

Ill-
Structured
Problems

Wicked
Problems

We can easily make interpretive leaps
required to solve these problems:

- Acting on an informed hunch
- Making a judgment
- Using partial information
- After working within constraints to no avail,
completely breaking out of these constraints

Well-
Structured
Problems

Ill-
Structured
Problems

Wicked
Problems

Design teams solve problems using a process.

Well-
Structured
Problems

Ill-
Structured
Problems

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Problems

Design teams solve problems using a process.
Design synthesis is the magical part of the process.



Ethnography

Synthesis

Prototyping

Ethnography

Immersion – gathering data and understanding of a unique situation or problem space

Synthesis

Prototyping

Ethnography

Immersion – gathering data and understanding of a unique situation or problem space

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Prototyping

Hypothesis validation through generative, form-giving activities

Ethnography

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Synthesis



Prototyping

Hypothesis validation through generative, form-giving activities

Synthesis is the process of making meaning through inference-based sensemaking.

Ethnography

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Hypothesis validation through generative, form-giving activities

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deductive

inductive

abductive

Matt is a Designer
All Designers are Arrogant Bastards
Therefore, Matt is an Arrogant Bastard

deductive

inductive

abductive

The output is guaranteed to be true,
if the premise is true

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All Designers are Arrogant Bastards
Therefore, Matt is an Arrogant Bastard

deductive

The output is guaranteed to be true,
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All of the designers I've ever seen wear
black T-shirts.
Therefore, the next designer I will see
will be wearing a black T-shirt.

inductive

Gives good evidence that a
conclusion is true.

abductive

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When a designer works on a project, they
often draw diagrams of things. It seems to
help them learn about a new topic.

I've seen grade school students struggle to
learn complex topics of math or science.

I can abduct that students might be able to
learn better by drawing diagrams in a
classroom setting.

abductive

The argument from best explanation,
depending on circumstances and
experience – an inference.

Ethnography

Immersion – gathering data and understanding of a unique situation or problem space

Synthesis



Prototyping

Hypothesis validation through generative, form-giving activities

Synthesis is the process of making meaning through inference-based sensemaking.



Karl Weick

Organizational behavioral theorist at Ross School of Business
At the University of Michigan

“Sensemaking is, importantly, an issue of language, talk, and communication. Situations, organizations, and environments are talked into existence... Sensemaking is about the interplay of action and interpretation rather than the influence of evaluation on choice.”

(Weick, Sutcliffe, & Obstfeld, 2005)



Robert Hoffman

Florida Institute for Human & Machine Cognition

“By sensemaking, modern researchers seem to mean something different from creativity, comprehension, curiosity, mental modeling, explanation, or situational awareness...

Sensemaking is a motivated, continuous effort to understand connections (which can be among people, places and events) in order to anticipate their trajectories and act effectively.

(Klein, Moon & Hoffman, Vol.21, No. 4 2006)

Ethnography

Immersion – gathering data and understanding of a unique situation or problem space

Synthesis



Prototyping

Hypothesis validation through generative, form-giving activities

Synthesis is the process of making meaning through inference-based sensemaking.

Ethnography

Immersion – gathering data and understanding of a unique situation or problem space

Synthesis

Making meaning through inference and reframing

Prototyping

Hypothesis validation through generative, form-giving activities

It's a process of learning

Ethnography

Immersion – gathering data and understanding of a unique situation or problem space

- Contextual Inquiry
- Contextual Observation
- Participatory Design
- Body Storming
- Journaling / Diary Study
- Cultural Probes

Synthesis

Making meaning through inference and reframing

- Affinity Diagraming
- Workflow Modeling
- Process Diagramming
- Customer Journey Map
- Storyboarding
- Archetype Definition
- Concept Mapping
- Reframing
- Insight Combination

Prototyping

Hypothesis validation through generative, form-giving activities

- Storyboarding
- Hero Flows
- Paper Prototype
- Physical Prototype
- Simulation



Design synthesis requires externalization

Let's Try It

Ethnography

Synthesis

Prototyping

Immersion – gathering data and understanding of a unique situation or problem space

Gathering data in order to understand
Gaining empathy in order to relate
Suspending judgment

MyEdu Student Research

(2 & 4 year students, 18 – 55 years old)



Participant #5 – Erick

I started off in engineering, but it was too difficult, I kinda searched around sophomore year for another major and took a class in economics and I liked it - So I switched. I took that class with a bunch of random courses - Geology - psychology - economics.. etc.. I figured i would like one of these more than engineering

I didn't know about the demands of engineering - I wanted to design cars - but I didn't feel like I was prepared from high school - with like the right study habits - Plus I didn't want to give up all my time to something that I wasn't really into

He assumed that engineering was a logical path to designing cars. "Well my mom was pretty [insistent] on me trying it" So he did.

I don't really know what the economics degree will afford me - I've been to a lot of info sessions and job fairs - maybe a research stuff or in the oil business or consulting or something.

I was dating this girl who was on linked in, she invited me to it. He now uses linked into look at companies in addition to information on career counseling services website.

He pivoted once in college Engineering to Economics

1st time declaring his major: I was a senior in highschool and umm just picked something from the dropdown menu.

2nd time declaring a major I had to get a paper from the engineering school or something, get an advisor to sign it, and then go to the liberal arts college and get an advisor there to sign it. He found out about this process from "a bunch of advisors".

I'd tell myself to delay gratification - If I want to do something fun, make sure I have everything done, and I understand what I'm doing, before I go do something fun. And maybe to do the fine arts program.

I started taking an online, self paced class, but then I figured out that I wasn't right for that. I pushed back all of the deadlines, of course right before the day it was due, and then I didn't do it. It was online @acc and I didn't have time to complete it.

I thought the flexible schedule of an online course would be a good thing, but I realized I need the deadlines to do the work. I have go physically go in there [class] and have someone to tell me what I need to know, instead of only trying to figure it out from a book.



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I started off in engineering, but it was too difficult. I searched for a new major sophomore year.

p5

p5

I didn't feel like I was prepared from high school – with the right study habits.

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[1st Time Picking Major] I was a senior in HS and umm, just picked something from the dropdown.

I thought the flexibility of an online course would be a good thing, but I realized I need someone to tell me what I need to know, instead of only trying to figure it out [on my own].

p5



All of the observations (raw data points) go on the walls

I saw this + I know this = Insight

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Data gathered through
ethnography, contextual inquiry,
questionnaires, and interviews

I saw this + I know this = Insight

Guided by ethics & morals,
intellectual prowess, and the
accumulation of world view and
breadth of experience

I saw this + I know this = **Insight**

Clear, deep,
meaningful perception
into human behavior
in a particular design
context

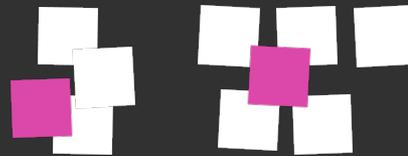
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■ Make observations

Analyze your field notes and document interesting observations, anomalies, or things you found particularly unique.

I saw this + I know this = Insight



■ Make observations

Analyze your field notes and document interesting observations, anomalies, or things you found particularly unique.

■ Interpret & Group

Ask “what are they saying” about each observation – and start to infer the answer based on your own personal experiences and what you know about the situation.

Start to group “similar” inferred observations & capture the theme

This isn't science, or engineering.
It's design. Trust your (informed)
intuition, and try to move on
without *all of the data*.

Synthesis starts by externalizing your data..

[picking major] Well, my mom told me I should pick criminal justice because I'd be an unhappy person after 3 years.

[1st Time Picking Major] Was a senior in HS and umm, just picked something from the dropdown.

I didn't even want to do Mech E. I wanted to do biomedical but it wasn't available. SO I randomly picked Mech E because my friends were doing it..

I found out about the business major from a guy at the gap. I didn't even know what it was. I chose international business because it is a little harder, so I'll always be able to get a job.

Next, question & compare each data point.

Do these notes feel related?

What are they implying – what do I think they are “saying”?

What about _____ makes this a reality for this person?

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“Similar” observations are grouped & their theme is captured

Physically move similar observations into groups

Capture the theme on a Pink Post-It Note

Themes are not necessarily complete sentences.

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Copy observations that fit into multiple groups

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Theme 2: Family, friend, & perceived authority Influencers for “life direction”

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This process is repeated until all raw data points are grouped.
It generally takes a team of 3, 1 – 2 weeks to do this for data captured for 8 – 12 participants

This isn't science, or engineering.
It's design. Trust your (informed)
intuition, and try to move on
without *all of the data*.

“They didn't specifically state this, but I think this is what they meant / what is happening”

Based on what we saw + what we know, we “talk relationships into existence.”

We are introducing bias – and that is OK.

Activity

Affinity Diagramming | Part 1: Data & Themes

In groups of 3 – 4, grab a stack of observations, Post-it notes & Sharpie markers. Use this data to begin synthesis. Do the following:

1. Find a generous space (4 – 8 sqft) on the table / floor / wall
2. Spread out all of your observations so that they can be easily read
3. Familiarize yourself with the data by reading through it
4. Question and group “similar” observations – (read into each data point)
 - Do these notes feel related?
 - What are they implying – what do I think they are “saying”?
 - What about ____ makes this a reality for this person?
5. Capture the theme of the group on a Pink Post-It (be sure to make space around the group – it will grow)
6. Repeat this process until almost all of your data is grouped (45 min)

Not all of your data will be grouped – this is OK

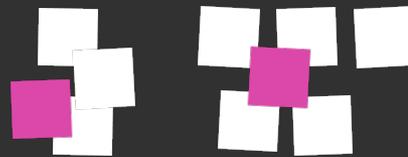
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I saw this + I know this = Insight



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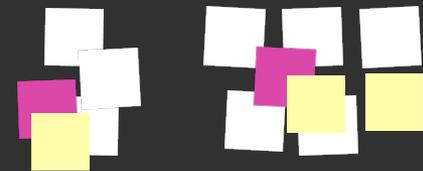
Analyze your field notes and document interesting observations, anomalies, or things you found particularly unique.



