Preface

All the world’s a video,
And all the men and women have their players:
They have their Hulus, Rokus, and their YouTubes;
And one man in his time can watch the world.¹

We live in a video era surrounded by flat-screen televisions, myriads of monitors, and collections of mobile devices. Media flows everywhere, inescapable – it’s in our restaurants, in our cars, and even in our doctors’ offices. One video at a time is no longer enough to entertain as “consumers are turning to the so-called second screen like never before” (Hanas, 2012).

With video all around us, it seems natural to bring the screen into the classroom, but is it really valuable? Do students benefit from moving media? Can video improve learning?

LIGHTS: ILLUMINATIONS OF NEED

Students at Austin Peay State University certainly believe that video can improve instruction, as evidenced in our online statistics course. In response to a discussion board question about what is most and least helpful, students have said:

I love these videos and wish all online classes would have this.
I don’t miss a beat, and if I do, I can just rewind or pause to work a problem.
There aren’t words to describe my happiness with having these videos accompany the text.

Salmon Khan, who single-handedly created the most viewed educational video library on YouTube, explains, “There is a deep hunger for this type of thing.” Khan receives hundreds of emails daily from students around the world who are thrilled to have access to his videos. After watching Khan’s videos for a single summer, one student previously considered mathematically deficient earned a perfect score on a mathematics placement exam. He wrote to Khan, “I can say without a doubt that you changed my life and the lives of everyone in my family” (Khan, 2010).
Sebastian Thrun, already famous for the Google Glass project and designing a driverless car, became inspired by Khan to teach the masses for free. Along with his Stanford colleague Peter Norvig, Thrun hosted the most massive of Massive Open Online Courses (MOOCs) at the time: 160,000 students enrolled in one artificial intelligence course. Of these, 23,000 graduated from the course at Stanford level quality and 410 of whom surpassed even the best Stanford student that term.

How did Thrun and Norvig do it? One of the biggest obstacles to online learning, especially on this scale, is motivating and engaging the online learner throughout the course. Thrun and Norvig did just that by creating a gaming atmosphere where students would only advance to the next level after completing truly complex and provocative tasks. To implement this game-like atmosphere, they designed their own system of interactive video content embedded with questions that were both interesting and extremely challenging. Even though other technologies were used in the course, this video- and exercise-based learning platform was the primary tool driving the learning forward (Thrun, 2012).

Though these cases are impressive, they do not embody the rigor of scholarly research. What do empirical studies say about the value of video technologies in education?

**CAMERA: EMPIRICAL EVIDENCE FOR CAMERAS IN THE CLASSROOM**

According to a comprehensive review of 47 journal articles published between 2005 and 2011, an overwhelming majority of students claim lecture capturing – a video recording of classroom lectures for on-demand consumption – improves their learning experience. Most studies indicate that over 80% of students prefer courses with a lecture-capturing component. Lecture capture is generally found to have a positive effect on grades and course performance, to compensate for absenteeism, and to improve the learning experience and make learning easier (Pursel and Fang, 2011).

Zhang, Zhou, Briggs, and Nunamaker (2006) found that online students using interactive video content were more satisfied and demonstrated significantly improved learning (as measured by pre- and post-tests) than both online students without interactive video and, more impressively, students in a traditional classroom.

Rath and Gunter (2012) researched large-scale classrooms to see which Web 2.0 tools could be used to establish presence and help students succeed, even in classes as large as 900 students. Of the tools in this study – including an online discussion tool, Twitter, and Second Life – two tools emerged as clearly the most helpful for both learning and establishing presence: lecture capture and instructional video.

**ACTION: RESHAPING EDUCATION**

As evidence of the benefits of instructional video grows, the market for integrating this media ripens while classrooms are flipped and educational technologies are redesigned around visual media. Desire2Learn announced at their most recent users’ conference that they are introducing native video in their Learning Management System (LMS). Depending upon institutional settings, this native video feature allows both faculty and students to record video content directly through the LMS, without the
intermediate step of saving video to the hard drive first and uploading later. Native video is available in almost every part of the course, including the discussions, email, content, and assessment feedback areas (Desire2Learn, 2012).

TED (Technology, Entertainment, Design) has stretched its tentacles into the education arena by introducing TED-Ed in early 2012. TED-Ed allows educators to take a TED Talk – or any educational YouTube video – and create a lesson by adding interactive content and probing questions. Educators can then use TED-Ed to track which students watched which videos, for how long, and what students learned as a result.

