Toward a Heuristic for Teaching the Visual Rhetoric of Pitch Decks: A Pedagogical Approach in Entrepreneurship Communication

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ABSTRACT
This study examined how three successful entrepreneurs/investors assessed the visual rhetoric of actual pitch decks from novice entrepreneurs. We compare their evaluations to the result of a heuristic for assessing visual rhetoric, Color CRAYONTIP. While the pitch deck is recognized as a key artifact in entrepreneurship, no studies have specifically addressed the visual design of the deck nor the key design skills novice entrepreneurs should implement to effectively persuade potential investors of the idea’s promise. This preliminary and exploratory case study begins a dialogue on this topic by performing a visual analysis of seven novice decks which were deemed successful by experienced angel investors. The analysis revealed five key skills that appear to account for the success of these decks with the reviewers: rhetorical awareness, typography, color, photography, and contrast.

CCS Concepts
Human-centered computing → Visualization

Keywords
entrepreneurship communication; pitch deck; visual rhetoric; teaching; heuristic

INTRODUCTION
3:44: Three minutes and forty-four seconds. According to a study conducted by Tom Eisenmann of the Harvard Business School in collaboration with DocSend—a workflow and business documentation and analytics company (DocSend, nd)—3:44 is all the time that an investor will spend to evaluate an entrepreneur’s pitch deck. While three minutes and forty-four seconds may not seem like much time, literature on visual cognition paints a compelling case that people make rapid decisions based on visual first impressions (Willis & Todorov, 2006; Lindegaard et al, 2011; Clarke, 2011). Those first impressions “color” a person’s attitudes and expectations of what he or she sees or hears afterward, encouraging them to find the positive or the negative qualities in that experience to confirm their initial, visceral—visual—reactions (Seward-Barry, 1997; Rabin and Schrag, 1999; Norman, 2004). Additionally, research conducted by Mikels, et al. (2011) suggests that when faced with complex decisions, people tend to trust their feelings. Drawing on this work, psychologist Susan Weinschenk (2015) showed that designers can significantly influence complex decision-making by paying attention to design. In short, design matters for the quick decisions that busy investors make as they evaluate proposals they receive.

Given how rapidly investors evaluate opportunities and given the importance of initial visual response to guiding subsequent experiences, the quality of the entrepreneur’s pitch deck assumes incredible importance. Even though entrepreneurs recognize that pitch decks are important in investment decisions (Huang and Pearce, 2015), little work has been done to characterize this genre and no research discusses how best to teach this important genre to aspiring entrepreneurs. This preliminary and exploratory case study seeks to begin a dialogue about this topic, asking what makes a pitch deck visually compelling to potential investors and what those characteristics mean for how we might teach students of entrepreneurship to excel in this important business communication activity.

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BACKGROUND

Success in business and entrepreneurship requires effective oral and visual communication. The connection has been long established (c.f. Maes, Weldy, & Icenogle, 1997; Du-Babcock, 2006; Jackson, 2014; Kemmbach, Eppler, & Bresciani, 2015). Pitches are also frequently recognized as one key piece of communication practice for entrepreneurs, especially in the early stages of business development where entrepreneurs begin with seeking investments from “friends and family,” and then graduate to high net worth individuals, commonly called “Angel Investors,” who pool their resources for investments that range between $150,000 and $2,000,000 (Angel Capital Association, n.d.; Fundivo, n.d.; Prive, 2013). In this paper, we focus on the Angel Investor phase (Phase 3 of 5) because novice entrepreneurs are most likely to find external success here (beyond friends and family) and because their pitch decks will be most critical for success in this stage. Figure 1 depicts the central role that the pitch deck plays in the Angel Investor phase.

As Figure 1 demonstrates, the Angel Investor phase begins with an entrepreneur contacting an Angel Investor group by sending a pitch deck and associated documentation such as a business plan. The manager of the Angel Investor group reviews the pitch deck and other documents, decides if the opportunity is worth considering further, and, if so, has a follow up conversation with the entrepreneur. If the outcome of that conversation is positive, the entrepreneur will be invited for an initial “screening pitch” where the entrepreneur delivers an oral pitch about the business to a small group of Angel Investors. If the small group evaluates the screening pitch positively, the entrepreneur will then be invited to deliver another oral pitch to the entire investor group. This 20–30 minute oral presentation is followed by a rigorous question-and-answer session with the Angel Investors, and the Angel Investors present at this screening will then vote whether to advance the opportunity to the “Due Diligence” phase. Prior to the opportunity advancing, however, the pitch deck and any associated documentation will circulate among the Angel Investor group to allow those investors not present to express their opinions on the opportunity. After both those who were present and those not present have expressed their opinions, the opportunity either advances to Due Diligence or is abandoned.

Elaborating this process demonstrates the key role that the pitch deck plays and why it is so important for students in entrepreneurship to learn how to create effective decks. As Figure 1 indicates, the pitch deck often circulates by itself at least twice in the investment process—apart from the entrepreneur’s in-person oral delivery—at the initial contact with the Angel Investors and then again prior to Due Diligence. The pitch deck itself, without the persuasive power...
of a good speaker, largely determines whether an entrepreneur moves into Due Diligence at all. Given this process, the pitch deck itself—the actual visual artifact—is profoundly important because it can literally make or break an entrepreneur’s chances of securing investment.