■ Group & interpret

Ask “what are they saying” about each observation – and start to infer the answer based on your own personal experiences and what you know about the situation.

Start to group “similar” inferred observations & capture the theme



■ Draw insights

Draw insights from the key observations in each group. Format the insight as a provocative statement of truth.

An Insight is a definitive statement of truth

(that may be wrong – but is presented as the truth).

Insights allow us to share clear,
deep, and meaningful perceptions
into a particular design context.

Craft an insight statement for each group.

I saw this + I know this = Insight

A definitive statement that is presented as truth (a complete sentence)

Start by answering the question – “Why might this be a reality?” – on a Yellow Post-It

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Insight 1: Students have little or no guidance in selecting a major course of study, and often regret their choice.

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I didn't even want to do Mech E. I wanted to do biomedical but it wasn't available. SO I randomly picked Mech E because my friends were doing it..

Craft an insight statement for each group.

I saw this + I know this = Insight

A definitive statement that is presented as truth (a complete sentence)

Start by answering the question – “Why might this be a reality?” – on a Yellow Post-It

[picking major] Well, my mom told me I should pick criminal justice because I'd be an unhappy person after 3 years.

[1st Time Picking Major] Was a senior in HS and umm, just picked something from the dropdown.

Theme 1: Arbitrary and pressured major selection

Insight 1: Students have little or no guidance in selecting a major course of study, and often regret their choice.

I didn't even want to do Mech E. I wanted to do biomedical but it wasn't available. SO I randomly picked Mech E because my friends were doing it..

[picking major] Well, my mom told me I should pick criminal justice because I'd be an unhappy person after 3 years.

I found out about the business major from a guy at the gap. I didn't even know what it was. I chose international business because it is a little harder, so I'll always be able to get a job.

Theme 2: Family, friend, & perceived authority Influencers for “life direction”

Insight 4: Students make decisions based upon the uninformed perception of what employers want, that are often wrong.

I didn't even want to do Mech E. I wanted to do biomedical but it wasn't available. SO I randomly picked Mech E because my friends were doing it..

Trust your (informed) intuition,
and try to move on without
all of the data.

You do not have to reach
consensus to move forward.

Crafting insight statements is a rigorous process that takes time & multiple iterations.

Often times your insight statement will include themes from multiple groups – this is OK

Activity

Affinity Diagramming | Part 2: Crafting Insights

Each group has a stack of insight statement worksheets. Using these worksheets, craft insight statements for each theme (or groups of themes) from your research. Do the following:

1. Looking at each theme (and associated observations) try and answer the question – “Why might this be a reality?”
2. Answer the question as a definitive statement of truth – on a yellow post it.

If your group gets stuck, have each person write their own interpretation of the insight on a post it note. Then bring these together into a single definitive statement of truth.

Insight statements might include concepts from other groupings – this is OK

Insight Combination

What may seem like a simple, obvious, or “right” idea...





We are going to use a method to force the provocation of ideas called **Insight Combination**

This method will force us into generating lots of ideas. Some of which will feel:

Silly

Inspiring

Random

Small and Seemingly Insignificant

Really Large and complex

Game Changing

Innovative

Ridiculous



All of which
are good.

Until they are tested, we
have no way to definitively
say that they are not

I saw this + I know this = Insight

Data gathered through ethnography, contextual inquiry, questionnaires, and interviews

Guided by ethics & morals, intellectual prowess, and the accumulation of world view and breadth of experience

Clear, deep, meaningful perception into human behavior in a particular design context

I saw this + I know this = Insight + Design Pattern = Design Idea

Data gathered through ethnography, contextual inquiry, questionnaires, and interviews

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Design Patterns

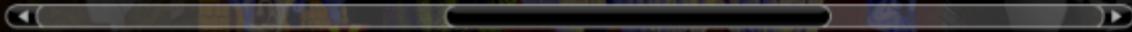
A design pattern describes a possible solution to a problem, based on problem / solution sets in other contexts.

Design Patterns

A design pattern describes a possible solution to a problem, based on problem / solution sets in other contexts.



The Bedlam in Goliath
The Mars Volta





NETFLIX





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Data gathered through ethnography, contextual inquiry, questionnaires, and interviews

Guided by ethics & morals, intellectual prowess, and the accumulation of world view and breadth of experience

Clear, deep, meaningful perception into human behavior in a particular design context

A trending paradigm that describes invariant qualities, referencing history and similar solutions

I saw this + I know this = Insight + Design Pattern = Design Idea

Data gathered through ethnography, contextual inquiry, questionnaires, and interviews

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Clear, deep, meaningful perception into human behavior in a particular design context

A trending paradigm that describes invariant qualities, referencing history and similar solutions

A new, creative concept, somewhat facilitated by existing design paradigms

People are expanding their understanding of “appropriate” human to human interactions, as they search for meaning in the minutia of their daily lives.



The pervasiveness of personal location data is enabling geographically contextual experiences on almost every electronic device.

I saw this + I know this = Insight + Design Pattern = Design Idea

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+

The pervasiveness of personal location data is enabling geographically contextual experiences on almost every electronic device.

=

A “pop-up” dating service that notifies users of compatible singles within a close proximity. These connections are live-streamed to the internet and open to online commentary.

I saw this + I know this = Insight + Design Pattern = Design Idea

Data gathered through ethnography, contextual inquiry, questionnaires, and interviews

Guided by ethics & morals, intellectual prowess, and the accumulation of world view and breadth of experience

Clear, deep, meaningful perception into human behavior in a particular design context

A trending paradigm that describes invariant qualities, referencing history and similar solutions

A new, creative concept, somewhat facilitated by existing design paradigms

Activity

Insight Combination

Start with the design pattern library. Use patterns that feel “appropriate” to your context, in order to provoke “safe” ideas. Use patterns that are extremely disassociated from your context, in order to provoke “wild” ideas.

1. Combine 1 Insight & 1 Pattern – moving them around physically
2. Force each combination into a new design idea. Write the idea on a green post-it (you may have to abstract the pattern to make it fit)
3. Read out ideas as you come up with them – reflect and pivot off others ideas
4. Limit yourself – 1 min per insight and pattern combination. Create a new combination after time is up
5. This activity will go for appx. 25 min

MyEdu: Academic Journey



Participants





The Academic Journey



Foundational Educational Memory

An early educational moment, where a primary authority figure establishes expectations around learning and work ethic

College Selection

A decision of where to attend college, usually made during high school, balancing various utilitarian and emotional constraints

Major Selection

A commitment of what to study, usually decided during the first few months of college; typically based on whim or convenience

Major Renegotiation

A change of major, often made during junior or senior year, as a response to prior major selection and a result of deep emotional searching

Resigned Commitment

An emotional resolve to a particular course of study, lifestyle, and future, based primarily on academic experiences

Non Traditional Academic Experience

A non-traditional learning experience, such as study abroad, internship, or mentorship, that dramatically changes or solidifies a trajectory

Identification of Aspirational Goal

A vision of post-graduation, with an aspirational career or educational goal identified (graduate school, a job, a particular title, etc)

Emotions

Extreme. Either empowering or demoralizing.

Stressful.

Stressful, yet simultaneously arbitrary and cavalier.

Shameful, as if letting down friends, family, and themselves.

Resolved, and a sense of being trapped.

Reflective, and full of opportunity.

Optimistic nervousness.

Collaborators

Grade school teachers, family, personal mentors

High school guidance counselor, family, friends

Family, friends

Family, friends

-

Mentor

-

Tools & Processes

-

High school Survey

-

-

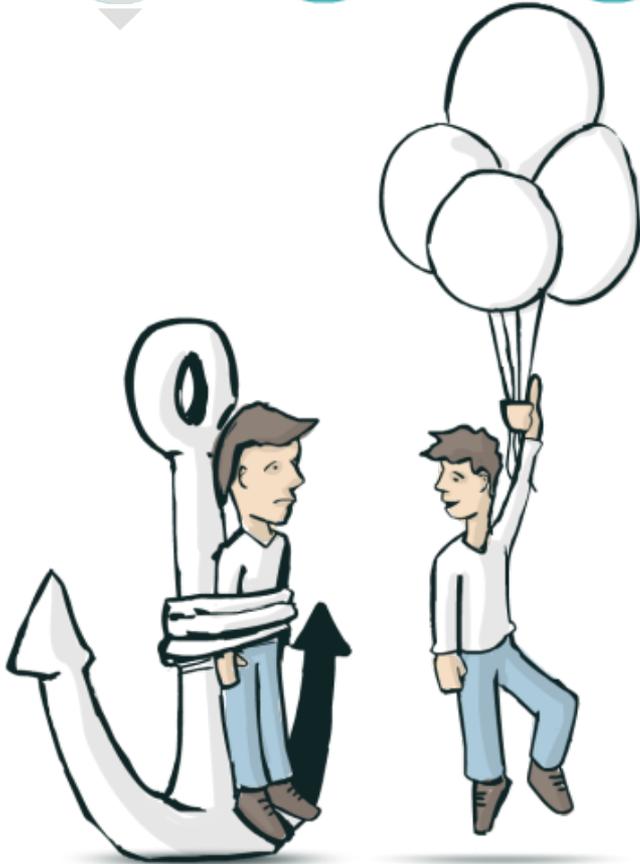
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Foundational Educational Memory



Students continually described a memory from early childhood that involved an educator either supporting their academic studies, or holding them back.

