Digital Learning and the Humanities

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Abstract: The current research and funding situation with regard to digital teaching and learning will be a starting point to further inquire about the mission, intent and self-styling of the humanities and the field of English. The proliferation of digital opportunities makes knowledge globally available and universally transferable in a technological sense. Yet, what about the changes that digitalization triggers in epistemology or cultural techniques of information management? And, what are the stakes of the humanities and their way of making meaning and creation of knowledge? Can the knowledge of the humanities or the field of English – here particularly language, narrative literature and culture – be communicated, taught or learned with digital means? The humanities make it their designated task to provide orientation and evaluation for the increasingly complex and fast-paced global developments and their diverse cultural, societal and educative contexts. It should be in the interest of the humanities and its disciplines to answer the questions of possible benefits that the digitalization of educational fields can yield. Puentedura's SAMR matrix (substitution, amplification, modification, redefinition) will be introduced to allow for an evaluation of digitalization processes and tools.

Keywords: humanities, teaching of English, TESOL, digital learning, digitalization

1 Introduction

The issue of digitalization, digital learning and teaching or even digital environments cannot be escaped: It features in numerous federal, state-run or third-party funding bids and, hence, creates transdisciplinary incentives for rather pragmatic and applied projects. Digitalization serves as an "umbrella topic" for expert conferences or makes news headlines in many other shapes and guises. The digital turn, as some call it due to the academic obsession with paradigm shifts, is the latest hype in the research arena (Dunst & Mischke, 2018).

As with many trends, a number of facets of this transformation are innovated and developed at a very fast pace, while other features are at risk of being overlooked or forgotten. The economic and political necessity lets digitalization appear in a rather one-sided light, presented almost as a fait-accompli. The need for innovation is unquestionable and, therefore, is adopted by media and popular public discourse. It resounds throughout research institutions and education. More often than not, claims are voiced that this development is transformative for all facets of life. At the same time, the metaphors used in academia as much as in the political arena are rife with technological promises, such as the attribution of modernity, a steep intergenerational advantage and the all-encompassing optimism.

Some academics get a little queasy when such unquestioning euphoria takes center stage. Scholars in the humanities have been trained to contextualize at all times and to always put their subject in historical perspectives. They ask themselves: Whose interests does the euphoria serve? What does this mean for the field of humanities and its knowledge base? How can education benefit best from the imminent changes? There is little doubt that digital learning environments, also and particularly within the disciplines of English and American Studies, Linguistics, or Foreign Language Education, are needed and called for. Concerning disciplinary specifics, further inquiry and research are needed: What kind of digitalization do the humanities and/or English and American studies/Foreign Language Education invite? And what are the challenges that we had better face before unfavorable precedents are inadvertently established?

2 Digitalization and political intent

To differentiate terminology and allow for a more precise discourse, I follow Jason Bloomberg's distinction (2018) between digitization, digitalization and digital transformation. Although originally directed at business contexts, they are suitable to also clarify academic usage of the words.[1] Digitization denotes the technical process of transferring information into digital codes, providing data in a digital format. It is digitization that allows for the increasingly rapid exchange of information, for the global spread or accessibility of academic publications. The term digitalization, by contrast, is used for the socio-cultural context of communication and of meaning-making with digital modes or tools. In the academic context, therefore, digitalization specifies the re-structuring of teaching, learning, or research processes around digital modes of communication. The digitalization of educational institutions requires the installation of a suitable infrastructure. It also calls for a reorganization of teaching methodologies, working routines, and of communication patterns. Together with digital tools from the humanities' repertoire, those communication patterns should create meaningful relations between bodies of knowledge and the cultural work of texts and language, or images, artefacts, institutions, as well as behavioral scripts. If discussions center on digital transformation, therefore,

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[1] "[…] we digitize information, we digitalize processes and roles that make up the operations of a business, and we digitally transform the business and its strategy. Each one is necessary but not sufficient for the next, and most importantly, digitization and digitalization are essentially about technology, but digital transformation is not. Digital transformation is about the customer" (Bloomberg, 2018).

the focus needs to be directed at the impact that digitalization has both on teachers, learners, and researchers, and on the educational spaces and communicative processes of schools, universities or other institutions of learning.