**Literature Review**

Although the pitch deck is important in the process of securing funding, little literature has considered the deck itself. As the literature review that follows demonstrates, the commentary on pitches focuses mostly on content, but the actual product—the deck itself—has received scant attention with most of that from anecdotal accounts or popular media articles. To situate our study in the larger conversation, the review begins by discussing the role of oral competence in entrepreneurship, then considers the literature specifically on pitches, including scholarly articles, popular press books, and anecdotal accounts.

**Communication and Entrepreneurship Education**

The importance of oral competence in business has long been established and continues to be a topic of discussion in business education and communication journals. Indeed, in the guidelines presented by AACSB (the accrediting agency for business schools)(AACSB, 2017, n.p.), the very first element required within business education curricula is “Written and oral communication (able to communicate effectively orally and in writing).” Communication skills also play a central role in entrepreneurship and a growing body of work exists that investigates how these skills might be integrated into entrepreneurship education. For example, in a comprehensive study published by the World Bank, Valerio, Parton and Robb (2014) describe four major learning outcomes for “entrepreneurship education and training” (EET):

1. **entrepreneurial mindset** which addresses topics such as creativity, risk propensity, opportunity recognition and resilience;
2. **entrepreneurial status** which addresses topics including how entrepreneurship can change an individual’s status especially through building strong networks;
3. **entrepreneurial performance** which addresses the actual operations of an enterprise including profits and sales, cash management, job creation, and reinvestment into the company;
4. **entrepreneurial capabilities** which address the both subject matter expertise as well as management, leadership, and vocational activities.

The study suggests that **entrepreneurial capabilities** must include experiences in “literacy and numeracy” (Valerio, Parton, & Robb 2014, p. 44) that require participants to practice skills such as communication that are required to build and sustain a venture. According to the study, these communication experiences most often appear in mentoring relationships where learners prepare written business plans and receive feedback on their presentation style.

Valerio, Parton, and Robb’s (2014) work builds on a tradition of research into effective entrepreneurial education, which frequently highlights the central role that communication instruction plays for successful entrepreneurship. For example, Rondstadt (1985), and Vesper and McMullan (1988) argue that the ability to prepare and orally present business plans are among the chief interpersonal skills required for entrepreneurs. Building on this work, Hood and Young (1993) conducted a survey of executives in startups to determine the preferred skills and behaviors required for successful entrepreneurship. Of the top four skills identified in their study, two are communication skills: oral presentation skills and written communication skills (the other top two skills were leadership ability and interpersonal skills). Rae (1997) investigated entrepreneurship training in Asia and similarly found that communication, and specifically persuasion, was among the primary skills that entrepreneurs need to possess. These studies represent just a snapshot of thinking in entrepreneurship education which has developed a substantial body of literature over the last 30 years; however, one consistent feature of the research on entrepreneurship education is that communication—and oral communication in particular—represents a central skill that entrepreneurs must possess to succeed.

**The Role of Oral Pitches in Entrepreneurship**

Having positioned our study in a larger conversation about the centrality of communication in entrepreneurship education, we turn now to the literature that specifically discusses the role of oral pitches in entrepreneurship. Research on pitches has gained traction in the last decade, yet it remains focused on the role that pitches play in the general entrepreneurship process rather than discussing either the pitch deck itself or the best methods for teaching students to design pitch decks. As an example of both trends consider Baehr and Loomis (2015) whose book Get Backed: Craft Your Story, Build the Perfect Pitch Deck, and Launch the Venture of Your Dreams gives only the most general advice to entrepreneurs on the visual artifact while spending most of the book discussing the pitch process. In the chapter dedicated to designing the pitch deck itself, the authors focus on five key themes:

1. **Layout**: Use a consistent grid
2. **Typography**: Use one font for body text and one for headings or highlights
3. **Color**: Use only three colors, a major color, a neutral color and a highlight color
4. **Images and photography**: Use different shots appropriately and ensure high resolution; do not use stock photos
5. **Visualized data**: Use visuals that match the type of data with the presentation (portraits for things as they are; maps for where things are; charts for how many things there are; timelines for when things happen; flowcharts for how things happen; See Roam’s (2013) book, Back of the Napkin, for the original source).

To supplement the advice from Baehr & Loomis (2015), entrepreneurs could turn to general discussions of delivering effective presentations to deepen their knowledge. For example, Garr Reynolds’ (2007) book Presentation Zen has been wildly popular as has Nancy Duarte’s (2008) book Slide:ology. Either of these could provide entrepreneurs with a foundation in preparing effective visuals to supplement presentations. Edward Tufte’s (2003) scathing criticism of “PowerPoint Logic” also offers learners some guidelines, but it rehashes the familiar theme that content is all that matters. Indeed, according to Tufte, presentations fail precisely because they exhibit “a preoccupation with format.
not content, an attitude of commercialism that turns everything into a sales pitch” (p. 2). While entrepreneurs should heed Tufte’s advice about delivering quality content, the specific context of an entrepreneurial pitch is, in fact, a sales pitch and so Tufte’s criticism is misdirected here (Spinuzzi et al., 2015; van Werven, Boumeester, & Corneliussen, 2015). While these sources are useful and the examples they discuss could help young entrepreneurs think more carefully about their pitch decks, the advice is not evidence-based, it relies on common design principles, and it is not specific to the entrepreneurial context.