Similar to what Thrun and other educational philanthropists before him have done, MOOCs are cropping up everywhere, delivering educational video to the masses. After successfully launching his artificial intelligence course, Thrun broke away from Stanford to build a set of MOOCs called Udacity. Massachusetts Institute of Technology (MIT) and Harvard fused their influence to create edX, and other prestigious universities jumped aboard the edX train. Coursera forms an even larger conglomerate of MOOCs with contributions from Johns Hopkins, Stanford, Rice, Princeton, Columbia, and twenty-seven other elite universities to stream top lecture videos for all to see and for all to learn.

Desire2Learn’s native video feature, TED-Ed’s tool, and the MOOC movement are each mere puddles in the pond of what is happening to education through video technologies. To better explore the changing shape of education, this book will lead the reader through a series of scholarly chapters on how visual media is being used to remodel the classroom.

CUT: A MONTAGE OVERVIEW

We intend for this book to be a balance between the scholarly and the practical – a guide for educators that, through research, establishes trust and shares practical applications for improving instruction within the higher education classroom, whether that classroom is face-to-face, online, or a blend of both. We aim the book toward an audience of higher education faculty, faculty development staff, instructional designers and technologists, and administrators, though most of the chapters have applications outside higher education as well.

We suspect many of our readers will want to pick and choose the chapters that appeal specifically to their needs, but we arranged this book in a natural order so that readers may, if they prefer, read from cover to cover to first be introduced to the tools and techniques for basic recording and then progressively learn more complex ways to design visual media experiences to maximize learning. The book is organized into five sections. We start with a vision of a future university environment where lecture capturing is the norm and then introduce the knowledge and tools that educators need before hitting the record button. Next, we dedicate one section of the book exclusively to lecture capturing and another section exclusively for the short instructional video. We follow these sections up with a section dedicated to pedagogy – chapters covering research-based best practices in using video technology. We end with a section of chapters dedicated to our students, emphasizing student-centered learning and student-created videos.

Section 1: Setting the Stage, as the title implies, provides background to prepare instructors for video and lecture capturing. We open with a vision of how a future university might function when lecture capturing has become a well-established norm. We move on to explore ways to find existing educational
video resources so time is not wasted duplicating the efforts of another. For those who will create their own video content, we talk about the tools available for video and lecture capturing.

We open with The Digital Lectern, a chapter that, though grounded by research, is much more visionary than scholarly. This introductory chapter was penned by the authors of the annual Mindset Lists, as featured on the Today show, in the New York Times, in the Wall Street Journal, and in many other prominent news media. The Mindset Lists use recent history and trends to put into perspective the mindset of traditional incoming freshmen, especially as that mindset might contrast with their professors. In this chapter, the authors analyze current trends in lecture capturing and use these trends as a basis for their vision of what college could look like in 2020 when lecture capturing has become a universal university experience. How will lecture capturing change the roles of homework and classwork? How will pedagogy be altered? What are the possibilities?

In Navigating Multimedia: How to Find Internet Video Resources for Teaching, Learning, & Research, we take quite a practical look at questions every educator should examine before spending thousands of dollars and hundreds of hours creating video content: Does the video I want already exist? The web provides an astonishing selection of educational resources. Search engines contain tools to mine visual content, but finding video content creates different challenges. This chapter, which goes far beyond Google, will guide the reader in how to search for multimedia content and will provide a showcase of innovative collections and resources.

To round out our Getting Started section, we spend two chapters highlighting the video technology tools that educators need to consider before beginning the video creation process. The first chapter focuses on three specific tools which can be integrated into classrooms to improve learning, while the second chapter provides a much broader overview of the tools available.

In Integrating Video Lecture Tools in Online and Hybrid Classrooms, the reader will explore a popular lecture capturing tool (Tegrity), a popular web conferencing tool (Adobe Connect), and a popular video streaming website (YouTube). This chapter focuses on how these three tools, as well as similar competitor’s products, can enrich online instruction. For each tool, the chapter dedicates a section to describing an overview, basic features, the pros and cons, typical costs, and tips for effectively integrating the tool into the online and hybrid classroom.