They referenced how this foundational memory now impacts their ability to focus, study, or make decisions.



College Selection



During high school, and sometimes as early as middle school, students described pressure to select a college. This selection was based on a number of factors, many of which were circumstantial and not academic (geographic proximity to “cool cities”, “my friend went there”, etc.)





Major Selection



Perhaps the most anxious part of the academic experience for the students we spoke with was the selection of a major course of study. Students described selecting majors based on little or no rational data, and feeling as though they were trapped with their decision. Changing major was described with feelings of shame or stress, yet it was a common thread from nearly all of our participants.



Major Renegotiation



After initially selecting a major, some of our participants followed-through on changing their major. This was a process of personal and familial renegotiation, and often had a direct connection to the shaping of identity in later journey stages.

This was a period of deep anxiety for the students we spoke with.





Resigned Commitment



Students described a feeling of resigned commitment to a course of study – not necessarily because they wanted to complete the degree or subject, but because their time had run out, the economics of change didn't make sense, or a host of different emotional reasons.



Insights

Students feel that college determines the “rest of your life”, and describe pressure and an urgency to constantly push forward.

Students of various ages and levels expressed uneasiness about their short and long-term future, and articulated worry about achieving the next perceived milestone. Additionally, each milestone is seen as critical, non-optional, and a “make-or-break” moment. For example, not registering for the right classes may result in not graduating on-time. This, in turn, is seen as disrupting opportunities for an internship. Without an internship, students fear they won’t get a “good job”, and without this job, they won’t be happy.

“I think everyone wishes they had a plan. Even if they don’t have a plan, they say ‘this is my plan’, because it makes them feel good to have a plan.”

Keith, 19 year old finance major

MyEdu users who have changed their major described feeling Anxious (22%), Confused (14%), and Scared (7%), while only 13% described feeling Happy.

n=1047, CI = +/- 3.2



Insights

Students have little or no guidance in selecting a major course of study, and often regret their choice.

Students perceive an urgency in establishing a major, primarily driven by social and emotional constraints (rather than financial or policy constraints). They select a major based on arbitrary criteria, such as what their friends are selecting, what's perceived as "easy", or what's convenient. Students expressed regret for their choice, after experiencing several courses or semesters in the given major.

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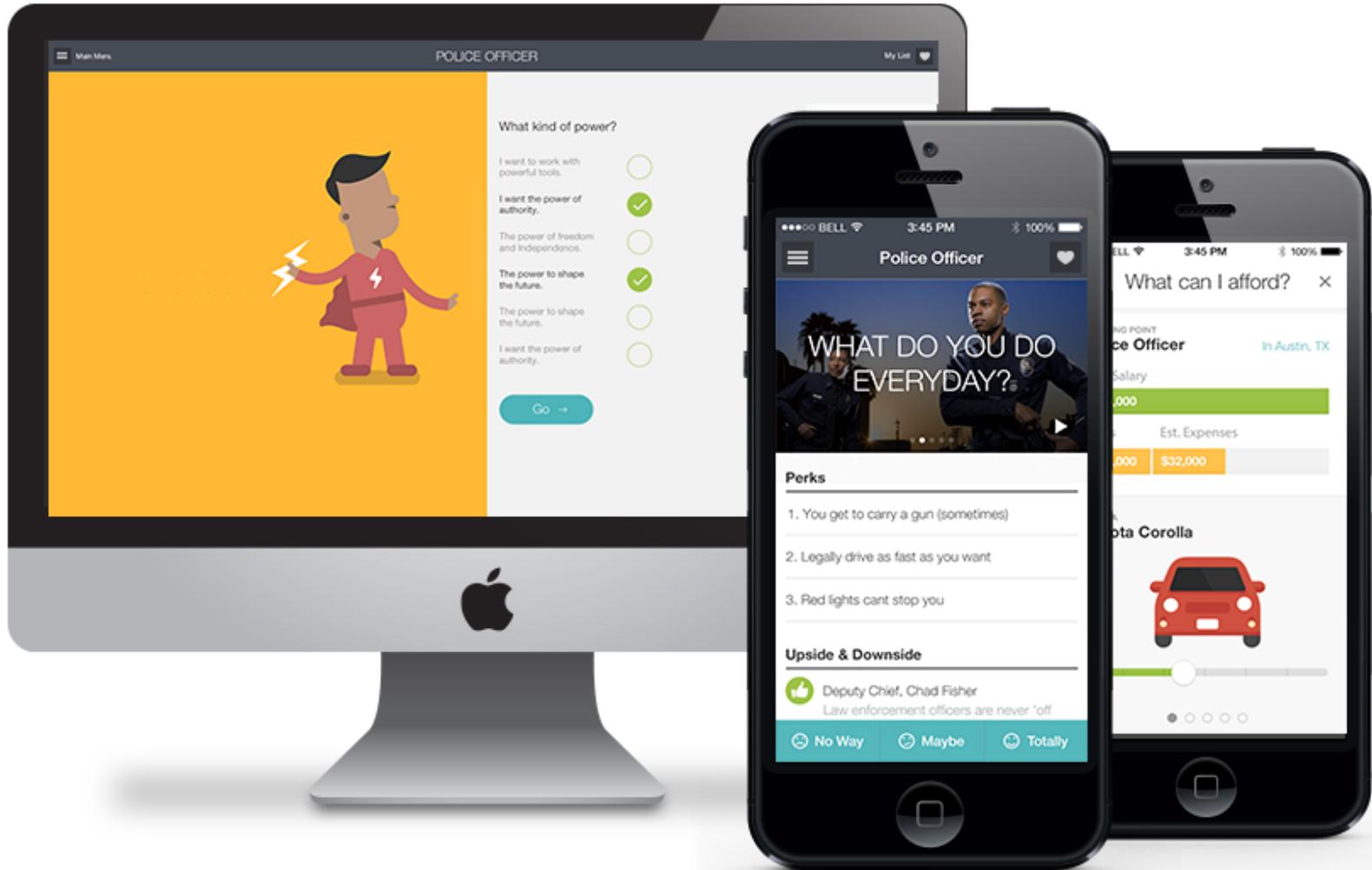
Samantha, 21 year old engineering major

56% of MyEdu users switched majors, or considered switching majors, during their college career.

n=1047, CI = +/- 3.2



Career Genie





Insights

Students have an ambiguous idea of what employers want, and they are often wrong.

Students have built an implicit understanding what employers are looking for in a hire, and use this understanding to shape decisions related to courses, effort, and work-life balance. Unfortunately, their understanding is not entirely accurate.

“Resume is like your life – it is your golden ticket to the chocolate factory.”

Maria, 21 year old international business major

“The most important thing is to have that experience because no one will hire you unless you have that experience.”

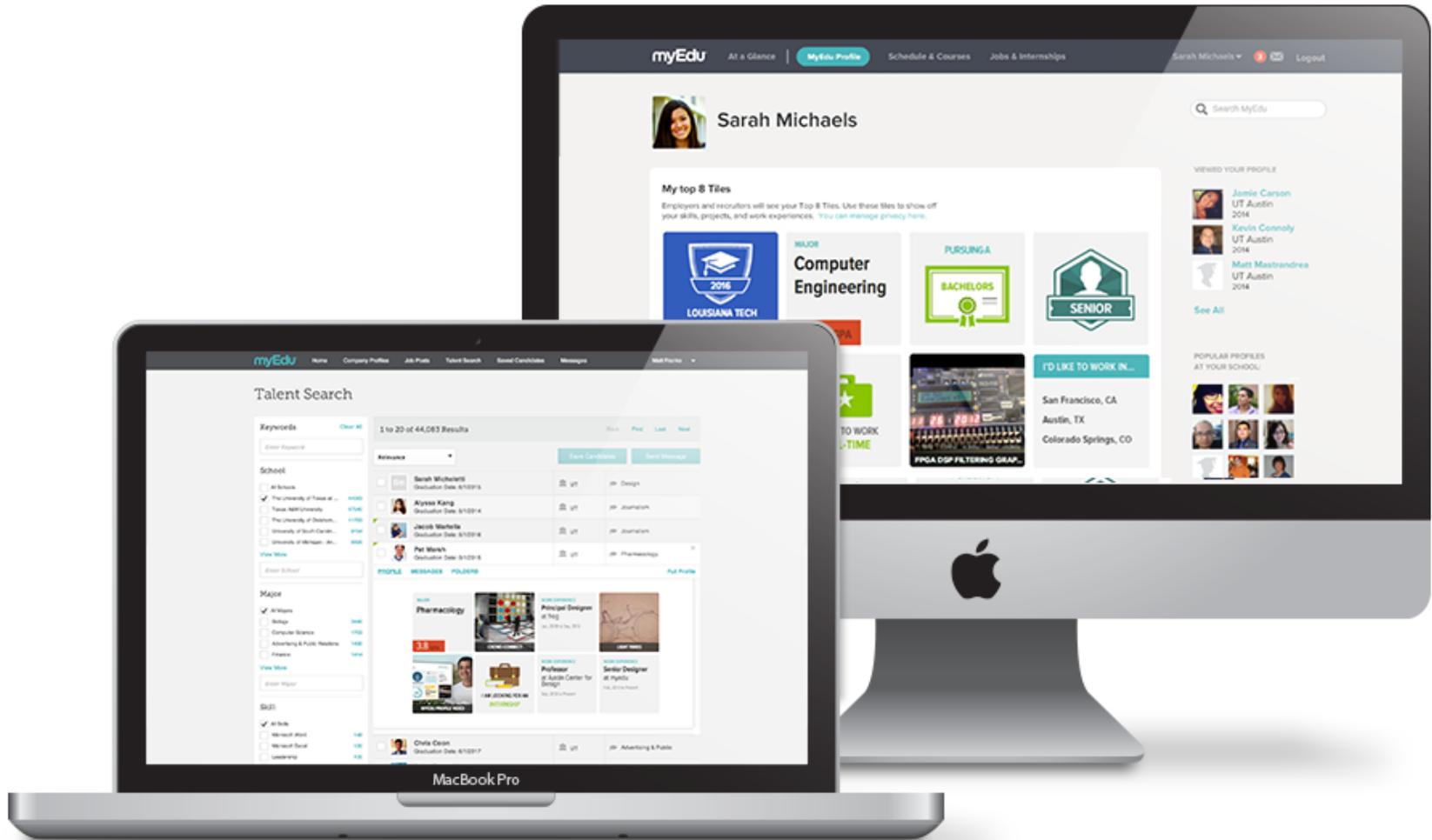
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67% of MyEdu users think they know how to present their skills to a potential employer.