Guy Kawasaki’s (2015) book, The Art of the Start 2.0, is specific to entrepreneurship but repeats a similar pattern that doesn’t address the visual artifact at all. It argues that every pitch deck only needs ten slides: Title; Problem; Value Proposition; Underlying Magic; Business Model; Go-to-market Plan; Competitive Analysis; Management Team; Financial Projections and Key Metrics; Current Status, Accomplishments, Timeline and Use of Funds. If crafting an effective deck were as simple as Kawasaki’s cavalier treatment suggests, then far more young entrepreneurs would likely be receiving funding. Instead, Kawasaki’s approach seems, ironically, to downplay the pitch’s importance and his advice doesn’t address the visual artifact at all beyond simply saying that it should be designed well.

Other studies examine the pitch process and the pitch’s role in helping individuals decide whether to invest in a business. For example, Chen, Yao, & Kotha (2009) conducted a “persuasion analysis” of several pitches and determined that the presenters’ “preparedness” appears to be the most important feature driving investor decisions, even more than so-called entrepreneurial passion. The analysis scale used in the study, however, doesn’t consider the visual artifact and like Kawasaki focuses most prominently on content, facts, and evidence. Carpentier and Suret (2015) investigate similar concerns attempting to explain Angel Investors’ decision processes and determine that Angel Investors consider the entrepreneur’s experience most heavily. Their study also does not mention the pitch deck and argues that the most important characteristic of a presentation is how effectively the entrepreneur explains the match between a product and the market it attempts to address. Much like Chen, Yao, and Kotha (2009), Carpentier and Suret (2015) argue that investors are purely logical and that evidence alone accounts for the persuasive power of an entrepreneur’s pitch.

In comparison to the bias toward “rational” investors, some studies do tentatively point to the role of subjective factors related to the pitch. First, Clark (2008) divides “presentational issues,” such as delivery, from the content of the pitch. He finds that

The business angels’ level of investor interest was significantly related to their evaluations of the quality and content of the entrepreneurs’ presentations: the higher an entrepreneur’s overall presentation score, the greater the likelihood that the business angels would be interested in pursuing that investment opportunity. Presentational factors (relating to the entrepreneurs’ style of delivery, etc.) tended to have the highest influence on the overall score. (p. 257)

In other words, Clark finds that investors very much consider the quality of the delivery in addition to their concern with specific content types. Clark (2008) concludes that when Angel Investors evaluate the potential for an investment opportunity, they consider not only the substance of the business idea but also how the presentation was delivered. Therefore, the “presentational factors” of this consequential interface merit attention from researchers interested in helping novice entrepreneurs learn the skills necessary to effectively persuade investors.

Similarly, Galbraith et al. (2014) argue that because presentation software has become so ubiquitous, a pitch’s “design and sequencing…will significantly influence the audience’s perception of the underlying project’s potential” (p. 228). They also find that when pitches have better design, the investors assign more “entrepreneurial passion” to the presenter which not only helps to maintain listener attention but also positively impacts the listener’s assessment of an investment opportunity. Drawing on the statistically significant relationship between attractive design, passion, and perceptions of entrepreneurs’ abilities, the authors offer some initial thoughts on possible visual components that might lead to persuasive presentations, specifically the size of text and that at least 50% of the slides should have rich visuals. These findings repeat the well-known characteristics outlined in the books cited earlier (e.g., Reynolds, 2007, and Duarte, 2008), but as Galbraith et al. (2014) argue, these topics have only recently begun to receive empirical examination (e.g. Yusuf, 2011; Lucas et al., 2016; Cardon, Mitteness, & Sudek, 2017).

Finally, many sources exist online that provide anecdotal evidence for effective design of pitches such as www.pitchdeckexamples.com; “Lessons from a Perfect Pitch Deck,” or “The Ultimate Pitch Deck to Raise Money for Startups” from www.forbes.com, to name just two possibilities. However, these websites and many others aren’t grounded in quality research practices and suggest that students simply replicate the examples rather than thinking critically about what constitutes effective pitch deck design.

By comparison to the untheorized, “just copy this extraordinary example” model of these websites, our study examined early-stage pitch decks prepared by novice entrepreneurs against a set of well-known visual design principles contained in Newbold’s (n.d.) Color CRAYONTIP model. As a preliminary examination into the actual visual practice of novice entrepreneurs, this study explored the potential for Color CRAYONTIP to serve as an evaluation rubric from which we could then extract the most important principles to teach novice entrepreneurs. In other words, we sought to understand how a pedagogical heuristic for aspiring entrepreneurs might be developed by using a pre-established, thorough, design guide (Color CRAYONTIP) to see if pitch decks that applied its theories of design would better appeal to angel investors.