The Tools of the Trade chapter investigates and compares a much wider cross section of educational video tools – both hardware and software, both enterprise systems and desktop applications. Specifically, this chapter explores tools for screen capturing, video editing, video conferencing, video recording, and lecture capturing. While this chapter does not attempt the impossible feat of covering all of the video creation tools available, it does give an overview of tools for creating, editing, and delivering digital media content to enhance instruction.

Section 2: Lecture Capturing includes three chapters describing specific applications for lecture capturing technologies – software and hardware tools designed to record classroom lectures. One chapter will look at a traditional application of lecture capturing in delivering business courses, while the other two chapters examine nontraditional applications such as recording intimate counseling sessions and recording lessons that address the individual online learner instead of an entire face-to-face classroom.

In Using Presentation Capture in Counselor Education Programs, we examine how Emporia State University recently implemented a lecture capture tool for their counselor education program. Even though lecture capturing was designed to capture the classroom, Emporia State saw an opportunity to turn this tool to their own purpose: recording counseling sessions led by students for evaluation, review,
and feedback from their instructors. This chapter will explore exactly how Emporia State’s program implemented lecture capture, including special measures to ensure that all Health Insurance Privacy and Accountability Act (HIPAA) requirements were satisfied. Most impressively, this chapter will detail an empirical research study that Emporia conducted to gauge the effectiveness of capturing client sessions via lecture capture. Results indicate that both students and faculty found the tools quite easy to use and credited these tools for significantly enhancing the quality of their counseling education program.

Students Performance and Perceptions of Business Courses Delivered Using Lecture Capture assesses a traditional lecture capturing approach in the College of Business Administration at the University of Central Florida. Within undergraduate business courses, this assessment compares performance and withdrawal rates for students taught with lecture capture to students taught using face-to-face instruction. Results indicate no statistically significant difference in performance between these two groups. Freshman and sophomores showed higher withdrawal rates while using lecture capture than face-to-face, while upperclassmen showed no significant differences. This chapter also examines student perceptions of lecture capture, most of which were quite positive.

The final chapter for lecture capturing section, Toward LessonCapture: A New Approach to Screen-casting and Lecture Capture, serves as a segue to our next section on short instructional videos. This practical chapter advises faculty of methods in optimizing quality while recording either lecture captures or short instructional videos. The author uses the term LessonCapture to describe an approach to designing and creating educational video content using proven public speaking principles, presentation design ideals, and instructional multimedia fundamentals to improve learning and ensure content reusability.

Section 3: Short Instructional Video examines two unique applications for short video content – one for grading and feedback and another as an online tutoring resource – as well as a chapter on the pedagogy behind using humorous short videos in the classroom.

We begin with Video Capture for Grading: Multimodal Feedback and the Millennial Student. Here, the author uses a screen-casting tool to record a short video as she critiques each student’s paper. As the instructor scrolls through and discusses the different parts of the paper, her screen, mouse movements, and voice are all recorded and made available to the student for playback. This chapter evaluates qualitative research on student sentiments toward this type of feedback. Results indicate that students prefer screen-casting assessment to traditional written commentary. With video feedback, students gain deeper insight into the instructor’s thought processes through more detailed explanations of why each part was graded the way it was. Students also gain a better sense of the instructor’s tone with access to the voice behind the words.

Creating and Implementing a Virtual Math Tutoring Lab for Undergraduate Students describes how mathematics faculty at the University of Tennessee at Martin teamed together to build an online, on-demand tutoring resource for their undergraduate students using short, instructional videos to convey content and demonstrate examples. The faculty exclusively used the Livescribe SmartPen to very simply record their voices along with everything being written or drawn by this pen on special paper. The author found this technology to be so simple that any faculty member could record with the pen, regardless of technological prowess, and then someone with sufficient savvy could collect the pens and upload the video content.

In Videagogy: Using Humor and Videos to Enhance Student Learning, video technologies merge with pedagogy to form videagogy – a technique using short, humorous, educational videos to improve learning. Research tells us that, when content-related humor is employed, we learn more effectively and enjoyably. Humor can also relieve stress by lowering cortisol and epinephrine levels and by releasing
endorphins. This chapter connects research with practical ways of integrating humorous video content into the classroom.

Section 4: Research-Based Best Practices will delve even deeper into the pedagogies behind using video technologies in the classroom. Two chapters advocate specific video-related practices through which research suggests we can improve learning and foster social, teaching, and cognitive presence in the online classroom. We’ll wrap up this section with a mediator'esto calling attention to the need for better screen media literacy in today’s society.

