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Lessons from PhDigital Bootcamp: Preparing Future Faculty to Lead Emerging Media Curriculum

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Abstract
The state of doctoral education in media and mass communication programs is at a crossroads. Few programs prepare future faculty to participate with current, digital topics. But job descriptions for tenure-track faculty list digital skills as required competencies for many positions. While many defend the doctorate as a research degree, the majority of tenured and tenure-track faculty also teach and are often hired for what they can teach. And media programs are struggling with modernizing their curricula. How will doctoral graduates ascend to the tenure track and be able to recommend curriculum reform when they are not being prepared for the role of curriculum innovator nor exposed to modern media curriculum and research topics? This article highlights the reflections and experiences of six doctoral students and early career faculty from a digital-product-focused workshop and provides insight into resolving gaps that exist in doctoral education.

Keywords: emerging media, mass communication, doctoral education, product management, pedagogy, curriculum

Introduction to PhDigital Bootcamp
Cindy Royal, Texas State University

Three years ago, I was overcome with concern and inspiration about the current state of doctoral education. We had just done a search in the School of Journalism and Mass Communication at Texas State University in support of our new degree in Digital Media Innovation. We needed a faculty member who could integrate both skills and concepts into their teaching and execute a modern research agenda. We received numerous applications from candidates with strong, albeit traditional, research dossiers and little to no experience in teaching any of the topics we wished to advance in our program: coding, social media engagement and metrics, digital entrepreneurship, data journalism, immersive multimedia and other emerging topics. These were competencies that were seemingly lacking in the mass communication candidates. We hired someone from another academic discipline.

This led me to a research project that assessed job descriptions for tenured and tenure-track faculty positions and current doctoral students' attitudes toward their qualifications for these positions (Royal & Smith, 2019). I uncovered a disconnect. Few programs were preparing future faculty to participate with current, digital topics. While many defend the doctorate as a research degree, the majority of tenured and tenure-track faculty also teach and are often hired for what they can teach. "Research is the dominant focus of the doctorate, and it defines the life of most research university faculty, but it is not the primary work activity of most faculty at American colleges" (Golde & Dore, 2001). I felt that the

effects of this disconnect would be felt far into the long term, when current assistant professors achieved tenure and were sitting on personnel and curriculum committees. How would they be able to recommend curriculum reform when they were not being prepared for the role of curriculum innovator and were not being exposed to modern media curriculum and research topics?

Around the same time, I started considering how media organizations compared to software companies with the range of digital products they were now creating: websites, mobile apps, content management systems, podcasts, newsletters, chatbots and more. New roles emerged in journalism that support the development of media products incorporating audience engagement, interactivity, multimedia and data. A respondent to a 2017 study articulated the complexity of product in journalism. "We used to know what a media product was. It was a newspaper or a television broadcast. Now it's much broader" (Royal, 2017).

Stories themselves, which can be described as "editorial products' (Stray 2015) like the interactive, data projects of ProPublica and Texas Tribune, can be managed as products when they require collaboration across resources in the editorial, technology and business functions. Internal products further an organization's mission in helping journalists search for and identify story ideas and sources, manage content and comments and use analytics to assess results. (for example, the open-source project DocumentCloud, documentcloud.org – for sharing and tagging source documents, and the Vox Media-developed publishing platforms Chorus, getchorus.voxmedia.com and the Coral Project, coralproject.net).

The role of technology in a media company, which had once been relegated to the sidelines in a support role, is now central to a media organization's mission. If media companies are going to be able to develop digital products with audience needs in mind, processes, culture and mindsets will have to change. With a balance between research and teaching being difficult to achieve in any academic program, the scenario is further complicated by an emerging media ecosystem centered on digital products (Royal & Smith, 2019).

I had an idea. What if my faculty experimented with a curriculum focused on digital product management concepts with doctoral students from other programs? I was fortunate to receive funding in 2018 from the John S. and James L. Knight Foundation, and the PhDigital Bootcamp (phdigitalbootcamp.com) was born. Knight funded the program initially for one year, then renewed for two more years through 2020.