To help begin this conversation about the visual characteristics that might lead to effective pitch decks, we sought to answer these questions:

- What are the visual design practices used by successful novice entrepreneurs in constructing their pitch decks?
- How do those choices reflect accepted visual design principles as outlined in the Color CRAYONTIP model?
- Based on the alignment of design practice and visual concepts revealed, what are the core visual concepts that we should teach to novice entrepreneurs to help them generate the most effective pitch decks?

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METHOD

This study was reviewed and approved by the University of Texas Institutional Review Board, protocol #2017-02-0069 and participants consented to participation. Any information that could identify participants has been redacted and any personal likenesses have been replaced by artificially generated faces using www.thispersondoesnotexist.com. To perform our analysis, we collected 18 pitch decks from SEAL, a student entrepreneurship training program in Austin, TX. The pitches from SEAL evolved over the course of a six-week incubator program designed to help novice entrepreneurs develop their initial ideas into more fully-formed business models and learn the fundamental skills necessary to succeed in growing ventures. While these 18 decks certainly cannot be generalized for all successful entrepreneurs, we chose the student program because the intention of our study was to explore the most important visual communication concepts to teach novice entrepreneurs. Had we chosen to analyze pitch decks of successful companies, we would have lost the instructional focus for new entrepreneurs because more experienced and successful entrepreneurs frequently pay professional graphic designers to design pitch decks. Comparing the work of young entrepreneurs who design their own decks to the work of professional designers would not be a fair comparison, especially for instructional purposes. In sum, by working with novice pitch decks, we were able to begin exploring the most important, fundamental concepts to teach novices rather than overwhelming them with the entire spectrum of visual design choices available.

After collecting the 18 decks, we formed an independent panel of three successful entrepreneurs/investors to review the decks. The three evaluators represented Angel Investors and one former corporate acquisitions manager. The two Angel Investors were recruited from a large Angel Investor network in the Southeastern United States where one of the authors participated as an observer. The former corporate acquisitions manager had retired and served as an adjunct teaching entrepreneurship at the university where one of the authors worked. Combined, these three evaluators had invested in or started multiple companies. The evaluators received the novice pitch decks as .pdf files and were asked to give their opinions about which pitch decks they viewed as most compelling. They performed this analysis without any rubric or coaching and without the benefit of witnessing the actual delivery of the presentation that had occurred at the end of the SEAL program. Having the panel review the decks without witnessing the live presentation and using their own criteria served two purposes. First, the process enabled us to isolate the decks from the oral delivery of the pitch and to eliminate interference that might have been caused by the “presentational attributes” identified by Clark (2008). Second, investors often rely on their own experiences, intuition, and education to evaluate others’ proposals rather than employing a more rubric-based model common among academics and researchers. Therefore, allowing the evaluators to use their own criteria more closely approximated how actual investors would normally evaluate pitch decks.

The evaluators’ ranking revealed that seven decks consistently ranked highest across the three evaluators’ scores and these seven were chosen for further analysis by the research team. The remaining eleven decks were not considered further since the panel’s low rankings indicated that they would likewise not have considered them any further. Recalling the Angel Investor phase outlined previously, this approach mirrored the way actual pitch decks transact: they are submitted to investors who review them independently from an accompanying oral presentation and then evaluated for further consideration. Some are chosen and others are discarded according to whatever analysis criteria the investors might apply. Since the purpose of this study was to learn what characteristics made the successful pitches more compelling than those that were discarded, we did not ask the panel to comment further on pitch decks that they rated as poor and instead shifted our attention to the more successful decks.

After determining which pitch decks were rated most successful by the panel of investors, two members of the research team then independently looked for visual attributes appearing across the top-rated pitches using Newbold’s (n.d) “Color CRAYTONTIP” Heuristic. The Color CRAYTONTIP model divides 50 visual concepts into 10 major categories contained in the acronym itself (see the Appendix for the full rubric):

- Color
- Contrast
- Repetition
- Alignment
- Y (Why)
- Organization
- Negative Space
- Typography
- Iconography
- Photography.

The two evaluators independently scored each of the seven pitch decks on the 50 concepts from the rubric and then the team compared their rankings on each category to determine which of the categories appeared strongest among the successful pitches according to the aggregate score on the rubric. Using this method, the two investigators independently identified five overlapping categories where the pitches performed well:

- Y (Why or Rhetorical Fit)
- Typography
- Color
- Photography
- Contrast.

FINDINGS

Drawing on the method we previously described, the two heuristic evaluations agreed on five categories that scored most successfully across the seven student pitches: “Y” (Why); Typography; Color; Photography; and Contrast. The figures that follow highlight one slide from each deck as examples of the top five categories of visual communication that emerged from these pitch decks. These categories, in turn, represent the most important concepts to teach entrepreneurship students who are learning to build pitch decks.

(Note: Any identifying visual imagery such as logos or company names has been intentionally removed or hidden.)