n=1047, CI = +/- 3.2

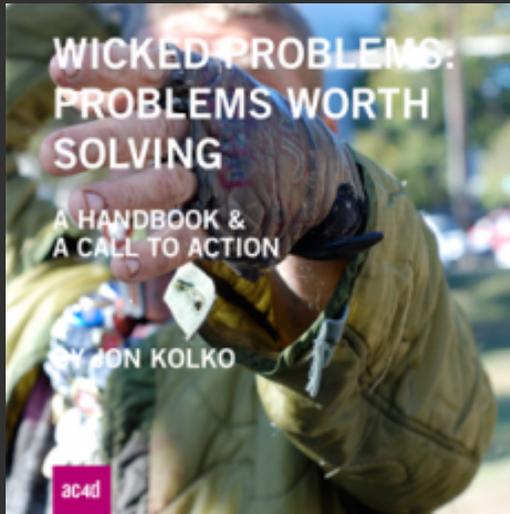


Employers Platform

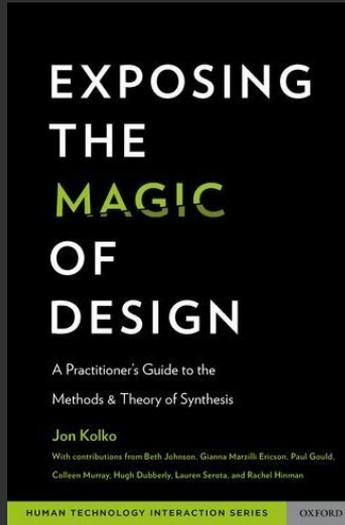


Reflection & Resources

Resources



Wickedproblems.com



Exposing the
magic of design



AC4D Design Library
Library.ac4d.com

Workshops

ac4d

Design for Impact Bootcamp

\$10 - March 23 – Austin Tx

ac4d

1.5 Day Bootcamp

Our Location or Yours

ac4d

10-Day Training & Creative Direction

Our Location or Yours

ac4d

Matt Franks

Professor, Austin Center for Design

mfranks@ac4d.com

http://www.matt-franks.com/synthesis_workshop.pdf

MyEdu: Academic Research



The Academic Journey

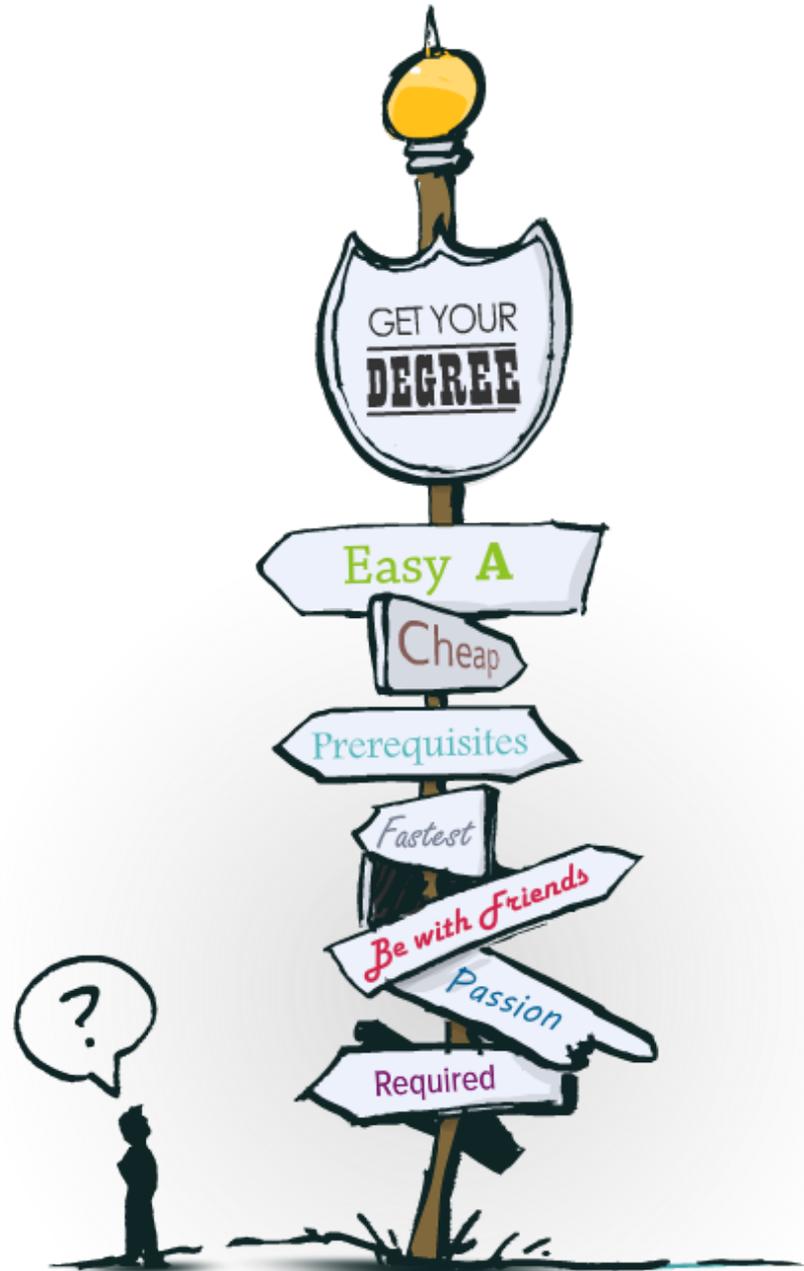
A research study about students, education, degree completion, and focus.

Q1, 2013

Jon Kolko

jkolko@myedu.com

Vice President, Design, MyEdu Corporation





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Method and Overview

This document summarizes research conducted with college students during Q4, 2012. Our researchers first engaged in contextual inquiry – a form of in-context, immersive interview – in order to understand and empathize with students of varying levels and experiences. Each session lasted approximately two hours. During these sessions:

- 1. Students were asked to describe their college experiences*
- 2. Students were asked to visualize their academic timeline, using prepared timeline artifacts as prompts*
- 3. Students participated in participatory design exercises intended to evoke emotionally rich anecdotes*
- 4. Students showed our research team a variety of artifacts used to support education, including physical and digital products and tools*

Following the research, the research team conducted a quantitative, statistically-significant survey of our 300,000 student profiles and 1+ million members, and then synthesized the data into a series of themes and visualizations. These were then used to derive insights – provocative statements of truth that are used to support the design of future products, systems, and services.



Primary Findings

Primary Findings

1. *Students think they are following a pre-defined journey (high school, college, major selection, internship, job), but the academic system does not provide such a clean-cut path, resulting in anxiety and a variety of tactical breakdowns.*
2. *Students feel urgency to make decisions; as a consequence, they often make decisions based on a poor rationale, and regret these decisions after the fact.*
3. *More and more students are now “non-traditional students,” as the traditional path is no longer available or appropriate for the majority of students.*
4. *Students demonstrate no real idea of how to present themselves to employers, yet they feel empowered to apply for a job or internship.*

Supporting Findings

These findings describe MyEdu’s 300,000 student profiles, based on a statistically significant, randomly selected sample (n=1047) at a 95% confidence level, with a confidence interval of +/- 3.2.