The PhDigital Bootcamp was conceived to prepare mass communication doctoral students and early career faculty to become digital scholar-educators and lead curriculum innovation. The program is organized around concepts and skills associated with managing digital products: audience analysis and emerging technologies, immersive storytelling, data analytics and visualization, digital strategy, web development and coding, social media, virtual reality, drone journalism, chatbots, machine learning and more. These topics represent emerging concepts and skill sets included in many position descriptions for tenured and tenure-track faculty.

The program is a combination of online and in-person training. Selected fellows complete ten weekly, online modules leading up to a one-week, in-person workshop in the Media Innovation Lab (MILab) in the School of Journalism and Mass Communication on the Texas State University campus in San Marcos, Texas. The program has been limited to 20 competitively selected participants for each year's cohort. Knight Foundation funding paid for all travel, accommodations, faculty salaries and other logistics associated with this initiative.

The program was well received with more than 70 applicants for the 20 seats each year that it has been held. Fellows completing the program gave high marks in evaluations for the training they received. For this article, I have invited several of the PhDigital Bootcamp Fellows from both the 2018 and 2019 cohorts to share, discuss and assess what they learned and how they are applying these emerging concepts to teaching and research.

Qun Wang (PhDigital Fellow 2018) received her Ph.D. in Communication, Information and Media from the School of Communication and Information at Rutgers University in 2020. Wang addresses the broader context of the PhDigital Bootcamp on product management and the role of product thinking as a new approach to media.

Kate Keib (PhDigital Fellow 2018) is an assistant professor of communication studies at Oglethorpe University. She received her Ph.D. from the University of Georgia in 2017. She describes how her professional marketing experience and research preparation integrate with social media and analytics topics and expands upon the area of product management.

Theodora Ruhs (PhDigital Fellow 2018) is an assistant professor of journalism at Central Connecticut State University. She received her Ph.D. in communication from the University of Maine in 2016. Ruhs discusses modules she created on coding and web development based on Bootcamp training.

Michael Buozis (PhDigital Fellow 2019) is a visiting lecturer at Muhlenberg College. He received his Ph.D. from the Klein College of Media and Communication at Temple University in 2020. Buozis discusses his path to better appreciating the role of data in storytelling.

Jason Lee Guthrie (PhDigital Fellow 2019), an assistant professor of Communication and Media Studies at Clayton State University, received his doctoral degree from the University of Georgia, Grady College of Journalism & Mass Communication in 2018. He provides historical appreciation for the application of emerging media concepts that is relevant to both teaching and research.

Andrew Shumway (PhDigital Fellow 2018) is a doctoral candidate at Klein College of Media and Communication at Temple University and an adjunct instructor at Messiah College. He recently accepted a full-time appointment as Instructor of Public Relations and Integrated Marketing Communication in the Graham School of Business at York College of Pennsylvania, beginning Fall 2020. He discusses the impact of the PhDigital Bootcamp on his research, teaching and service.

Product Thinking in Pedagogy and Research
Qun Wang, PhDigital Fellow 2018
Rutgers University

In 2018, I applied for the PhDigital Bootcamp and was selected as one of the fellows to join the Bootcamp's first cohort. My application was largely motivated by the Bootcamp's goal to "prepare mass communication doctoral students and early career faculty to become digital scholar-educators and lead curriculum innovation." This goal was supported by the holistic training on a range of digital topics and skill sets that are highly demanded on the job market in the fields of communication, media, and journalism studies in recent years (Royal & Smith, 2019). This opportunity was timely to me as a then Ph.D. candidate who was working on a doctoral dissertation on the one hand and hoping to learn more and prepare for the job market on the other hand.