Y (Why or Rhetorical Fit)
In the Color CRAYTONTIP rubric, Y refers to the rhetorical fit of a communication piece to its context. It asks evaluators to consider audience appropriateness, for example, as well as the effective use of complexity (to show more data) or simplicity (to improve elegance). It also addresses the traditional rhetorical concepts of *ethos*, *pathos*, *logos*, and *kairos* to explain how well a piece meets the rhetorical context. The slide in Figure 2 demonstrates some key components of rhetorical awareness.

Investors expect a pitch deck to reveal a business model. In this slide the business model is presented both in words on the left and in visual form on the right. The slide’s elegant presentation of the business model using muted colors establishes the idea’s credibility because it allows the model to stand apart from the words for easy comprehension. Additionally, the arrows on the three boxes emphasize how the company makes money which represents appropriate attention to the core message the slide intends to convey (the business model) rather than drawing attention to the design itself. Finally, the slide establishes appropriate pathos by presenting “just the facts” and not relying on emotional depictions of cars being towed with their unhappy drivers left behind (This business addresses issues of parking shortage in a major city). The visuals on this slide speak to the process—how the business will earn revenue—and therefore appropriately address the audience’s expectations of a business model slide. Equally important, the simple design focusing on facts (logos) helps an investor quickly comprehend the model and how it will solve the parking problem identified earlier in the deck. This slide, therefore, represents how this the entrepreneur establishes credibility by meeting the expectations of the rhetorical situation.

### Typography

The conventions related to typography are well established (c.f. Brumberger, 2003; Mackiewicz, 2007; Amare & Manning, 2012) and so it is not surprising that entrepreneurs demonstrate ability with typefaces. The evaluation rubric addresses the personality of the typefaces and using complementary styles (serif and sans serif, for example) as well as evaluating the legibility of individual faces and the readability that occurs through choices such as line length, line spacing and contrast. Figure 3 demonstrates some of these key principles.

The elegance of this slide is striking because it has very little text presented in a metaphorical form fitting to the topic (see “Y” above). While Arial is a somewhat generic font, when projected during a presentation (or reviewed on screen) it is highly legible. Additionally, the entrepreneurs chose to bold the type on the

### Color

Color conventions are largely cultural although many ways for effectively using color evolve from our experience in the natural world (c.f. White, 1990; Jones, 1997; Kostelnick & Hassett, 2003; Williams, 2015). As the first component of the Color CRAYTONTIP rubric, color plays a significant role in establishing a document’s effectiveness. For example, communicators must consider the color wheel to determine complementary, secondary and tertiary colors or that dark, desaturated colors express professionalism while fully saturated and bright colors seem playful. Finally, color must appropriately adapt to cultural and psychological concerns where specific colors express certain types of content (for example red represents STOP and green represents GO in Western countries). Figure 4 demonstrates how one company effectively used color in their slide deck.

For example, the blue text not only represents the business’s concern with water, it also draws attention to the key information on the slide—that this business already has sales. The different color highlights this key information for busy readers who might be quickly scanning the deck. The slide also uses only three colors (if we include the background): black, white, and blue, and the color links the major proposition on the slide. In other words, “market demand” appears in white which connects this term to
“300 showers per hotel” or “water efficiency initiatives,” for example. Additionally, the opening question, “Why target hotels?” also appears in white which connects it to the “market demand,” equating hotels, what happens at hotels, and the market demand. The slide also uses the contrast between black and white to enable easy reading on a screen or in a projected presentation. Finally, the slide uses highly saturated colors which according to Lidwell, Holder, and Butler (2010) conveys a sense of professionalism. In sum, while color might often be an afterthought for novice designers, this entrepreneur uses color quite effectively and subtly to emphasize key points while simultaneously enabling evaluators to scan quickly the deck without overlooking vital information.

Photography
As we learn from Kress and van Leeuwen (1996), photographs can communicate far more information than just the apparent content. Photographs can express power relationships, arguments, and direct attention, for example. Photographs, and visuals more generally, are often remembered long after verbal content and drawing on these aspects of photography, the Color CRAYTONTIP rubric asks authors to consider using photographs whenever possible. Photographs should demonstrate consistent style so abstract black and white photos, for example, wouldn’t be paired with full-color, concrete photography. Figure 5 demonstrates how one company effectively employs photography in their slide deck.

In entrepreneurship, a common refrain is “Bet on the jockey not on the horse,” and so potential investors are often as interested in the personalities and experiences of entrepreneurs as they are in the business idea itself. This slide consistently shows tightly cropped head shots of individual faces in black and white, and the focus on faces draws attention to the individuals who comprise this venture essentially saying, “We are the ones responsible for creating this operation. Trust us.” These founders are making this venture personal by attaching their faces to the idea represented in the deck. The two photos on the left side of the image could have been flipped 180 degrees so that the angle of the subjects’ shoulders was turned inward, but at least the gaze of these individuals is straight ahead 180 degrees so that the angle of the subjects’ shoulders was turned inward, but at least the gaze of these individuals is straight ahead which directly engages with viewers much like look someone in the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. 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The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also presents the most salient typography above the photographs so that the primary message here is that the eyes might. The slide also present...
Third, even though our results offer only a preliminary pitch’s persuasiveness, it often becomes more salient than content which works against a found with color and contrast. Indeed, when design doesn’t work allows the design to fade into the background so that excellent through elegant use of typography, color, photography and contrast, and Duarte (2008) characterizes the more successful pitch visuals Similarly, the “style of simplicity” espoused by Reynolds (2007) about effective pitch design: typography, color, and photography are more successful when evaluated by experienced investors. This could suggest that training in pitch deck design might benefit most by emphasizing these five design principles.

