

DESIGN FILMS

Implementing video creation techniques into undergraduate design education.

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Abstract. NJIT has been introducing video production projects into undergraduate design classes over the last two years. Linear motion projects open paths to understanding the built and virtual environments in ways that augment traditional design pedagogy.

1. Introduction

The ubiquity of smart phones equipped with video sensors has transformed the role of video in the lives of undergraduate students. Students frequently use their phones to create and share high-definition short format video content. The widespread social networks that students participate in propagate video content online. From Vimeo and Vine to YouTube, the phenomenon of “viral” videos have placed students in the potential role of linear narrative cultural influencers. Only a decade ago this role was shrouded in the realm of professional video content producers who could afford the cameras, equipment and skillsets to manage the production pipeline. The time has come to leverage these newly democratized technologies, techniques and perspectives in undergraduate design pedagogy.

2. Pedagogical Context

This paper chronicles the implementation of video production techniques in an undergraduate design school. The School of Art and Design at The New Jersey Institute of Technology was founded in 2008 within the College of Architecture and Design. Our school includes degree programs in Industrial

Design, Interior Design and Digital Design. It is clear that film can play an important role in the education of students across all three of these design disciplines.

The viewing and production of short films in the academic environment fosters a heightened engagement in students with the material presented (Kabadayi, 2012; Kruesmann, 2014). Additionally, the relatively recent focus on the “experiential” aspects of design is best studied, recorded, represented and discussed within the context of time-based mediums (Charitos, *et al.*, 2001)

In the past two years, NJIT’s School of Art and Design has implemented video production into design courses throughout several years of our programs. The inclusion of video production creates an immediacy and connection with students which aids both the pedagogical approach and bolsters students’ enthusiasm for fast paced project delivery.

3. Foundation Year Project

The Foundation year curriculum at the school has hewed closely to a traditional North American design school foundation. Students are engaged in the study of design principles that are broad-based and do not bias the application of these principles to any degree-specific projects. Courses in the foundation year cover topics that include colour theory, two-dimensional and three-dimensional composition, digital modelling, and art and design history. The project deliverables in these courses are typically written works or two- and three-dimensional static compositions in both analog and digital forms. Video and temporal-based media was largely absent in the first year curriculum with the exception of motion study that had been introduced in the context of film analysis for visual effect.

The faculty coordinator of the digital tooling course in the foundation year began including a video production project in the spring semester of the 2015/2016 academic year. The inclusion of this project was initially aimed at providing a skill set that could be leveraged in the subsequent design studio courses. After analysis of student work and discussion with other faculty in the relevant programs it was determined that the outcomes from the project confirmed its success as an introductory tool for design thinking, analysis and production, and provided a foundation for more directed student design inquiries using video format in later student work.

The foundation year video project assigns students the task of communicating a personal understanding of a basic principle of design drawn from a list that includes concepts such as line, shape, form, mass and color among others. Students are mandated to capture original footage in the built environment in a 1.5-minute-long video compilation. This exercise is

paired with classroom studies of abstraction to provide a more comprehensive exposure to design principles that are both theoretical and applied. The screening of the final films in an open design critique environment creates a combination of (time-based) visual and verbal feedback akin to the benefits described in the “cinematic treatment” of architecture (Brooks, 1988). The combined usage of comprehensive spatial film recording paired with thorough design analysis produces a result surpassing more traditional fixed and/or differentiated image-based design communication methods.

Students were required to film in locations that were readily accessible in order to revisit during the assignment. In-progress critiques often focused on student understanding of the dual aspects of quantitative facts (syntax) and qualitative impressions (semantics) that time-based site recording can provide. (Cheng, 2001)

With a short timeframe (1.5 weeks) for creating and screening the final edits of these projects, students had no choice but to clarify and distil their message. Unlike a traditional presentation board or non-linear digital presentation, there is no “space” for excess content or unheeded detail. The timeline of the video medium is inescapable and persistent.

4. Upper Level Projects

There has been a concerted effort to utilize video as a supplementary medium for design investigation and communication in the upper level studios of the Interior Design program. In spite of the wholesale adoption of digital technologies for design of the built environment, its use has been primarily concentrated in leveraging the advanced capabilities of three-dimensional and parametric modeling for output that still relies heavily on two-dimensional representation. To be sure, students have been able to generate 3D walkthroughs of their designs for almost two decades, however, exercises have been recently introduced in the interior design studios to explore a variety of other ways that video can be used to capture the temporal aspects of spatial experiences.