The training offered by the Bootcamp was relevant to my own research experience as well. I was a news anchor and news director before I joined Rutgers University for the Ph.D. program. This work experience has greatly shaped my research interest in the changing media and tech environment. My research intersects journalism, technology and society. I have studied such topics as digital platforms and the news industry, computational news aggregation, algorithms, data journalism and analytics, social media and more (e.g. Wang, 2020; Wang, 2018). In these studies, conceptual understanding and practical skills are inseparable in order to better understand technology and its impacts –both its benefits and risks – on media and society. In addition, my research involves both traditional research methods and computational approaches, which gives me the opportunity to collaborate with scholars and professionals from such fields as computer science and information and technology studies. This Bootcamp provided relevant training in a more systematic way in terms of the skill sets it covered, the combination of conceptual and practical learning, as well as the opportunity to access useful resources and to engage with a community that convened digital scholar-educators with diverse backgrounds. More importantly, the Bootcamp benefited me with open-mindedness about technology, which points me to diverse research possibilities in exploring media and technology in the digital era.

In addition to specific digital skills and tools, a thematic topic that ran through the 2018 PhDigital Bootcamp was product thinking. For scholars and educators in the field of journalism studies, this way of thinking is to invite various aspects of the news industry – from production to distribution and engagement – into our research and teaching foci. In the everyday work of newsrooms, it often requires the collaboration of different teams, such as the editorial, product and technology teams. My first-hand experience as a former news director helped me understand both the synergy and challenges of related practices. This understanding was enriched by the visit to the Texas Tribune and the conversations with SJMC alumni during the Bootcamp. The production mindset is reflected in the capabilities of communication, leadership and problem solving, a good grasp of digital skills, and a relationship in which media professionals pay more attention to the audience and communities that they serve (Royal, 2017).

In my own teaching, I shared these reflections and experiences with my students. We adopted a broader sense of news, from editorial practices and journalistic norms, to news media's business models and their platform strategies in the digital era, and to the dynamics on domestic and global media markets. For example, in a series of class projects in the Critical Analyses of the News class that I taught, students were able to perform critical analyses of news content, business models, media products, and audience relationships, and assess in what ways media organizations are more or less successful in using different digital platforms to serve their various

purposes. These discussions helped to broaden students' understanding of the different aspects of the changing media environment and gave students confidence on the job market to make reflections on the present and future developments of the media industry. My students who had successful experiences in their job seeking showed strong capability to communicate the big picture of the media industry. Some of them got job offers in broadcasting, public relations and digital media industries with job duties that cover reporting, production, media relations and social media.

Building Bridges and Connecting Dots
Kate Keib, PhDigital Fellow 2018
Oglethorpe University

I had deep, rich media experience from 15 years in television news marketing and promotion, solid training in research through my R1 university PhD, past experience teaching as an adjunct and an exciting new job at a teaching-focused university where I was actively helping to redesign our Communications program curriculum. I loved how my new career was working out. But, as many can likely relate, I was nervous and unsure. I felt tremendous internal pressure to design outstanding classes, garner excellent teaching evaluations and grow a challenging and engaging program for my students. Without constantly nagging my PhD adviser and new colleagues, how was I going to gain confidence and where could I find these skills? When the announcement about a "PhDigital Bootcamp" arrived, it appeared to be a perfect opportunity for me.

I had many experiences in my PhD program that prepared me for a career as a professor. We had a seminar focused on just that topic. I was afforded the opportunity to assist seasoned, renowned faculty as a teaching assistant. I had the opportunity to helm my own classes with the support of department administration ready to answer questions and guide me in syllabi development and challenges in teaching. But when you are doing it all yourself for the first time, you can begin to understand what questions you should have asked. I needed more in terms of an understanding of pedagogy as well as some finer points on how to introduce courses in today's communication skills and theories into an existing curriculum. The PhDigital Bootcamp would provide a way to fill in those gaps, and much to my pleasure, I was accepted. Through online modules and a week-long, intensive bootcamp, I gained much of the knowledge I was lacking.

The Bootcamp first helped me to understand more about how to teach social media and emerging technologies to my students. I needed to understand how to take what I knew how to do professionally (manage social media) and how to research (interaction with and effects of social media use) into a small, liberal arts classroom setting. In the introductory module we focused on trends in the communication field. We read about advancements in technology that the public were adopting (Meeker, 2018) and how that did (or didn't) align with what faculty were being asked to do. I was reminded about the speed of technology, and the thoughtful process involved in course planning. I was able to step back and think about how to incorporate trends into my liberal arts classroom as discussions that focused on critical aspects of these technologies, such as privacy concerns, the impact on a democratic society and the digital divide. In addition, we read about the role of women and minorities in media, an important factor for me as my university has a wonderfully diverse student body (Wineka, 2017). This introductory module helped me to focus my thinking and place the following weeks instruction.