These preliminary outcomes lead us to suggest a heuristic approach to slide deck design in entrepreneurship pedagogy that includes four parts.

First, we suggest advising entrepreneurship students to focus on the five categories we uncovered—Y (why, or rhetorical fit); typography; color; photography; and contrast — because concentrating on these five categories can help young entrepreneurs ground their design work in a manageable set of concerns rather than attempting to teach the entire set of visual design possibilities. As Clark (2008) and Galbraith et al. (2014) found, presentation attributes were consequential in Angel Investors’ decision-making processes and providing young entrepreneurs with a basic design “toolkit” might help them to create more attractive designs that are more likely to influence investors.

Second, the top five categories appear to support the advice offered in prior literature. For example, Baehr and Loomis (2015) discuss three of the same categories when presenting their arguments about effective pitch design: typography, color, and photography. Similarly, the “style of simplicity” espoused by Reynolds (2007) and Duarte (2008) characterizes the more successful pitch visuals through elegant use of typography, color, photography and contrast, for example. Most notable here is “Y” because Angel Investors expect to see certain types of content, such as those topics Kawasaki (2015) outlines, and the effective use of these visual concepts allows the design to fade into the background so that excellent content can be emphasized by design subtleties such as those we found with color and contrast. Indeed, when design doesn’t work it often becomes more salient than content which works against a pitch’s persuasiveness.

Third, even though our results offer only a preliminary suggestion for the most essential design elements to teach novice entrepreneurs, the Color CRAYTONTIP rubric seems compelling as a method for invention and evaluation. The rubric contains 50 different questions that entrepreneurs can answer as they plan – or revise – their pitch decks. Thinking about effective design during the invention process and revising pitches using the rubric can help train young entrepreneurs to become more sensitive and sophisticated designers of all the communication pieces required for successfully launching a business, not just pitch visuals. Too often our commentary on visual texts is impressionistic and idiosyncratic and the Color CRAYTONTIP rubric certainly doesn’t eliminate this subjectivity. However, like all good rubrics, it does allow us to ground our opinions in accepted and researched categories.

Finally, the preliminary results provided by this study and the promise that the Color CRAYTONTIP model suggest must be validated through studies that employ methods which address the shortcomings of our study. For example, this preliminary case study only examined seven pitches in detail and those seven were extracted from a small initial sample of 18. Additionally, those 18 pitches were evaluated by professionals without the researchers knowing what criteria the evaluators used. The small sample size and the investors’ potentially idiosyncratic evaluation process make it difficult to know, let alone validate, if the rubric criteria align with what Angel Investors find persuasive.

To overcome the limitations of this initial study and to arrive at what might be most effective to teach, we recommend a multi-stage process. First, researchers need to collect many more successful pitch decks created by novice entrepreneurs designing their own decks which are then delivered in real contexts, such as Angel Investor sessions. While the seven decks we examined were “successful” novice decks because they rated the highest among our sample of 18, none of these decks (as of this writing) have received outside investment. This type of outside investment given to many more decks would provide concrete evidence of success with pitches that would confirm the investors’ notions of “successful” pitch decks. With this evidence of success, researchers could then determine if the elements we uncovered in our “successful” sample characterize other pitch decks created by novice entrepreneurs. In addition to collecting more pitch decks and securing evidence of outside funding, the criteria used by investors should be made more explicit. For example, the investors might participate in think-aloud protocols as they score the pitches, verbalizing their evaluation criteria. Those criteria could then be compared to the Color CRAYTONTIP heuristic to confirm the validity of the heuristic’s categories.

Drawing on these three improvements—a larger sample, evidence of external funding, and explicit evaluation criteria—researchers could then build a model of the visual features of the successful pitch decks, and that model could be taught to young entrepreneurs in incubators and entrepreneurship programs. These decks created according the model theorized by the research could subsequently be evaluated by investors and entrepreneurs without visual training to determine the “success” of the theorized decks compared against “control” decks prepared by other novice entrepreneurs who had not received the same instruction. Once a model has been constructed and decks based on the model have been validated through evaluation by actual investors, then the results need to be shared in classes and training programs for novice entrepreneurs.

At its core, the purpose of our study is to help novice entrepreneurs...
garner more success for their enterprises by successfully communicating their ideas in visual form. Most new entrepreneurs do not receive concrete, evidence-based advice about building their communication pieces and given the profound role that pitch decks play in the process from imagining a business to successfully launching the business, young entrepreneurs deserve better insights than the popular literature can provide. This study takes some initial steps toward revealing the visual concepts that might be productively taught within entrepreneurship studies, an activity that we believe will help future entrepreneurs succeed more frequently in this important activity of innovating and building new enterprises.

ACKNOWLEDGEMENTS
The authors wish to thank the participants in the SEAL program at UT-Austin for their willingness to participate in this study. We also would like to acknowledge the anonymous reviewers of this article whose kind and thoughtful advice substantially improved the quality of our work.