The German Federal Government makes digitalization one of its main goals. The Federal Ministry of Education and Research (BMBF) devised a strategic plan that was called and considered an "Educational Offensive for the Digital Knowledge Society" (BMBF, 2016). The main goal of the digital strategy – as outlined by Johanna Wanka, Minister of Education at the time – is (and should be) to educate our pupils and students, to prepare them for living in a (increasingly) digital world, and to empower learners to navigate and shape their worlds by making informed decisions and live a self-determined life (BMBF, 2016, p. 2). In a more recent plan by Anja Karliczek, the current Minister of Education, "Digital Future: Learning. Researching. Knowing" (BMBF, 2019a),[2] the overarching educational goal was reasserted and, in equal measure, the instrumental function of digitalization insinuated: Digital technology seems not only to make life better, but also seems to guarantee the standard of living and constitute a response to global (economic) competition (BMBF, 2019a, p. 2). In short: It is depicted to provide innovative potential and great opportunities, in spite of the new risks (BMBF, 2019a, p. 4).

The constitutional prerogative for education lies in the legal discretion and responsibility of the German Federal States, and the federal strategic plans respect and reinforce this. At the same time, the Federal Government and the sixteen Federal States had to confer with each other in heated debates and, eventually, agreed upon changing that part of the constitution (*Grundgesetz*): German Federal Parliament (*Bundestag*) and Federal Council (*Bundesrat*) have approved – accompanied by a lot of media noise – to change a law in order to allow for established political funding conventions to be reformed.[3] With the broad scale funding initiative "DigitalPact School" (*DigitalPakt Schule*), around five billion Euros will be invested in creating the infrastructure for digital education at German schools (BMBF, 2019b, pp. 6, 24).[4] How will the teaching and learning at German schools profit from the new financial and digital opportunities? Already during the past few years, enormous research bids – mostly in the context of a broad-scale research investment in teacher education, also known as "Quality Offensive for Teacher Education" (*Qualitätsoffensive Lehrerbildung*) – have heavily targeted digitalization in university research, particularly with regards to implementing the use of digital media at schools or in teaching (cp. BMBF, 2018, pp. 59–69).

It is the Federal States that have to take care of developing concepts of pedagogy and education and, thus, secure the success of the digital turn. The strategic plan declares the "primacy of pedagogy" (BMBF, 2016, p. 5)[5] and postulates that digital technology is to serve education and the people.[6] This claim is reconfirmed in the recent BMBF digital strategy, a further developed and comprehensive strategic plan (BMBF, 2019a, p. 24). The focus is on developing content, principles and concepts for the adequate use of digital technology in education: "Digital gestützte Bildungsangebote müssen daher auf passgenauen didaktischen Konzepten basieren." (BMBF, 2016, p. 15) Those statements

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2   The original German title reads "Digitale Zukunft: Lernen. Forschen. Wissen" (BMBF, 2019a).
3   For more details on *DigitalPakt Schule* cp. BMBF (2019b).
4   The heavy infrastructural investment comes with a steep requirement for the Federal States: "Im Gegenzug verpflichten sich die Länder, digitale Bildung zu realisieren – durch die Umsetzung entsprechender pädagogischer Konzepte, die Umgestaltung der Lehreraus- und -fortbildung und die Unterstützung der notwendigen Strategieentwicklung bei Schulen und Schulträgern. Sie verpflichten sich ferner auf ländergemeinsame technische Standards und die Sicherstellung von Wartung und Betrieb der digitalen Infrastruktur" (BMBF, 2016, p. 23).
5   The original wording in the German language reads: "Dabei gilt das Primat der Pädagogik; sie muss den Einsatz digitaler Technik bestimmen, nicht umgekehrt. Ohne passende Inhalte und Konzepte wird digitale Bildung nicht leisten können, was wir zu Recht von ihr erwarten. Das Entscheidende ist, pädagogische Ziele und Standards in der digitalen Bildung festzulegen und die Lehrkräfte dahingehend zu qualifizieren, dass sie einen modernen Unterricht mit digitalen Medien gestalten können" (BMBF, 2016, pp. 5–6).
6   See quotation: "Zentral für den Erfolg digitaler Bildung ist die Pädagogik – Digitale Technik muss guter Bildung dienen, nicht umgekehrt und hier sind die Länder in der Verantwortung" (BMBF, 2016, p. 2).

underscore that transformation must be spearheaded by pedagogy and not technology. Yet, Axel Krommer (2018) offers a polemic critique of this slogan, which he finds used in the title of Klaus Zierer's book *Lernen 4.0: Pädagogik vor Technik* (2017). Such a slogan, Krommer argues, constitutes a truism at best that nobody can deny, contradict or reverse. Or else, it denies the historical emergence of technology in teaching endeavors. He thus considers such a mindset unfit to describe or analyze digitalization processes as it ignores the complex array of factors and interdependencies that are part and parcel of digital education and lead to an entirely new set of goals and knowledge for teaching.