The module on social media and analytics was key to my ability to take what I learned at the bootcamp and apply it to my courses. We learned online and in person specifically about how to create a social media and analytics class (Blasingame, 2016). Through this, I was assured of my decision to have students simulate real world posting (I had decided to use Stukent social simulator) so that they had hands-on experience to take to the job. I also learned some new techniques to help students translate what they knew how to do into engaging reports, which had been missing from my course.

In our module on digital platforms and product management, I was able to learn how to bridge the gap between what our university was already offering and what I wanted to add to it. We had strong introductory-level courses in media and newswriting. I wanted to bring in multimedia journalism as well as social media strategy and analytics. In this module, I appreciated the frankness of the Nieman Lab piece, "Your Journalism Curriculum is Obsolete" (Royal, 2018). Our program was not broken – it was built on a strong foundation and ripe for growth – but, it presented an opportunity for me and our students. I benefitted from insights surrounding how to

thoughtfully add courses that met the needs of today's students while respecting our tradition. This module also helped me to conceptualize how I would design my own courses. Specifically, this module featured information on design thinking and the IDEO design process (IDEOU, 2017). In my professional career in television, Gannett (now TEGNA) had adopted this process, and I had been a part of many innovation sessions. Here was another bridge between what I already knew, and how to introduce these skills into my work as a professor. I was now able to use the design process to try things in my courses in a planned, thoughtful and still innovative way. The bootcamp connected the dots.

I could continue to detail what I learned from each module, but these highlights prove that the PhDigital Bootcamp enhanced my ability to bring digital-first curriculum to my university and my students. The underlying current of the bootcamp was that of excitement. This program was filling a need, and this information should be shared with more PhD students and early career professors. The Bootcamp experience legitimized my fears as a new faculty member – there was a lot that I didn't know – and offered a path forward. We can be taught this information successfully.

In order to increase the impact, more students and faculty must be reached. The Bootcamp is a great example of hybrid learning, but the in-person component is critical. By meeting and spending an intense week together, I formed relationships with other professionals. These colleagues became friends, mentors, advisees, supporting each other in our efforts. Being a new faculty member can be intimidating, and forging these relationships has paid off. I have received on-going support from my cohort regarding syllabi and course design, lessons and research collaborations. I hope that this opportunity can be afforded to more in the future. Our students would greatly benefit from it.

Communicating with Code
Theodora Ruhs, PhDigital Fellow 2018
Central Connecticut State University

I have always been excited by the idea of new technology and wanted to bring it into my classroom. As an early career faculty member in journalism, I felt uncertain about both how to do that and my technical skills. I had some experience with technology prior to my doctoral program through my work in television news and teaching multimedia. This was put to use during my time as a teaching assistant, but I felt that what I knew was years out of date. Further training to update and expand my digital skills was not a focus of my doctoral program. Instead, I found myself seeking out and learning skills on my own, something I found difficult to do amidst, first, a full course schedule, and then, a full teaching load.

It was interesting to learn that I was not alone in this experience. Many doctoral programs are not training students to keep up with technological changes and how to teach students the necessary digital skills for success in the current job market, where at least familiarity with digital tools makes them more competitive (Royal, 2017). As Keib mentioned above, the PhDigital Bootcamp was an ideal opportunity for filling in the gaps.

While we learned a number of different concepts related to digital and technology skills, the module on coding and web development was particularly useful. I was asked to help my department develop and manage web projects with students, and I had plans to integrate basic web development into one of my courses, something that was not done in my department at the time. While there was no resistance to me doing this, updating curriculum in this way can be particularly challenging for small programs like mine with few faculty, resources and training opportunities (Bright, 2018).