NOTE
All images published with permission where required.

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Angel Capital Association, n.d. “FAQs for angels and entrepreneurs.” Online: https://www.angelcapitalassociation.org/faqs/#What_is_an_angel_investor


DocSend, n.d. “What we learned from 200 startups who raised $360M.” Online: https://docsend.com/view/p8jsqsr


**APPENDIX: THE COLOR CRAYONTIP EVALUATION RUBRIC**

*(CHECK ONE: 1=not present at all; 2=only marginally present and not effective; 3=present and somewhat effective; 4=present and very effective; na = not applicable)*

<table>
<thead>
<tr>
<th>Color Total</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>na</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. The Color Wheel</strong></td>
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<tr>
<td>Use the color wheel to create matching color schemes that are monochromatic, analogous, complementary, split complementary, triadic, and/or tetradic.</td>
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<tr>
<td><strong>2. Four or Fewer</strong></td>
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<tr>
<td>In most cases, create your design using a color scheme of four or fewer colors.</td>
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<tr>
<td><strong>3. Emotion-Saturation</strong></td>
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<tr>
<td>Use dark, desaturated colors to express serious and professional. Use bright, desaturated colors to express friendly and professional. Use fully saturated colors to grab attention or to appeal to children.</td>
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<tr>
<td><strong>4. Color Psychology</strong></td>
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<tr>
<td>Know how people and cultures respond to colors; use color to show caution, danger, happy, jealous, scary, acceptable, and other related emotions and experiences.</td>
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<tr>
<td><strong>5. White is Nice</strong></td>
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<tr>
<td>Treat white as a color. Use white to communicate clarity, sophistication, cleanliness, professional, and even, in some cases, expensive.</td>
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</table>

<table>
<thead>
<tr>
<th>Contrast Total</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td><strong>1. Color</strong></td>
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<tr>
<td>Use contrasting colors for clarity and visual interest. If it’s a different color, it should be obviously different.</td>
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<tr>
<td><strong>2. Size</strong></td>
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<tr>
<td>Make the most important thing on the document the biggest and boldest. Use clearly different sizes for fonts and icons. If they’re meant to be different sizes, they should be significantly different.</td>
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<tr>
<td><strong>3. Typefaces</strong></td>
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<tr>
<td>Use different font families when using more than one font. Contrast serif body text, for example, with a sans serif or script heading. If they’re different typefaces, they should be very different.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Repetition Total</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>na</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Repeat Within</strong></td>
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<tr>
<td>Repeat all visual elements within a single document. Different typefaces, colors, sizes, shapes, layouts and so forth should be limited in number and repeated throughout.</td>
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<tr>
<td><strong>2. Repeat Across</strong></td>
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<tr>
<td>Repeat all visual elements across multiple documents to create continuity, clarity, and branding between documents.</td>
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<tr>
<td><strong>3. Visual Cues</strong></td>
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<tr>
<td>Consider designing visual cues—shapes, logos, icons—that repeat from page to page (or slide to slide) to make a document seem uniform and organized.</td>
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<tr>
<td><strong>4. Personality</strong></td>
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<tr>
<td>Keep the personality and/or professionalism of the document consistent by repeating styles in diction, tone, layout, and other content.</td>
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<tr>
<td><strong>5. Style Guide</strong></td>
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<tr>
<td>Develop and use style guides in order to repeat features of a brand identity, including color, layout, typography, paper weight, logo use, and so forth.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Arrangement Total</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>na</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Purpose</strong></td>
<td></td>
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<tr>
<td>Give purpose and show relationships to every object on a page. Avoid arbitrary placement or “floating” objects that don’t seem visually connected to anything else.</td>
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<tr>
<td><strong>2. Alignment</strong></td>
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<tr>
<td>Everything on a page should be aligned to something else. Avoid center-alignment for most layouts and text.</td>
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<tr>
<td><strong>3. Proximity</strong></td>
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<tr>
<td>Put related items close in proximity and unrelated items apart from each other. Avoid randomizing placements of objects and text on a page.</td>
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<tr>
<td><strong>4. Stability</strong></td>
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<tr>
<td>Arrange objects to show clear stability (or lack thereof). Objects that are flat and horizontal appear stable and calm. Vertical arrangement can appear more active. Tilted objects can appear in motion.</td>
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</tbody>
</table>
### 5. Position

Position objects strategically. Space implies time. Tilted objects imply instability. Objects in upper-half imply free and happy. Know the position’s purpose.