The chapter on Using Video and Web Conferencing Tools to Support Online Learning delineates between video conferencing, which networks together non-Internet-based interactive television systems to communicate, and web conferencing, which includes any sort of online, synchronous meeting and which may include video. The authors explore how these two conferencing tools can influence learning and establish a sense of presence as described by the Community of Inquiry teaching model. This chapter also describes both teaching-centered and student-centered approaches to conferencing.

Similar to the previous chapter, Using Video to Foster Presence in an Online Course explores how the short instructional video, rather than conferencing, can establish a sense of presence – social presence, teaching presence, and cognitive presence – in online courses, making individuals feel connected and part of a community. Within this chapter, the author describes her online course design with four types of video content:

1. A personal introduction,
2. Introductory videos for each content module,
3. On-the-fly video check-ins at the end of each module to address student questions and concerns,
   and

This chapter then analyzes evidence from the course on whether videos can establish presence within an online classroom.

In Media and the Moving Image: Creating Screen Media Literacy, the author pulls from his experience managing the Rosebud Institute – an organization dedicated to promoting screen media literacy – to pen a chapter introducing the reader to screen media literacy and its growing importance in our screen-obsessed society. The chapter presents sound arguments for why a course on creating video content should be added to core curricula. We have taught reading and writing for centuries and more recently public speaking, not just to students seeking degrees in these fields but to all students because, for centuries and millennia, this has been how we communicate across all professions. Now, with video streaming sites like YouTube and Vimeo that empower everyone to convey information via video, there is a new kid on the communication block who cannot be ignored.

In Section 5: Student-Centered Learning and Student-Created Videos, four chapters share ideas for creating student-centered learning environments through student-created video – one chapter encouraging students to take charge of their tales by becoming digital storytellers, one on the value of mobile media projects in which students whip out their phones and record, one chapter exploring the pedagogical power behind students creating the content, and one advocating for student-generated digital media portfolios. Another chapter in this section explains how face-to-face classes can put the spotlight on students by covering content outside class via instructor-created video while reserving class time for more student-centric activities.
Digital Story-Making in Support of Student Meaning-Making examines what storytelling is and how it can build connections and motivate learners. This chapter reviews two separate video-creation projects in which undergraduate students tell video stories. With the first assignment, the Boston Story Map, students explore the greater university community and complete significant background research and journaling before telling their own story of the area. With a final, culminating assignment, Digital Stories of Service Learning, students complete a service-learning project, further connecting themselves with the community. This chapter analyzes evidence for how these two student-led video projects affect learning.

Video Projects: Integrating Project-Based Learning, Universal Design for Learning, and Bloom’s Taxonomy describes projects where students group together to create videos related to course content. The authors demonstrate how such projects support an alloy of three instructional theories (Project-Based Learning, Universal Design for Learning, and Bloom’s Taxonomy) that is much stronger than each theory individually. This chapter describes how each theory is supported and then explains the synergistic effect these three have on each other. To put the theories into practice, the reader is introduced to the five Rs of multimedia projects: rationale, roles, resources, rubrics, and readiness.

Putting Me in Media: Communicating and Creating Screen Media with a Purpose, another chapter from an author associated with the Rosebud Institute, describes the process for students creating their own multimedia portfolios as digital representations of themselves. This chapter advises students to start by identifying a focus, a purpose, and an audience; to organize what they want to showcase; to create the digital self; and to reflect, revise, and collaborate. The chapter also offers several solutions for how to handle issues ranging from tech support to matters of privacy, accessibility, and copyright.

With Flipped or Inverted Learning Strategies for Course Design, the author explores one of the biggest trends in face-to-face and hybrid classes, the flipped classroom, which is sometimes called the inverted classroom – where the traditional classroom is flip-flopped so lectures, typically recorded on video, become homework while homework-styled problems and activities become classwork. This chapter describes the components of an inverted course, provides detailed design strategies, and summarizes research in this field.

With Making Learning Reel: Student-Made Videos on Mobile Devices, we have saved one of the best reads for the very end. This chapter presents fascinating background material and research into the value of using student-created video assignments in the classroom. The authors share their own innovative ideas for video assignments and explore a variety of logistical concerns.

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REFERENCES


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**ENDNOTES**

1. With apologies to Shakespeare (As You Like It, II.vii.139-42).