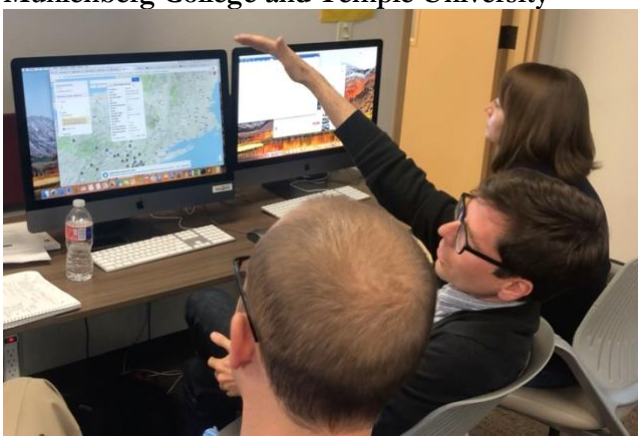
With the training I received during the PhDigital Bootcamp, I was able to develop and practice my own coding skills, as well as develop a module that I could bring to the classroom. I became more comfortable working with students using the skills that I acquired. I have since started teaching a basic web development unit in my multimedia course. There are still challenges working with my particular population of students, who do not all have the "digital native" background many expect of this age group. There is still room for me to improve my pedagogy in relation to this, but thanks to what I learned at the bootcamp, I have the resources and confidence to move forward. In particular, better understanding the logic behind coding has made it easier for me to break it down for students, as well as easier for me to continue learning on my own.

I did not become an expert during my time in the PhDigital Bootcamp, but neither do I expect my students to become expert coders and web designers in the course of one module. Exposure to some form of coding is important as we move into a world where it is an increasingly common language that requires new forms

of literacy (Royal, 2015). As coding becomes more integrated into journalism practice, we need to, according to Chimbel (2015) "produce students who can communicate about what they want code to do. To do that, they have to understand what it can do." Even with just a preliminary understanding of what happens behind the scenes, I hope my students will be able to see how it is used in producing journalistic content and have conversations with the coders they will be working with in the future. I also hope that some students will be inspired to continue to learn to code and see opportunities to work outside the traditional idea of a journalist.

Beyond coding and web development, my experience at the bootcamp introduced me to a number of digital concepts and emerging technologies and showed me multiple ways to integrate them into my curriculum. There was a lot I didn't know about most of the areas covered, and, while there is only so much that can be covered in a short time, I now have a strong foundation on which to build. Like Wang, this experience has also opened my mind to the diverse research possibilities of new technology.

Data Journalism for the Words Person
Michael Buozis, PhDigital Fellow 2019
Muhlenberg College and Temple University



I often tell my students that the most exciting aspect of working as a journalist is that you're always learning something new. They sometimes roll their eyes at my enthusiasm. But the primary reason I tell them this is to encourage them to get out of their comfort zones, to explore some new place, issue, or community outside of their everyday experience. It doesn't always work, but those students who go out of their way to get out into the world and learn something new through the process of reporting—and figuring out how to communicate what they've learned to the public—tend not only to make the most progress over the course of a semester but also to enjoy themselves the most.

Not knowing can be an exciting state. It's often what drives innovative and energized research in any discipline. Yet not knowing can also be daunting, particularly when a certain amount of expertise is expected of you.

I didn't know much about data. Despite rich and varied doctoral coursework at Temple University - where all students in my program were required to study quantitative research methods—I've been resistant to the idea of quantification. I'm a words person (a words person who is slightly embarrassed to have just written this sentence). I would never deny the value of science and mathematics to our understanding of the world, but an abiding interest in narrative representations of that world has driven my work as a journalist, researcher and educator.

So, when my adviser and a fellow doctoral student at Temple suggested that I apply for the PhDigital Bootcamp, I felt a little bit like the students who roll their eyes at my enthusiastic exhortations of learning something new through reporting. I'm no coder, I thought, no data whiz.