In a final fourth year studio in the spring semester before graduation, students were asked to use video production in three different ways throughout the course of the semester as they developed their projects: as a vehicle for creative exploration and development; as a research presentation tool; and as a device for conceptual expression.

The semester-long project focused on the study of culinary arts as an analogue for thinking about interior design and culminated in the design of a culinary school and restaurant facility. Students were first asked to study a specific aspect of gastronomic culture and to create an interpretive video of a

recipe that represented the essential characteristics and qualities of their category. They were asked to use a camera or a series of drawings that were digitally sequenced together to illustrate the process of creating the dish in a manner that was deliberately interpretive.

They were later required to present their building, site, and program research in a 2 to 3-minute clearly organized video compilation. Typically, this is done in a digitally sequenced series of slides that the student will orally present, so the challenge of relying on a temporal visual medium alone to create a coherent and self-explanatory narrative of their findings required alternative ways of thinking. By its very nature, video does not lend itself to text-dependent information. Therefore, the exercise was not an exclusively visual exercise; students needed to provide a narrative overview to clearly summarize the research findings that included interviews, site studies, existing building analysis, program, and adjacency diagrams.

Lastly, students were obliged to produce a conceptual representation of their final design using an animated GIF format. This required students to consider how our experiences of three-dimensional space are never static and embody movement and multiple perspectives. Video provided a terrific means of exploring this temporal aspect of interior design.

More than simply spatial documentation, the linear format and set presentation times for each exercise mandated that students edit their videos to distil the appropriate level of content for the given length. This became a very real constraint when students were obliged to play their pieces in front of an “audience” of both peers and design critics who needed to understand the students’ position to their topic by the end of this set timeframe. Acknowledgement of these constraints focuses their research into a channelled and tightly nuanced set of key points, aiding in the distillation of complex and potentially ever expanding topics.

One technique that students used to achieve a distilled and effective means of communication, was by leveraging culturally rich signifiers to expedite understanding. Visual cues such as the use of graphic iconography and typeface appearance played to their points while audio tropes such as heavily weighted popular music soundtracks allowed the audience to share in an immediate common cultural platform for the films.

5. Codification

The video projects implemented at the school in recent years can be codified into the following matrix of three distinct classes.

5.1. INDEX

The creation of a collection of topics or subtopics describing a design phenomenon.

These project types require students to use video production techniques to explore specific design principles relevant to the course curriculum. These may be very basic in nature or may investigate complex design typologies.

Example projects have included: an exploration of the traditional colour wheel palette in suburban New Jersey market produce (Figure 1); the codification of lighting fixtures and lighting effects over the day to night cycle in New York City public space; the use of a GIF to animate a spatial design quality within a completed student project (Figure 2); and the classification of gastronomic techniques and philosophies in contemporary cuisine.



Figure 1. Produce Colour Palette.



Figure 2. GIF Concept Image.

5.2. PROCESS

A sequence of steps often condensing a larger timeline into a short, edited deliverable.

The use of first person perspective in the cinematography creates an immediate connection between the viewer and the action(s) observed. When students are asked to document a process through the use of video, it reveals their design thinking more comprehensively than static images might and serves as a very effective teaching tool.

Example projects include: documentation of wood texture expressed through the transformation of a rough log that is gradually refined in a wood shop to become a finely polished cutting board; recording the sequence of following a prescribed recipe to make pancakes; cataloguing a series of steps in animated form to illustrate a model-making process (Figure 3); and, the investigation of a single walking sequence capturing built environment texture in each step at magnified scales (Figures 4 and 5).