The often promoted innovative cooperation forms and use of the private economic sector also entail imminent dangers, as can be seen with the project *ella* in Baden-Württemberg, where the outsourced development of a learning platform ended in economic disaster and political scandal. The likeable acronym *Ella* stands for *Elektronische Lehr- und Lernassistenz* and was supposed to be a "school cloud" that provides all teachers and learners with a learning environment and software to maximize possibilities for digital collaboration (Habermehl, 2018a, 2018b; dpa, 2018b; KM-BW, 2019a, 2019b). A large amount of money was bestowed on *Ella* and legal snares were overlooked, so that all the investment was lost, and the entire project had to be written off (Habermehl, 2018c).

The strong focus on federal legislation elegantly passes the responsibility on to the state legislators and, further yet, to research universities and schools. The states struggle with their own conditions and priorities, grappling with distributing the federal funds. Pedagogy, Education, and the disciplines can hardly keep up. And yet, they are undoubtedly the crucial players when it comes to discussing content, learning outcomes, and teaching methodology. If goals and standards for digital education need to be defined and pedagogy is given priority, the academic disciplines should know conclusively how digital education infringes upon, complements or changes the core of each school subject or academic discipline. Research endeavors in this area are still scarce. Some questions remain unanswered in the political and financial tangle: How are custom-fit teaching concepts developed, and by whom? What goals and contents are they fitted to? With the heavy investment in the creation of a digital infrastructure, the preconditions and requirements for a digital turn are created in a common effort of federal government and states. If the development of subject-specific content and teaching concepts is not fostered and funded in an equal measure, the digitalization efforts threaten to fall flat or have unwanted consequences. The current bias towards introduction of digital technology and infrastructure creates a delicate imbalance at the expense of content, (humanities) subjects and disciplines.

3   The humanities, (digital) knowledge and methodology

In 2018, the German Press Agency dpa reported that every third person in Germany feels overwhelmed by and ill-prepared for the digitalization of our society. Dpa named dynamics and complexity of digitalization as the most challenging aspects (dpa, 2018a). Yet, who is prepared to give people orientation in these dynamic developments? Who can understand and explain these precipitately developing phenomena that are going on? Probably, the universities need to provide more public relations efforts to communicate the research done in academia. The labyrinthine pathways of academic work and the long duration and occasional ambiguity of its results and impact are not always easy to convey to the general public. Current hectic developments and funding opportunities keep drawing attention to the manifold technological possibilities with a strong bias on putting that digital technology in place. The strong focus on implementing a digital infrastructure seems to go at the expense of teaching contents, pedagogic principles or a discipline's concepts. Yet, who has the back of the humanities, or of other traditional, classical educational goals?

The humanities make it their designated task to provide orientation and evaluation for the increasingly complex and fast-paced global developments and their diverse cultural, societal and educative contexts (Beiner, 2009, p. 104). When formulating research questions, identifying research problems or devising hypotheses, researchers cannot but constantly refer back to their personal, their discipline's or even their larger society's value judgements and assumptions. While the strongest emphasis of the federal educational policy is put on MINT-subjects[7] in the belief that technological knowledge is key in the digital transformation, the role and responsibilities of communicative subjects is not forgotten:

> „Zugleich werden Fähigkeiten wie logisches und analytisches Denken, strukturiertes Arbeiten, sorgfältiges Abwägen und Einordnen nicht unwichtiger, sondern noch bedeutsamer. Dem Schulfach Deutsch und den sozialwissenschaftlichen Fächern kommt hier eine besondere Verantwortung zu." (BMBF, 2016, p. 4)

It may be fair to see in this formulation the more general and broader reach of the humanities. In the strategic plans, the important role of communication for processing knowledge, finding structure and orientation, or using cultural techniques to critical evaluate remain somewhat unspecified. Those processes and techniques fall in the core competence of the humanities. Unfortunately, Foreign Language Education (and many other subjects) quietly falls off this priority list.