Yet I always wanted to work at becoming a better teacher, to be able to introduce my students to ways of learning about the world—and communicating what they've learned—that may be outside the bounds of my expertise. So, happily, I applied and was admitted to the Bootcamp in 2019.

I'm still not a coder. I'll never be a data whiz. But the Bootcamp has inspired me to contend with how I might introduce my journalism students to the narrative possibilities of data and technology. And just like some of my students, I found, to my surprise, that learning about these new things was fun. As Keib and Ruhs mention above, the Bootcamp did a great job building on my passion to be a better teacher by filling the gaps in some of my technical knowledge.

Each module in the Bootcamp was designed not only to introduce the fellows to important digital media skills, but also prompted us to reflect on how we might introduce these skills into our teaching and research. The data journalism and visualization module, in particular, illuminated ways I might easily integrate basic data analysis and visualization activities into the journalism courses I have taught at Temple University and Muhlenberg College.

By demonstrating some best practices for finding and cleaning useful data sets, the online component of this module was instructive for qualitative and critical scholars like myself who don't often immerse ourselves in spreadsheets. Furthermore, the exercises prompted us to engage in the very same types of activities our students might respond to in the classroom. The in-person component of the data journalism and visualization module expanded on these same approaches, demonstrating how we might engage our students in a

collaborative mapping project using just an Excel document and tools freely available via Google Maps. For junior faculty and graduate students who may not have access to costly tech resources, these lessons present easy, free options for expanding and enriching our teaching practices.

For those of us who have focused our professional and scholarly work on the written word, it's important to remember that data—and specifically the visual communication of data—can function as more than just a supporting element of a news story. It can be the very foundation of some of the most important stories (Royal & Blasingame, 2015). Data visualizations can serve as both the "visual evidence" (Keegan, 2017) that so many news audiences expect today and a powerful tool to make sense of the overwhelming amount of information bombarding audiences (Kirchner, 2010). For years, I had been holding up The Guardian's work visualizing data from thousands of official documents to make sense of the shocking Homan Square story in Chicago (Ackerman & Stafford, 2015), but the Bootcamp gave me some of the skills and perspective necessary to better encourage my students to produce similar, important work.

Even before I attended the Bootcamp, I already started incorporating data journalism and visualization concepts and activities from the online module into my teaching. I demonstrated the same data retrieval and visualization techniques I learned earlier in the spring and then asked my students to incorporate data visualization into their final reporting projects. These projects were much richer, based in a broader range of evidence, than they would have been without this component.

Though I'm not going to engage in quantitative research any time soon, the Bootcamp has also encouraged me to think about how critical scholars like myself might engage better with the discursive power of data visualization. In effect, data visualization communicates quantitative data, but it does so in ways that are ripe for qualitative and critical analyses, as many scholars have already begun to realize (e.g. Segel & Heer, 2010). Maybe we'd be better off thinking beyond the artificial boundaries between text, data and visuals.

Historical Context for Emerging Technologies
Jason Lee Guthrie, PhDigital Fellow 2019
Clayton State University

Technological progress is a thread that runs through all of the material covered in the PhDigital Bootcamp curriculum. Mobile technology has been both a disruptive force in the economics of news and a tremendous opportunity for the development of interactive news products. Social media was enabled by mobile technology and now, in turn, is a primary driver of innovation as the speed, power, and image-capturing abilities of our devices continue to grow by leaps and bounds. New technology is built on the development of coding languages, and, perhaps more profoundly, new technology is continuing to democratize access to the coding skills that are the *lingua franca* of the modern world. The ways in which journalism can harness the staggering amount of data generated by new technologies are profound. Technology, it seems, is inherently oriented toward the "new."

My own research interests in media history have understandably cultivated a deep appreciation for the past that pervades more than just my formal academic writing. It comes through in the examples I use to teach my students, in the institutional service opportunities I gravitate toward and in my everyday conversation. At the same time, I love technology. Whether it's the newest smartphone, the latest gadget, or even the most recent software update, I tend to be an early adopter. To some, this simultaneous affinity for past and future may seem paradoxical. Yet in the histories of our eclectic disciplines of journalism, advertising, public relations and media studies, often grouped collectively under the heading of mass communication, this paradox of focus has characterized – and even defined – our institutional identity.