<table>
<thead>
<tr>
<th>“Why” (Y)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>na</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Expectation</strong></td>
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<tr>
<td>Match or intentionally interrupt your audience’s expectation(s). Use branding, document genres, tone, colors, and so forth that align with what your audience expects or hopes to see.</td>
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<tr>
<td><strong>2. Credible Complexity</strong></td>
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<tr>
<td>Increase complexity of a design or content to heighten credibility of data. Simplify a document to make it seem more elegant or sophisticated. Make a document busy to make products or services appear inexpensive.</td>
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<tr>
<td><strong>3. Metaphor</strong></td>
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<tr>
<td>Apply diverse visual figures of speech—such as metaphor, pun, hyperbole, metonymy, and so forth—to increase comprehensibility, creative interest, and meaningful depth of your communication’s purpose.</td>
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<tr>
<td><strong>4. Propositional Density</strong></td>
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<tr>
<td>Simplify visual design elements while increasing communicative propositions (or ideas to be communicated). Divide the number of propositions by the number of visual elements and seek for a number greater than 1.</td>
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<tr>
<td><strong>5. Rhetorical Four</strong></td>
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<tr>
<td>Make your document reach its audience through ethos (credibility), pathos (emotion), logos (logic), and kairos (timing).</td>
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</tbody>
</table>

### 5. Bleeds

To increase aesthetic interest and reduce visual noise, move the edges of some objects and images off the edges of the page.

<table>
<thead>
<tr>
<th>Typography</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>na</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Two Fonts</strong></td>
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<tr>
<td>Most documents should use two different fonts (rarely one or three or more), typically from two different font families. Use one font for headings and titles and the other for body text.</td>
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<tr>
<td><strong>2. Font Families</strong></td>
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<tr>
<td>Know your font families and use them appropriately. Most fonts can be labeled as one of the following: serif, sans-serif, script, decorative, or grunge.</td>
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<tr>
<td><strong>3. Personality</strong></td>
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<tr>
<td>Apply the appropriate font to the personality of your document. Recognize that subtle nuances in typefaces make big differences in the personality of your document. Avoid default and overused fonts.</td>
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<tr>
<td><strong>4. Legibility</strong></td>
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<tr>
<td>Be sure your font is legible for the specific word(s) you are displaying. Some typefaces work well for particular words but not for others. If a word is real common, you can use less legible fonts. For names, use only very legible fonts.</td>
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</tbody>
</table>

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**Arrangement Total**

**Organization Total**

**Negative Space Total**

**Typography Total**
5. Readability
Increase readability by increasing line spacing, using legible fonts, shortening line length, and using heavy enough weight to contrast background.

### Typography Total

<table>
<thead>
<tr>
<th>Iconography</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>na</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. The Four Types</strong></td>
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</tr>
<tr>
<td>Use icons to make reading quicker, more recognizable, engaging, and universal. Know the four icon types (similar, example, symbolic, and arbitrary) and apply the appropriate one to your communication purpose.</td>
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<tr>
<td><strong>2. Brand Recognitions</strong></td>
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</tr>
<tr>
<td>Use icons and shapes to enhance immediate recognition. While logos are useful to brands, icons and shapes can also be useful for non-brand-centric designs like wayfinding signs, handouts, and poster campaigns.</td>
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</tr>
<tr>
<td><strong>3. Mnemonics</strong></td>
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<tr>
<td>Use mnemonic devices in icons to make them more clearly linked to a brand name or idea (and thus easier to remember).</td>
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<tr>
<td><strong>4. Lines and Paths</strong></td>
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<tr>
<td>Use lines, arrows, and other pathway-creating visual tools to guide a viewer’s eyes and mind in specific, important, and intentional directions. Avoid lines and arrows where importance is already obvious.</td>
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<tr>
<td><strong>5. Pictographs</strong></td>
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<tr>
<td>Apply pictorial versions of data in charts and graphs to make information more readable and appealing to large audiences.</td>
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</tbody>
</table>

### Iconography Total

<table>
<thead>
<tr>
<th>Photography</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>na</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Picture Superiority</strong></td>
<td></td>
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<tr>
<td>For most designs, use as many pictures and icons as possible as long as the important information can be made clear and represented ethically. Audiences will remember communications with images up to 60% more than ones without images.</td>
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<tr>
<td><strong>2. Resolution</strong></td>
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</tr>
<tr>
<td>Use the appropriate resolution for the specific medium (72dpi for most digital and 300dpi for most print). Do not use images that are pixilated or distorted in any way; your document will lose immediate credibility.</td>
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<td><strong>3. Face-ism Ratio</strong></td>
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<td>When using pictures of people, increase the size of the face (and remove bodily features) to communicate personality and intellect. To communicate health, vitality, and sensuality, decrease the size of the face and include more body.</td>
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<td><strong>4. Direction</strong></td>
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<td>Make sure all faces look toward the inside or spine of the document. Avoid having images of people looking in the direction that goes off the page.</td>
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### Photography Total

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<th>Artifact Total</th>
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### ABOUT THE AUTHORS

Sean Williams directs the Technical Communication and Information Design program at the University of Colorado-Colorado Springs. His research focuses on the intersection of user experience design and communication in technical startups, both of which have helped him as co-founder of four new ventures.

Clay Spinuzzi is a professor of rhetoric and writing at the University of Texas at Austin. He studies how people organize, communicate, collaborate, and innovate at work. Spinuzzi has conducted multiple workplace studies, resulting in several articles and four books.

Curtis Newbold is an associate professor of communication and co-chair of the Master of Strategic Communication program at Westminster College where he teaches and researches in areas related to information design, business and technical communication, competency-based education, and self-directed learning.