The strategic paper claims to engage the classical concept of education and its focus on acquiring knowledge and personality skills (BMBF, 2016, pp. 9–10). Thus, the government reassures that digitalization will not dispose of more traditional components. Digital education, so the paper affirms, must be considered as content for learning[8] and as a learning tool as well (BMBF, 2016, p. 10).[9] Although this distinction leaves room to assume that chances and challenges are adequately taken into account here, the awareness of humanities' contents, skills, and conceptualizations, or for the adaptability and adjustment of meanings with their knowledge base seem somewhat neglected. An imbalance and a certain one-sidedness of ministerial efforts can be observed when taking a look at best practice examples: All suggestions involve knowledge and skills of Informatics rather than communication (BMBF, 2016, p. 16). For the tertiary sector of education and teacher training,[10] the technological focus moves to the foreground once again: The strategies encourage projects to focus on applying technology, but not on asking foundational questions or exploring interdisciplinary concerns (BMBF, 2016, p. 18).

In a digital knowledge society, personal, public, and professional lives can be expected to get more complicated and, hence, demand for a more encompassing, complex concept of literacy. Almost 25 years ago, The New London Group has developed the concept of "multiliteracies" to not only provide their students with a set of literacies for diverse media but also with the critical stance to evaluate the contributions those media can make (The New London Group, 1996). The questions of cause, effect, and impact may become less transparent. The necessity to make informed decisions in all spheres of one's life is very likely to increase with that development. If citizens have the knowledge to explain a pressing phenomenon and are ignorant of how its components work together, how knowledge is created or how meanings are negotiated, their only option is coping by unquestioningly believing. It must be education's most noble objective to bring people to critical scrutiny, to classify and categorize knowledge and match it with prior meaning, to challenge, regroup or reassert the meaning and its components, to falsify and distinguish between legitimate knowledge and disinformation or misconceptions.

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[7]   The acronym is used in German to lump together the subjects *Mathematik*/Mathematics, *Informatik*/Informatics, *Naturwissenschaften*/Natural Sciences, and *Technik*/Technology.

[8]   „[…] digitale Bildung als Lehr-Lerninhalt" (BMBF, 2016, p. 10).

[9]   „[…] digitale Bildung als Lerninstrument" (BMBF, 2016, p. 10).

[10] „Hochschulbildung/Qualitätspakt Lehre" (BMBF, 2016, p. 18).

Education in the humanities, therefore, ought not only to exercise a competent use of digital media and its tools, but encourage a broader take on media pedagogy including a rather foundational inquiry into the impact of media on knowledge production and the specifics of each medium or tool.

When it comes to far-reaching media shifts, the Germanist Cornelius Herz (2013) argues that it is crucial to not factor out media history and the development of media use in teaching contexts particularly. In his monograph *Medienumbrüche*, he delineates the historically drastic shifts in media development in light of current digitalization efforts. His focus lies on historical moments of media shift, in which innovative technology triggered the development of a new cultural paradigm that did not entirely replace the traditional paradigm, so he argues. To emphasize his claim, Herz chooses four pivotal points that led to such an epic shift: Around 1200, the introduction of the scriptorium, mostly in monasteries, led to a shift from "brain memory" to "script memory", as he calls it. Knowledge was stored and traded via an increasingly encompassing library system. Around 1500, Gutenberg's invention of epoch-making moveable letters brought on the shift from handwritten culture to "print memory". The technical possibilities to record, store and reproduce sounds and images around the turn of the 20th century led to a visual memory and, eventually, at the beginning of the new millennium, the on-going digital transformation makes for a paradigm shift from analog to digital culture. Herz scrutinizes each of these epochs of media change and relates them to the ongoing digital transformation. Here, digital technology is confronted with a diversity of attributions that need to be understood with regard to their historical and contextual development as well as the recurrence of certain attributions during every moment of media shift or transformation.