James Carey, in tracing the history of American graduate education in mass communication, noted more than 40 years ago that our paradoxical pedagogical approaches often "produce and reproduce what must inevitably be artificial distinctions in human knowledge"

(1997, p. 293). The influence of the Progressive Era's optimism about the power of information, social scientific media research in psychology and sociology, the post-World War II focus on practicality and job-specific skills and social movements from the 1960s to the present-day, all contribute to our field's, at times, schizophrenic sense of self (Anderson, 2018). Mass communication has always had a Janus-like penchant for lionizing tradition while enthusiastically embracing the new.

It is within that contextual understanding that I share my experience with emerging technologies at he PhDigital Bootcamp. As a conceptual term, I find "emerging technologies" to be qualitatively preferable to, say, "new media." Although both can carry an unfortunate connotation of superiority to what has come before, "emerging" carries an inherent suggestion that all things currently new will one day be superseded. I also prefer the emphasis on action and process to a distinction of new and old. Something I think the PhDigital Bootcamp did quite well was to emphasize that what is not needed is a new, but static set of skills, but rather to adopt a mindset of continual learning and innovation.

In 2020, key emerging technologies include immersive storytelling (whether in the form of virtual, augmented or mixed reality), web and mobile apps driven by artificial intelligence (AI) and machine learning (ML) algorithms and unmanned aerial vehicles (UAVs) or drones, among others. The PhDigital Bootcamp exposed fellows to these technologies in ways that were both conceptually eye-opening and can have immediate application in the classroom. Expertise on the technical, aesthetic and regulatory aspects of drone photography was particularly compelling, and I felt fortunate to learn from a nationally recognized pioneer on how drones are shaping journalism and creative media (Kilker, 2018).

Units on emerging technologies shaped my research as well. Thinking about virtual reality got me thinking about arguably the first form of immersive storytelling, the stereograph. Stereographs were one of the first mass-produced photographic mediums. As early as the 1830s, by using a specialized viewer to look at two nearly identical images spaced a few inches apart, stereographic images produced a 3D effect that must have amazed their nineteenth century audience (Guthrie, 2019 p. 139-141). Considering how the adoption curve for VR headsets has been slower than expected but is now on the rise caused me to surface parallels within the history of stereograph technological diffusion (Rutherford, 2019). This insight has translated directly into a research piece I am currently working on, and, I hope will become yet another example of the important links between old and new.

There are many objections to embracing emerging technologies, some of which are quite valid. Why invest in the latest fad when it will only be replaced in a few years? Can we afford to invest at all? How can we design a curriculum with the necessary specificity to satisfy our accreditors and the necessary flexibility to incorporate emerging tech as it materializes? These are important challenges that our field has faced before. What's more, if we are to remain capable of equipping our students with skills that are industry-relevant, we will continue to face them. That, to me, makes embracing emerging technologies in all their current and future forms a fight worth fighting.

Emerging Media and the Job Market
Andrew Shumway, PhDigital Fellow 2018
Messiah College/Temple Univ

In his book *Program or Be Programmed*, media critic Douglass Rushkoff (2011) poses the question, "Do we direct technology, or do we let ourselves be directed by it and those who have mastered it?" I believe this is one of the quintessential questions of the twenty-first century, that it is imperative for a well-informed public to understand how digital technologies work, as well as the possibilities and limitations they offer society for the future. I view my role as a media educator to teach students how to use these technologies in a way that betters society, but this is a collaborative process that is impossible to do alone (Hobbs & Coiro, 2016).

As a former high school English and television production teacher, I always seek new opportunities to learn emerging technology to prepare students to be leaders in digital production and digital citizenship. I enrolled in a doctoral program because I wanted to engage with the latest media technologies on both the theoretical and practical levels and help shape the next generation of media practitioners and scholars. Throughout my doctoral program at Temple University, I have attended as many professional development opportunities in digital research methodologies and digital pedagogy as possible. When I first learned of the PhDigital Bootcamp, I recognized it as a valuable opportunity to hone these skills even further and connect with other doctoral students and early-career faculty who

shared my commitment to digital media education. The insights and perspectives gleaned from the PhDigital Bootcamp have been instrumental in my research, teaching, service, and even the job search.