1. *Over half of students have switched or considered switching their major during their academic career; the overwhelming reason for this change was due to changing interests, and a lack of enjoyment in the first major selected.*
2. *37% of students consider themselves “Non-Traditional Students.”*
3. *When confronted with the thought of switching majors, approximately 22% of students reported feeling anxious, while only 13% reported feeling happy.*
4. *39% of students turn to their family for help with college and career decision making, prior to soliciting help from academic or career services.*
5. *6% of students report having no-one to turn to for help in making college and career decisions.*



The Academic Journey



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An early educational moment, where a primary authority figure establishes expectations around learning and work ethic

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Mentor

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Tools & Processes

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High school Survey

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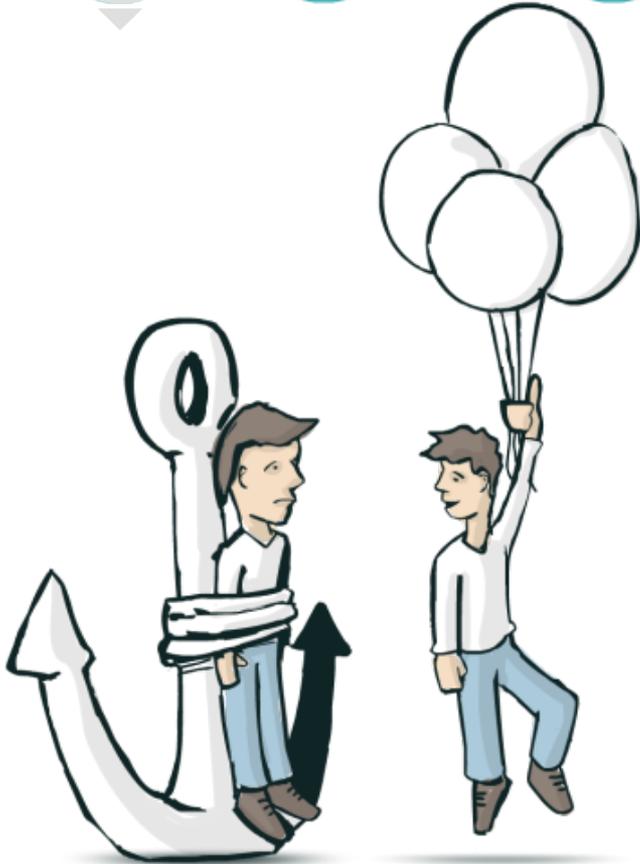
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Foundational Educational Memory



Students continually described a memory from early childhood that involved an educator either supporting their academic studies, or holding them back.

They referenced how this foundational memory now impacts their ability to focus, study, or make decisions.



College Selection



During high school, and sometimes as early as middle school, students described pressure to select a college. This selection was based on a number of factors, many of which were circumstantial and not academic (geographic proximity to “cool cities”, “my friend went there”, etc.)





Major Selection



Perhaps the most anxious part of the academic experience for the students we spoke with was the selection of a major course of study. Students described selecting majors based on little or no rational data, and feeling as though they were trapped with their decision. Changing major was described with feelings of shame or stress, yet it was a common thread from nearly all of our participants.



Major Renegotiation



After initially selecting a major, some of our participants followed-through on changing their major. This was a process of personal and familial renegotiation, and often had a direct connection to the shaping of identity in later journey stages.

This was a period of deep anxiety for the students we spoke with.





Resigned Commitment



Students described a feeling of resigned commitment to a course of study – not necessarily because they wanted to complete the degree or subject, but because their time had run out, the economics of change didn't make sense, or a host of different emotional reasons.



Non-Traditional Academic Experience



Some students described a non-traditional experience that dramatically changed their outlook on life and their academic trajectory. This experience – an internship, or a semester learning abroad in another country – seemed to either reinforce a good decision to change majors, or prompt a fresh set of introspection.





Identification of Aspirational Goal



For some students, the end of college brought about the identification of an aspirational goal. This goal – getting into graduate school, or landing a dream job – seemed directly tied to the renegotiation of course of study and to the non-traditional learning experiences.



Insights

Students feel that college determines the “rest of your life”, and describe pressure and an urgency to constantly push forward.

Students of various ages and levels expressed uneasiness about their short and long-term future, and articulated worry about achieving the next perceived milestone. Additionally, each milestone is seen as critical, non-optional, and a “make-or-break” moment. For example, not registering for the right classes may result in not graduating on-time. This, in turn, is seen as disrupting opportunities for an internship. Without an internship, students fear they won’t get a “good job”, and without this job, they won’t be happy.

“I think everyone wishes they had a plan. Even if they don’t have a plan, they say ‘this is my plan’, because it makes them feel good to have a plan.”

Keith, 19 year old finance major

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n=1047, CI = +/- 3.2



Insights

Students cite a strong familial influence in driving fundamental academic or career decisions.

Students describe how they select colleges, majors, and career paths based on off-hand comments from their parents, their parents' jobs, or attitudes they may have heard or learned from their relatives. This has the potential to conflict with the new-found autonomy students realize at college, leading to emotional conflicts about direction and future decision making.

"I used to want to be a criminal psychology, but my mom said I shouldn't do that because I wouldn't be a happy person after three years in that job...."

Nancy, 18 year old psychology major

39% of MyEdu users report turning to family members for help, before other sources like Academic Advisors (26%), online resources (10%), or friends (8%). Only 7% of MyEdu users turn to career services for help.

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Insights

Students have little or no guidance in selecting a major course of study, and often regret their choice.

Students perceive an urgency in establishing a major, primarily driven by social and emotional constraints (rather than financial or policy constraints). They select a major based on arbitrary criteria, such as what their friends are selecting, what's perceived as "easy", or what's convenient. Students expressed regret for their choice, after experiencing several courses or semesters in the given major.

"I didn't even want to do MechE; I wanted to do biomedical engineering. When I got to UTSA, it wasn't available. So I randomly picked mechanical engineering because I had a lot of mechanical engineering friends."

Samantha, 21 year old engineering major

56% of MyEdu users switched majors, or considered switching majors, during their college career.

n=1047, CI = +/- 3.2



Insights

Students feel trapped in their major, and describe a perceived social shame in changing their own trajectory.

Students continually described feeling as though academic milestone decisions were permanent – that changing majors was emotionally charged and carried a social stigma. Students referenced feeling as though they let themselves, their parents, and their friends down by considering a change of direction midcourse; students who followed-through on the change expressed feeling confident in their decision and happy that they made a change.

“I thought since I couldn’t complete the major, I was a little dumber than everyone else... It’s OK to change your major, no one will think less of you.”

Trisha, 21 year old sociology major



Insights

Advisors are seen as incidental, directive, or extraneous resources that are too busy to help and hard to gain access to.

Students described a number of different relationships with advisors, ranging from non-existent (“I don’t know who my advisor is”) to authoritative (“the advisor just tells me what to do”). Students expressed interest in advisor relationships that were more personal, consistent, and meaningful.

“I need someone who is OK with helping me one on one.”

Maria, 21 year old international business major

“This is frustrating to me because it’s hard to get an appointment – you feel lost.”

Ann, 52 year old criminal justice major



Insights

Students perceive the educational system as a black box, which operates in a confusing and machine-like manner.

Students view the educational system as a large and anonymous machine, one with systemic rules that are bizarre and often vaguely defined. They speak of the system as a necessary evil, one which adds anxiety but offers little value.

“College feels like a maze. I don’t know where I’m at in it.”

Samantha, 21 year old engineering major

“When you call financial aid, you talk to someone different every time. And you get different answers.”

Ann, 52 year old criminal justice major



Insights

Students have an ambiguous idea of what employers want, and they are often wrong.

Students have built an implicit understanding what employers are looking for in a hire, and use this understanding to shape decisions related to courses, effort, and work-life balance. Unfortunately, their understanding is not entirely accurate.

“Resume is like your life – it is your golden ticket to the chocolate factory.”