In her book *Too Much to Know* (2010a), the intellectual historian Ann Blair traces the development of cultural techniques of information storage and knowledge processing by scrutinizing Renaissance intellectuals and the four skillful operations applied to manage texts or knowledge: "storing, sorting, selecting, and summarizing" (Blair, 2010a, p. 3). Blair argues that contemporary and future scholars may want "to understand the tools and categories" (Blair, 2010a, p. 268), because certain procedures or classifications from the bygone analog world of print live on and still form the basis of how we process information, yet they may seem unmotivated or arbitrary when used electronically. With that in mind, Blair contextualizes the importance of historical perspectives when considering the ultra-modern digital transformation:

> "Technology has still its limits. […] no tools exist to stand in for personal mastery of one's subject matter and careful judgment, informed by contextual understanding. Human attention is one of our most precious commodities and many forces compete for it with an ingenious range of software and hardware devices. Even while information storage has been delegated to other media, human memory still plays a crucial role in recalling what to attend to, and when and how. Similarly, judgment is as central as ever in selecting, assessing, and synthesizing information to create knowledge responsibly." (Blair, 2010a, p. 267)

These assertions underscore how important specific accomplishments of tools and their impact on working information and knowledge really are. Blair's article *Information Overload* (2010b) brings this thought closer to the transformations that digital technology provides for the field of academic work and comments on the skills that students and researchers use for working with knowledge and developing new meanings. Her thoughts on the changes in media cultures and the transformations those changes have triggered elegantly shift the questions to discussing digital possibilities:

> "Typically we select from collective storage facilities, like libraries and the Internet, and not only books and Web pages but also specific parts of them (like arguments, quotations, or facts). If we wish to revisit results, we need to store them so that they are retrievable" (Blair, 2010b).

Yet, with transformative digital storage technologies in mind, how are we going to store information and create meaningful, accessible and retrievable webs of knowledge? Only the interconnecting and linking of information to contexts and usages makes meaning possible. If that does not happen, knowledge will fall back into oblivion or worse, fall back into a status of unconnected, unrelated, meaningless information (Blair, 2010a, p. 268; 2010b). As the humanities' skills, expertise and body of knowledge is not invariant to culture and linguistic contexts, researchers need to remind themselves that meanings can only be unfurled within the confines of their linguistic and cultural contexts (Antos, Wichter & Palm, 2005; cp. also Turkle, 2015, pp. 224–225).

Being able to summarize texts, to paraphrase knowledge, to give a reasoned value judgement about chosen phenomena and make decisions about its usefulness in a given context is maybe the most basic, yet also the most crucial work of academia. Learners, teachers, and researchers need to make informed decisions about the choice of knowledge and the exact methods of its application, about its relevance and importance, and, more importantly, about how to structure, categorize and evaluate available knowledge. This requirement demonstrates how automatizing summaries, categorization and retrieval may only have a rather limited reach in the humanities. Innovative knowledge and new ideas strongly depend on the adaptation, recombination, and transfer of knowledge to new usages, new fields or new contexts of application. This process of meaning-making seems to follow a disciplinary methodology, and yet an erratic, creative, and unpredictable pattern. Therefore, Blair reasons:

> "At the same time, we need to proceed carefully in the transition to electronic media, lest we lose crucial methods of working that rely on and foster thoughtful decision making. Like generations before us, we need all the tools for gathering and assessing information that we can muster – some inherited from the past, others new to the present." (Blair, 2010b)

Or at the very least, we have to proceed with the greatest possible critical awareness. We need to foster sceptics and those people who work or argue against the mainstream, rather than following popular trends.

In their statement, Geschwend and Gamp formulate the challenges of digitalization in education (2017). As the German Federal States or their institutions of learning have not quite succeeded in developing their own digital learning environments and, hence, make continued use of commercial digital tools and networks, learners' data is collected, and digital industries earn a commercial profit. It should go without saying that institutional learning environments need particularly astute discussions on questions of exploitation or manipulation (Geschwend & Gamp, 2017, p. 786). While digital technologies find their way into all spheres of social life and educational processes, the question should be asked how the advance of digital teaching and learning can be disjoined from the dangers of neuropsychological atrophy: How can it be avoided that an exceeding exposure to digital technology minimizes the options of learners or teachers to perceive, to process or to empathize with the world around them (Geschwend & Gamp, 2017, p. 786; cp. also Turkle, 2015, pp. 224–225)?