As I have recently completed a search for full-time faculty positions, navigating applications, Zoom interviews and campus visits, my experience with PhDigital has frequently been raised as a natural platform to discuss professional development and my ideas to grow a program's curriculum. It became increasingly evident that search committees valued the forward-thinking perspectives and passion for implementing digital technologies that PhDigital Bootcamp had ignited in me. As a result, my job search resulted in multiple offers from institutions that recognize the need to embed new technologies and digital storytelling into the curriculum and value someone who can champion these initiatives to prepare students for the demands of twenty-first century careers (Krishna, Wright, & Kotcher, 2020).

Like the rest of the PhDigital fellows who have discussed their experiences and takeaways from the program, I have pulled content from the various modules to integrate into my teaching. I incorporated the techniques learned in the coding modules into my Intro to Internet Studies and Web Authoring course. The experiences working with augmented and virtual reality applications has influenced projects and informed discussion in several of my classes, including Media and Children, Communication Design, and The Future of Your TV. I also recently designed and taught a course on Multimedia Storytelling that emphasized the convergence of product management, design thinking, social media analytics, data journalism and many other pillars of the PhDigital Bootcamp curriculum, as students explored these topics in the pursuit of effective journalistic storytelling. I teach a broad spectrum of classes, from design and media production to media studies to public relations and marketing. The one constant that spans across all these fields is the impact of digital technologies in changing the methods, tools, and interactions that shape all these disciplines (Kerr & Kelly, 2017).

The diversity of perspectives from PhDigital Bootcamp has significantly impacted the way I research digital technologies as well. Using both quantitative and qualitative methods, my research agenda focuses on the psychological processing of media and the user experience of emerging technologies. Needless to say, the topics emphasized at PhDigital Bootcamp have all been invaluable in shaping the design of my research and the ways in which I approach these topics simultaneously from the perspective of a producer, a user, a student and a teacher, roles that have become increasingly blurred in the digital age (Koltay, 2011).

The most significant value of the program to me, though, more than any specific content I learned, has been the confidence it has given me in taking on the role of championing digital technologies and digital literacy in the curriculum and fostering an environment that encourages student risk-taking and experimentation with emerging technology (Hobbs & Coiro, 2016). Empowering students and colleagues to embrace the possibilities digital technologies provide has been incredibly fulfilling. Shortly after returning from PhDigital Bootcamp in 2018, I was invited to serve as the Keynote speaker at a gathering of high school journalism students at a student journalism conference hosted by the Pennsylvania School Press Association. It didn't take me long to decide on the focus of what I would share with these aspiring journalists. My keynote was entitled "Preparing Communication Leaders of Tomorrow: Lessons from PhDigital" where I distilled everything I learned from the program so these students could identify the skillsets they would need for their future and the resources that could help them get there. I look for every opportunity possible to share this experience with anyone who might benefit, from high school and college students to fellow doctoral students and faculty.

Understanding the importance of digital technologies and design thinking impacts every class, every department and every school. In each committee I have served, the importance of implementing digital literacy, production and experimentation has crept its way into the conversation because these are now always at the forefront of my consideration for how policies and curriculum should be developed (Kerr & Kelly, 2017). I will continue to champion the use of new technologies, digital literacy, and emerging storytelling methods as they continue to shape the future of the industry. This is the mindset I will carry with me for the duration of my career.

Conclusion

The insights offered in these reflections provide strong inspiration and justification for continued honing of doctoral education in media and mass communication programs. However, the eloquence of these articulations indicates that the future of our discipline is in good hands with the creative capabilities of those who are actively seeking critical, relevant and modern faculty development. As we have learned in 2020, with most universities hurriedly moving to online instruction to deal with the global pandemic, the future will be led by creative problem solvers and those prepared to teach and research thoughtfully in a digital product environment.

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