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Participants





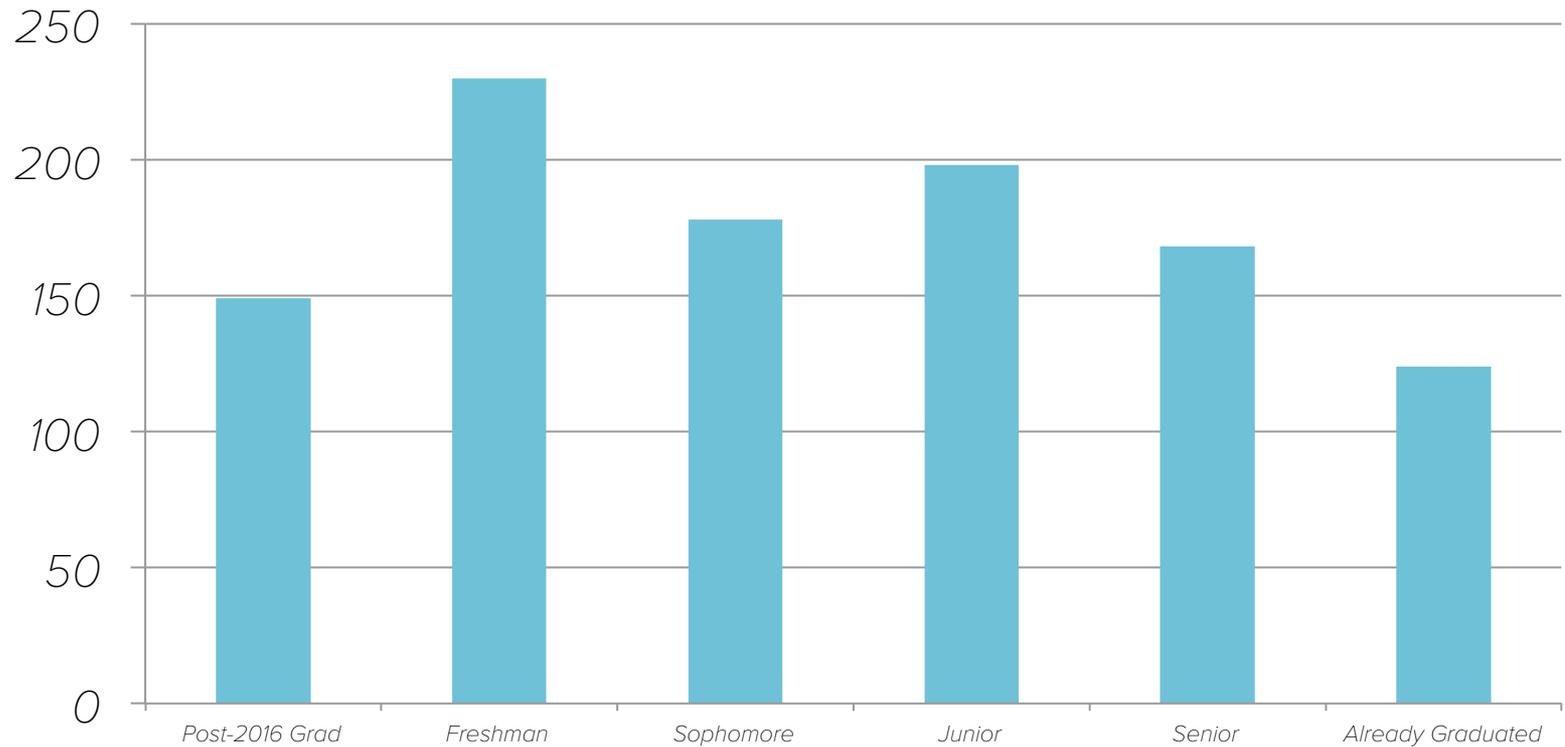
Synthesis Process





Survey Responses, By Question

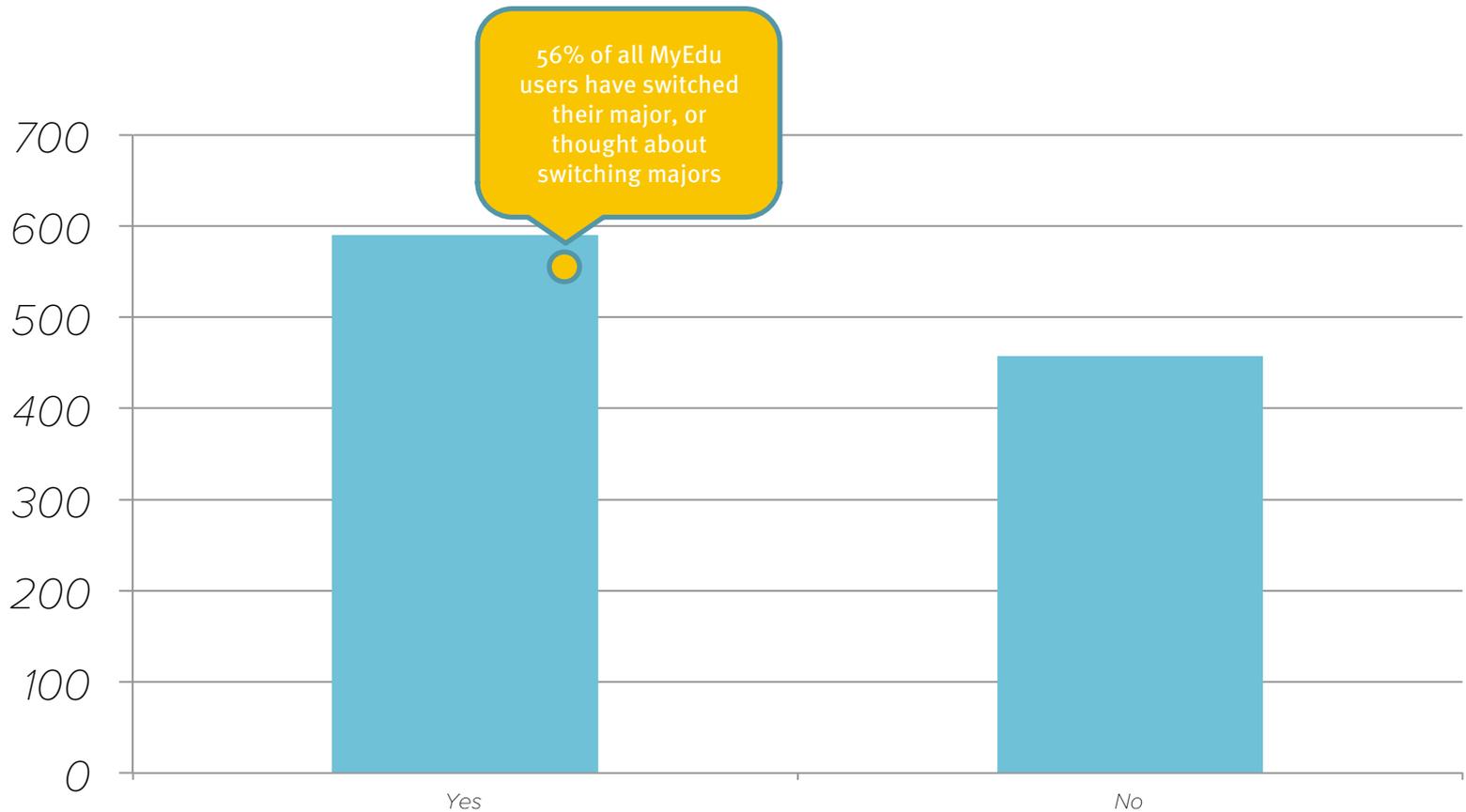
What is your classification in school?





Survey Responses, By Question

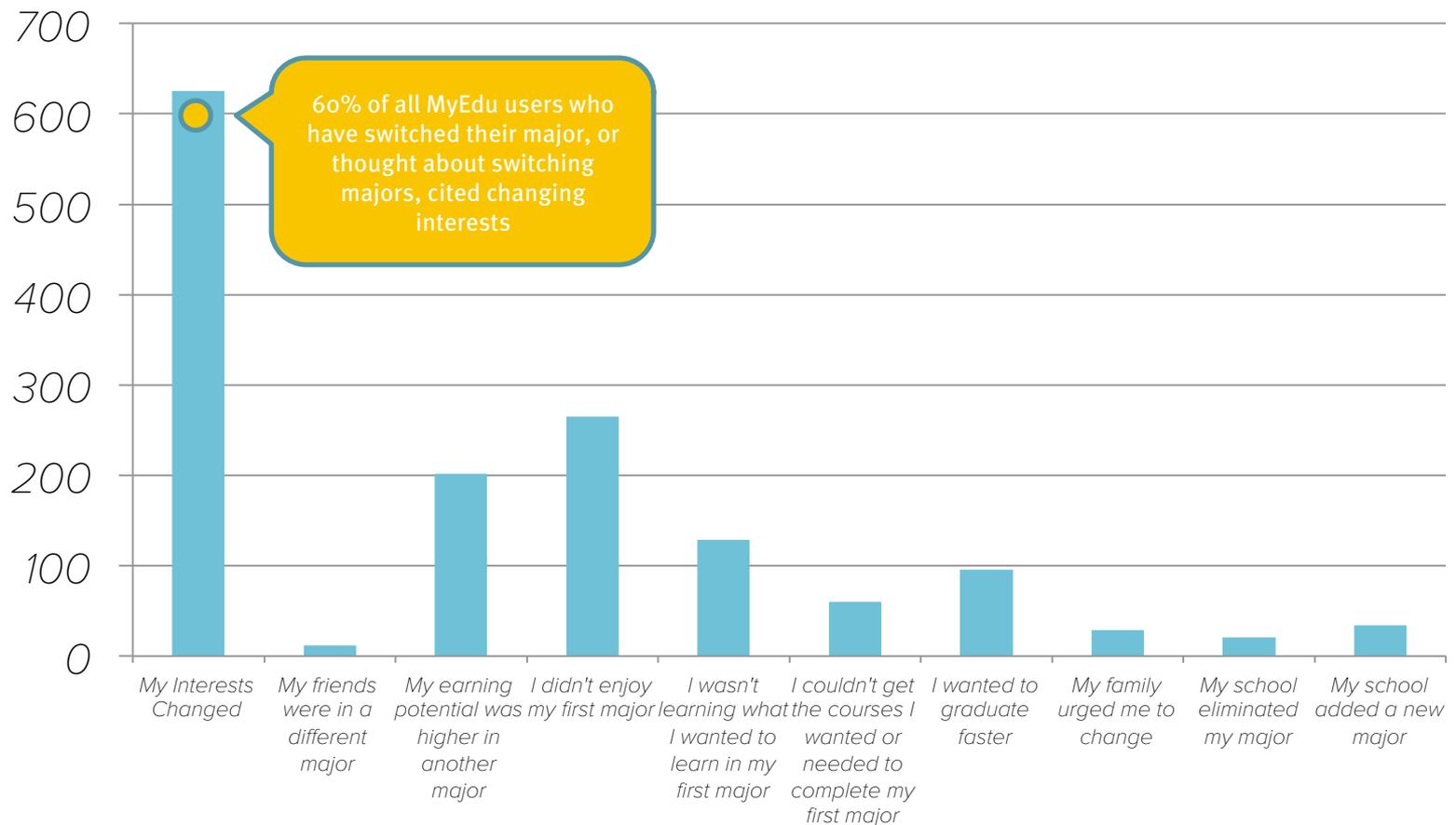
Have you ever switched majors, or thought about switching majors?