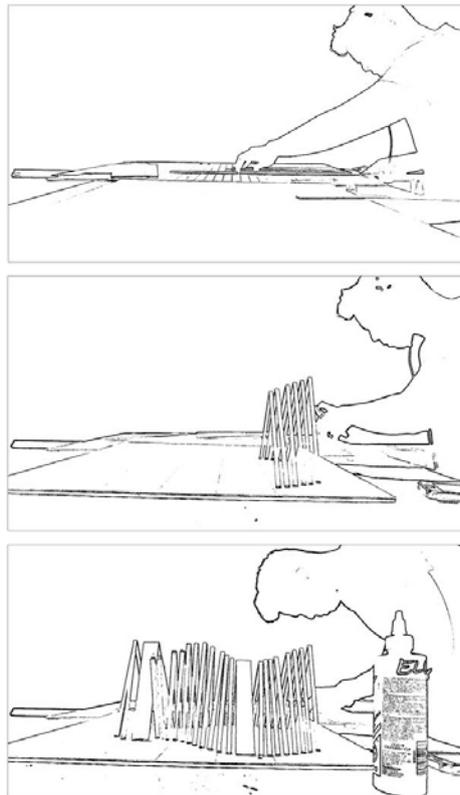


Figure 3. Model Making Process.



Figure 4. Built Texture (1 of 2).



Figure 5. Built Texture (2 of 2).

5.3. NARRATIVE

A linear story with characters playing recognizable roles.

Often these films leverage a clear beginning, middle and end (outcome) to create an understanding of a process, reaction or interaction. The characters may include unseen actors or stakeholders in this narrative account.

Example projects include: a day in the life routine of students capturing the encounters their bodies make with the built environment throughout a 24-hour cycle; the story of how ice cream is created viewed as a metaphor of a three-way love story between cream, sugar and chocolate set within a polar cabin (Figure 6).

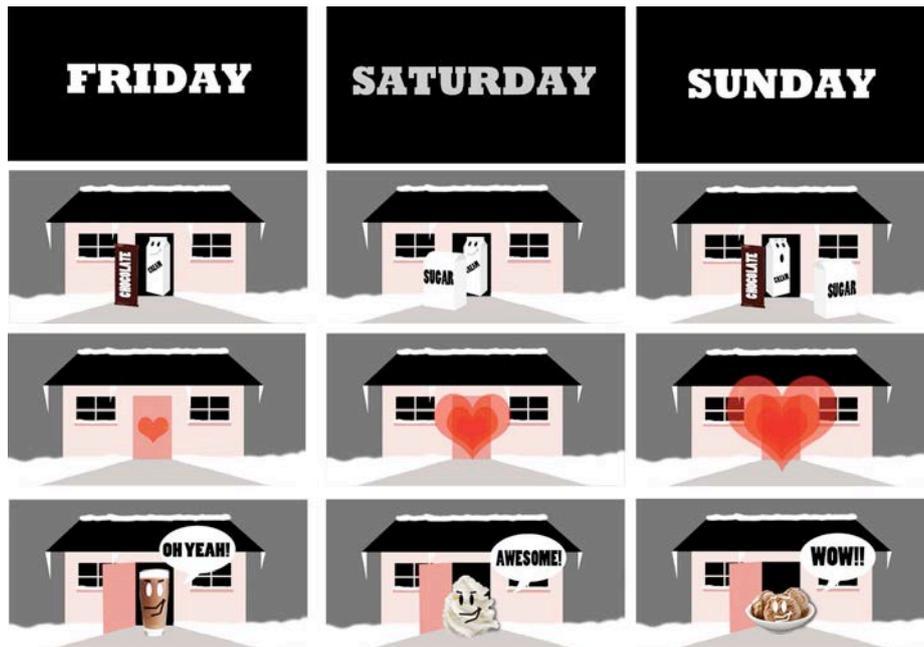


Figure 6. Ice Cream Creation Story.

6. Conclusion

Moving into a new academic year, the faculty at NJIT's School of Art and Design is actively engaged in a dialogue about how to create a learning environment that embraces an even broader, more expansive use of video as a legitimate medium of exploration and expression in disciplines currently unfamiliar with its potential. Learning outcomes have already demonstrated that students feel empowered as designers when the richness and immediacy of their work as video producers resembles the mediums they are familiar with and experience outside the academic environment. As video technologies and time-based media tools such as motion-capture and virtual reality become ever more accessible and affordable, it is inevitable that these will disrupt the current paradigm of studio courses in many design disciplines in a positive fashion. Continued experimentation and analysis of

the use of video production in the classroom will leverage these ubiquitous technologies with increased sophistication and self-awareness.

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