Finding employment and being qualified for different jobs of the near future will depend upon the development of digital literacy (Geschwend & Gamp, 2017, p. 786). Similar to Blair, Geschwend and Gamp claim that although the digitalization of large swaths of social life is driven by economic and political interest, the concept of digital literacy will have to entail the ability of judging and assessing sources and situations or to critically and ethically contextualize phenomena (Geschwend & Gamp, 2017, pp. 786f.; see also The New London Group, 1996). Therefore, particularly the humanities will have to take up their game. Geschwend and Gamp ask the pertinent question whether digitalization will shape up to become a catalyst for civilization or whether it is merely driven by

the aim of maximizing profits.[11] Next to teaching digital literacy and critical judgement, they demand of universities to encourage and invigorate "analog" competencies of their students, such as knowledge, forms of understanding, and the skills and characteristics that make for human thinking, feeling, communicating and behaving.[12]

4 The field of British and American Studies and its digital transformation

Numerous technological advances contribute to the work done in the humanities and they need to be explored, explained and expanded. More than a decade ago, the research conglomerate of the digital humanities was established in order to put questions of digitalization on the humanities' agenda and to ascertain the potential of digital technology for the mission, intent and self-styling of the humanities. It is one of any academic disciplines' most cherished prerogatives to scrutinize innovations with regard to its (probing research) questions, to the relations between new topics and the discipline's core goals, principles or categories, and regarding its repertoire of research methodologies, established sets of beliefs, and knowledge archives. When it comes to studying digitalization in the humanities or the field of Foreign Language Education, the teaching rationale for digital learning environments, the chances and challenges of digital tools as well as their benefits and additional value with regards to our field's content, principles or working methods have hardly been mentioned.[13] It is, therefore, that I would like to contribute to a regular reflection, revision and verification of the discipline and its most important, most cherished assets in light of new developments and challenges (cp. also Vollmer, 2015, p. 128).

The disciplines of *Anglistik/Amerikanistik* – American Studies, English Studies, Linguistics, and Foreign Language Education – have attended to questions of digitalization and the digital humanities. To what avail? What are "the challenge and promise" of digital scholarship, as Americanists Alexander Dunst and Dennis Mischke ask in their recent journal issues (2018, p. 131)? Dunst and Mischke describe the digitalization of the humanities by dint of the wave-metaphor: While the first wave put all the focus on technical opportunities and the work with databases, the second wave pushed forward the opportunities arising out of visualization and gamification. Visual and audiovisual material could now quickly be analyzed, stored and distributed (Dunst & Mischke, 2018, pp. 136–137). As Dunst and Mischke so aptly ask: "[…] what precisely is the epistemological shift imbued by this digital transformation?" (2018, p. 137) According to this question's logic, one should assume that the imminent third wave of digitalization would focus on constructing knowledge and redefining academic working methods.

The proliferation of digital opportunities makes knowledge globally available and universally transferable in a technical sense: University libraries that adopt an 'e-first' strategy may serve as just one example. For English language teaching, the social networks of the US-American computer industry, the many apps and services for streaming films, video clips, photos, or electronic books are a vast source of language input. The access to those resources is technically not open, as more often than not, they rely on payment models or on subscriptions, or users pay by offering up their data and privacy to the

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[11]   The passage in the original German reads: "Ist Digitalisierung ein Katalysator des Zivilisationsprozesses oder geht es vornehmlich um Profitsteigerung?"

[12]   The passage in the original German reads: "Den Universitäten sei geraten, bei ihren Studierenden neben Digital Literacy und kritischer Urteilskompetenz weiterhin oder gar vermehrt auch 'analoge' Kompetenzen zu stärken: Kenntnisse, Verständnisformen, Fähigkeiten und Eigenschaften, die für menschliches Denken, Fühlen, Kommunizieren und Verhalten charakteristisch sind." (Geschwend & Gamp, 2017, p. 787)

[13]   The contributions in Burwitz-Melzer, Riemer & Schmelter (2019) provide evidence for the fact that the German TEFL community has identified this gap; the volume provides a range of suggestions for conceptual innovation in these fields.

industry's use. Interestingly, at the biannual conference of the German Foreign Language Educators (DGFF, *Deutsche Gesellschaft für Fremdsprachenforschung*) with the title "Languages, Cultures, Identities: Changes through Digitalization" in September 2019,[14] the focus of academic talks and workshops seems to have been directed much more towards changes in technology and the digitization of teaching scenarios with the help of gadgets and equipment. Most attention was guided towards questions of how to use digital technology in the classroom, how to implement a digital teaching practice or how to use specific digital tools related to specific apps, online tools, video clips, or corpora or the use of other virtual (learning) environment. A cluster of talks centered on innovations in learning materials and teaching methodology. Considerably less attention was given to questions of the digital social divide or social justice that are created by technology and the consumption of digital gadgets. Many of those research endeavors elegantly tie in with the strategic plans of educational policy and third-party funding bids, but they leave questions of the disciplines of (teaching) English or the humanities stuck between a rock and a hard place. Other questions pertaining to what seems unique about the field of knowledge – questions of language and literature, of mediation and narrativity, of ambiguity and belonging – seem to have fallen by the wayside.