Survey Responses, By Question

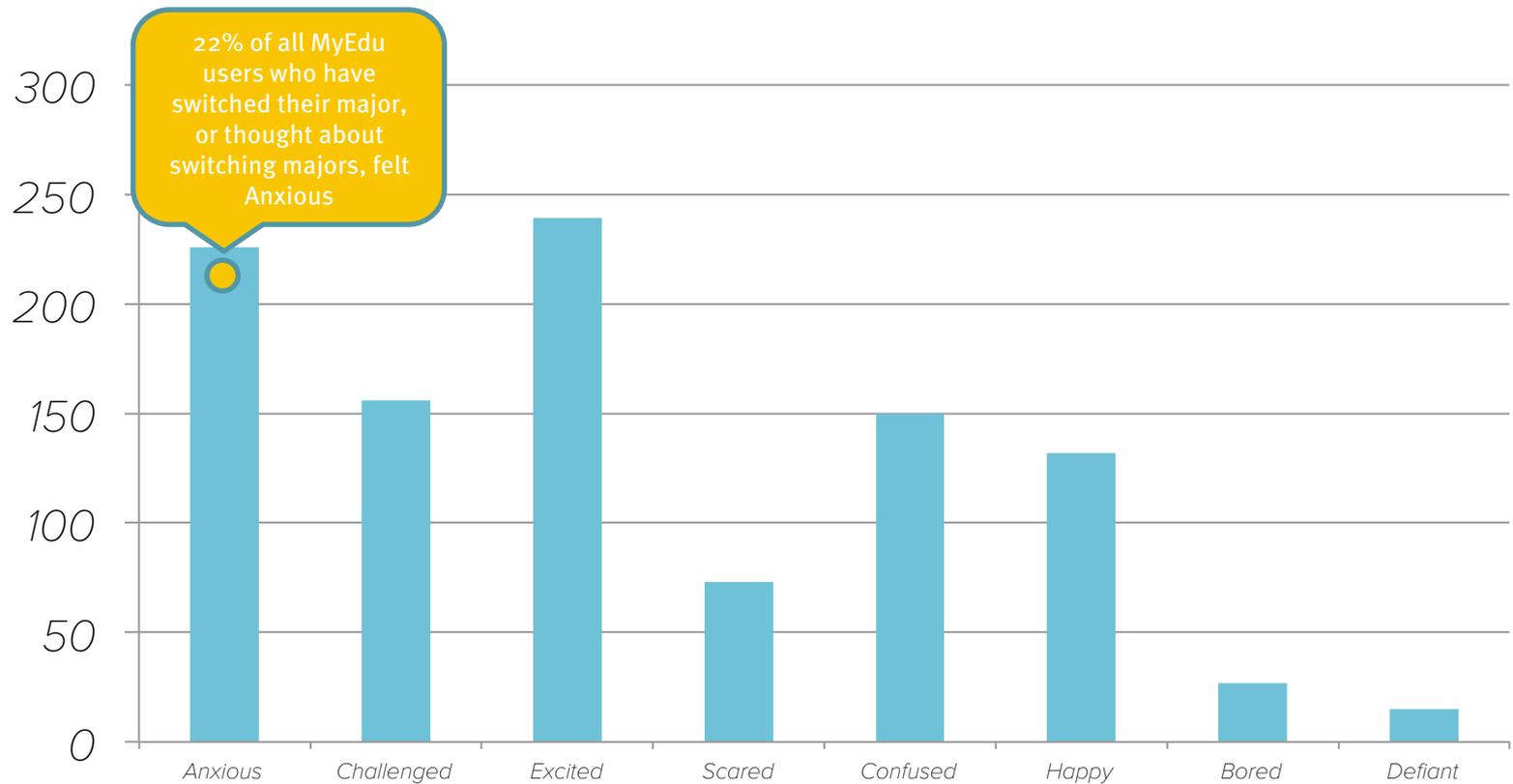
If you ever switched majors, or thought about switching majors, which of the following best describes why?





Survey Responses, By Question

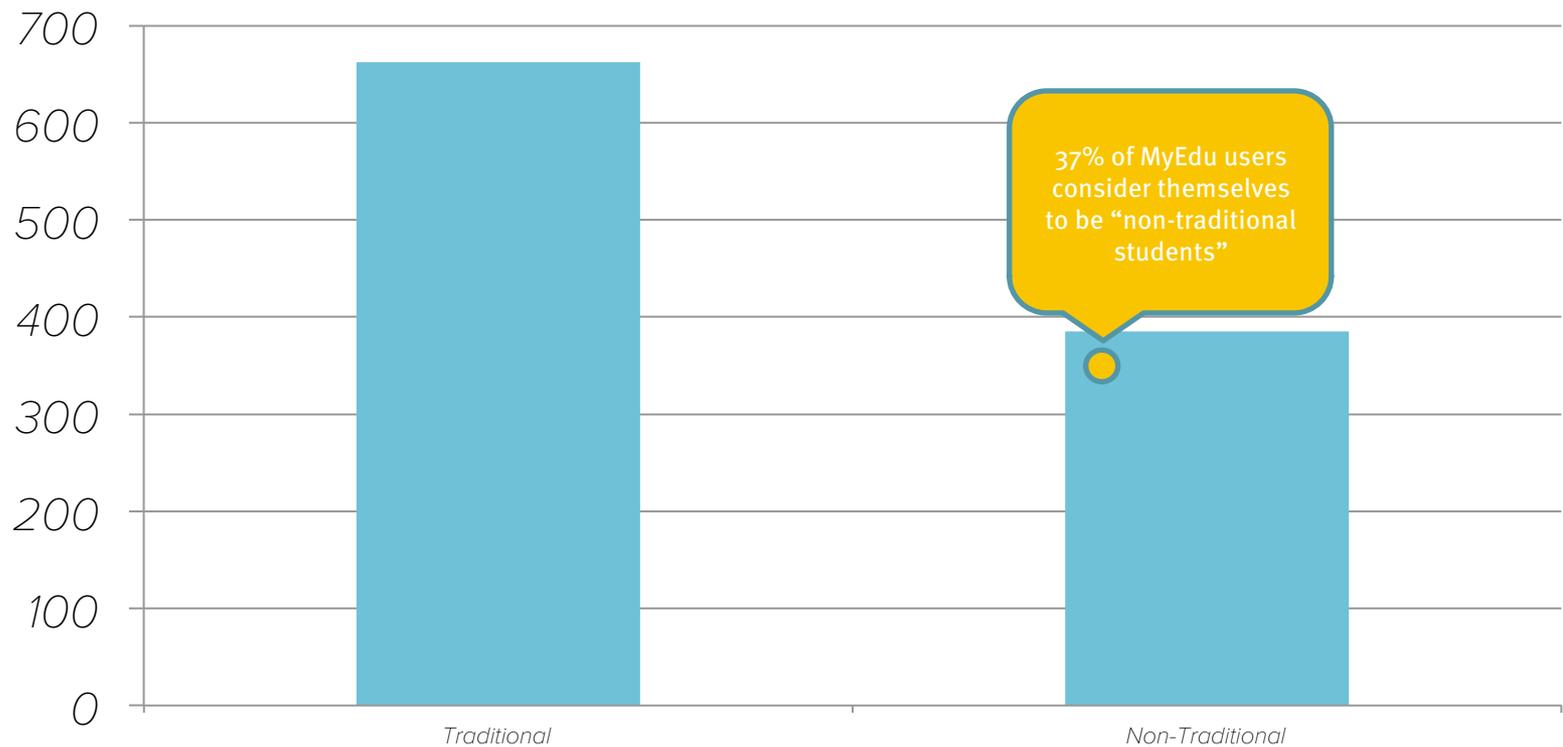
If you ever switched majors, or thoughts about switching majors, what word best describes how you felt?





Survey Responses, By Question

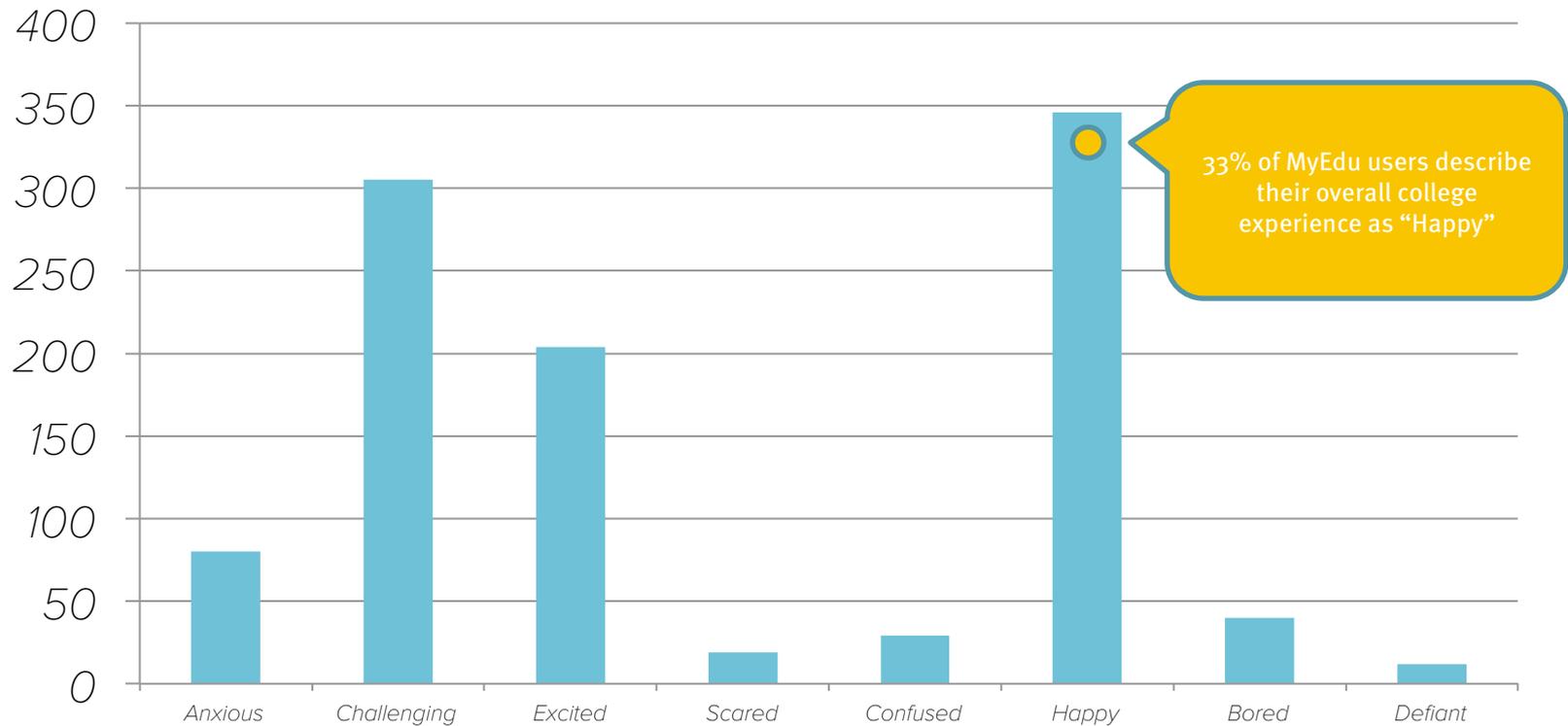
Would you characterize yourself as a "traditional student", or a "non-traditional student"?





Survey Responses, By Question

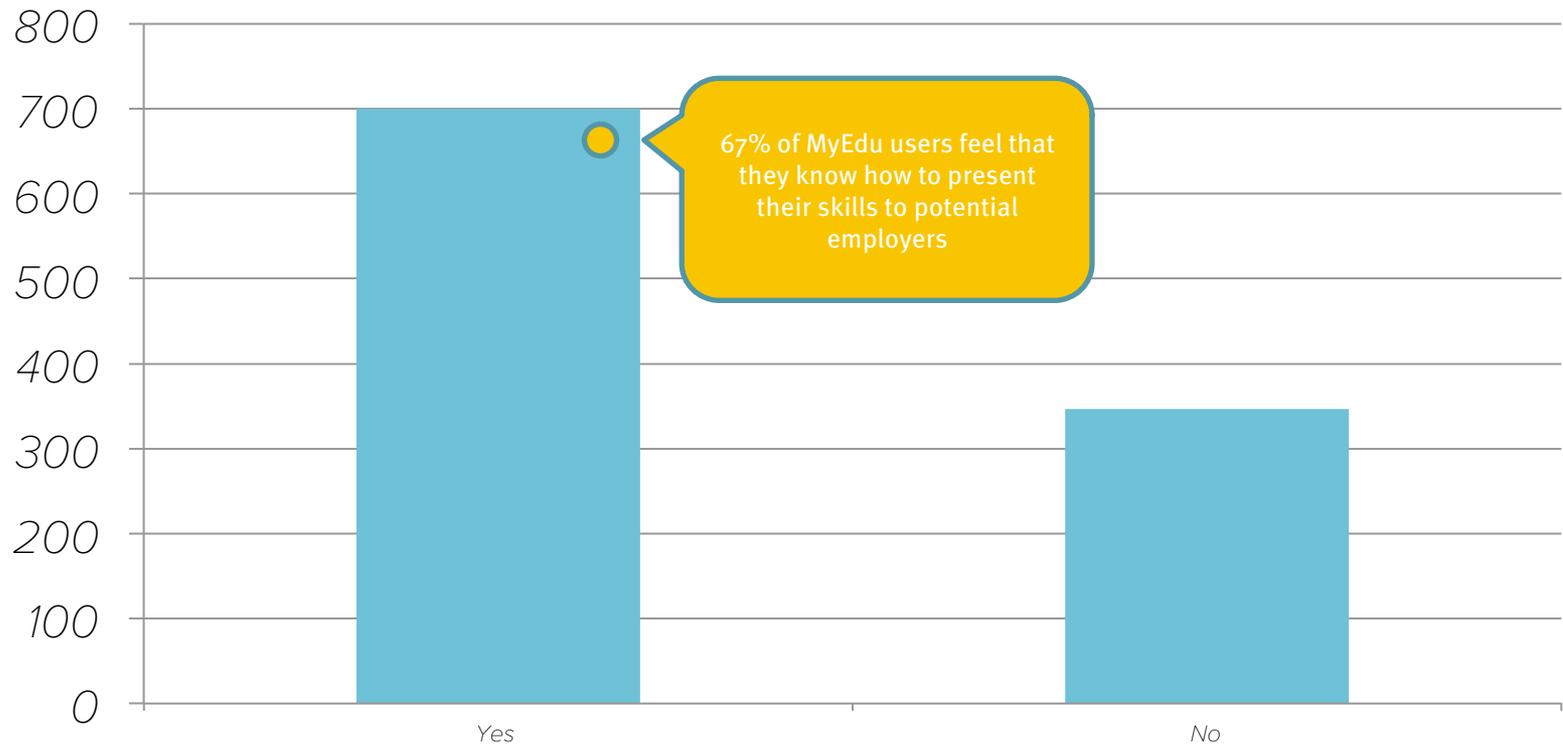
Which word best describes how you feel about your overall college experience so far?





Survey Responses, By Question

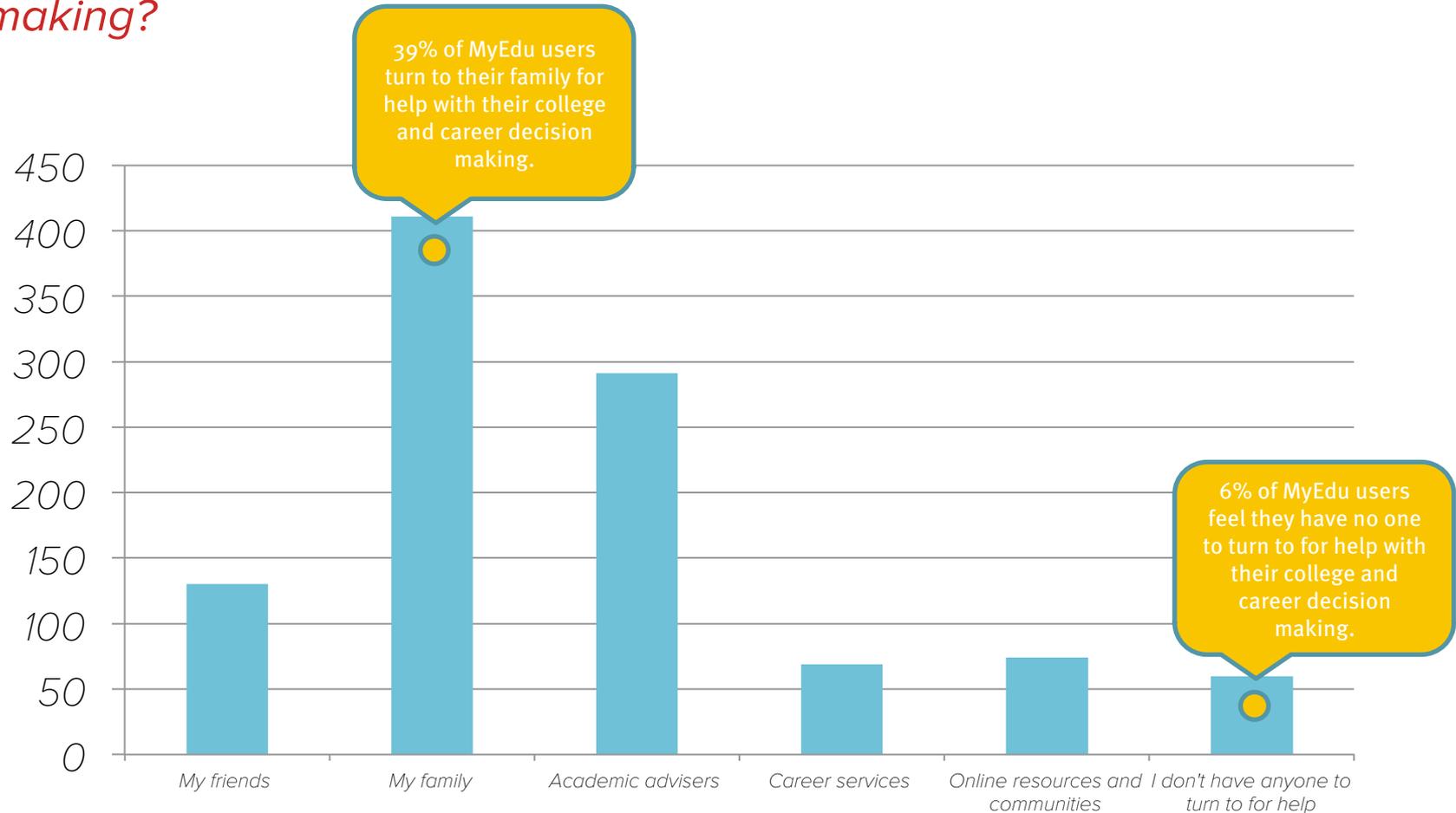
When you think about getting a job after college, do you know how to present your skills to potential employers?





Survey Responses, By Question

Who do you turn to for help with your college and career decision making?





Thanks!

Jon Kolko

jkolko@myedu.com

Vice President, Design, MyEdu Corporation