At the beginning of the millennium, Ruben Puentedura developed criteria to assess and evaluate the possibilities offered by digital, computer-based tools in the context of teaching and learning. The assumptions about the impact those tools can have on the quality of learning, he finds, are unfitting (Puentedura, 2003). Therefore, he developed a four-stage matrix that found wide recognition in the world of digital learning, including computer-assisted language learning (cf. also Schmidt & Strasser, 2018).[15] On the level of substitution (I.), the digital application simply replaces "another technological tool, without a significant change in the tool's function". A print book for, example, is replaced by a copy of that book. No further function is added, yet the new tool may be more efficient and easier to handle. On the level of augmentation (II.), a more traditional tool is exchanged for a digital one with adding a "significant functionality increase". The digital tool can take operations that make it faster, more efficient or easier to navigate than the other application. On the level of modification (III.), the digital technology offers the opportunity for a "redesign of significant portions of a task to be executed". Eventually, on the level of redefinition (IV.), the learning experience and task design can be altered so comprehensively that "the creation of new tasks, inconceivable without the computer" is the desired outcome (Puentedura, 2003; cp. also Dudeney, Hockly & Pegrum, 2014, pp. 46–48). To argue for a digital transformation of our knowledge society, therefore, would require digital tools to enfold at least the modification and, better yet, the redefinition of teaching and learning scenarios. Only a leap in educational quality would justify the encompassing, expensive, and extensive investment in all societal spheres. The teaching of English and Foreign Language Education, understood as field of knowledge from the midst of the humanities, would need a modification and redefinition of the basic tenets of our discipline(s) as well as educational efforts.

Clearly, the digitalization of the humanities should probe into the changes in conceptualizing, memorizing, or transmitting knowledge. Dunst and Mischke call for conceiving "new forms of presentation, pedagogy, and analysis" (2018, p. 135). Mehring puts it in a nutshell when asking: "How can we move from a practical digital revolution to a new way of thinking about and creatively engaging with material, charts, clusters, patterns or maps generated or distilled via digital algorithms?" (Mehring, 2018, p. 231) Not

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[14] The original title in the German language reads: "Sprachen, Kulturen, Identitäten: Umbrüche durch Digitalisierung".

[15] Puentedura's model has also been criticized, e.g., because of its inherent teleology (Bär, 2019) as well as, amongst others, the lack of precision regarding the definition of the individual categories (Schildhauer, in press). Despite this criticism, the model has proven to be an inspiring starting point for thinking about the innovative implementation of digital technologies in educational contexts and beyond.

just computational opportunities need to be considered, but even more so the transformation of how we generate knowledge, make meaning and use language creatively, how the cultural work of literature and any other form of art can be explored and play a role in the digitalization of our societies.

I argue that foundational research is needed for studying English as much as for every field of knowledge or area of application. The federal strategic plan reasserts that critical reflection is at the core of the changes so that chances and challenges can be weighed up: Cultural techniques, such as reading, writing, and calculating are needed to be successfully empowered to make informed decisions and develop a self-determined personality or life style (BMBF, 2016, p. 4). For doing this, the premises of TESOL, the teaching of English to speakers of other languages, have to be considered, especially those that do not seem immediately conducive to digitalization, such as language awareness, historicity, and cultural embeddedness, ambiguity or narrativity.

5   Concluding thoughts

The central concern must be that the digital transformation will change the way we process information, work knowledge, (inter)act and communicate with each other. What is needed, hence, is a more comprehensive approach: a transformed system of epistemological patterns. The digital transformation, after all, is a lot more than an updated technology. It changes well-established and tested cultural techniques, such as reading, writing, processing information … possibly also thinking, or teaching and learning in general (cp. also Brennan, 2017, p. 12; Dunst & Mischke, 2018, p. 133).

The questions raised in this chapter could, therefore, be summarized in one: How can digital possibilities enhance cultural techniques, working with languages and texts, or teaching and learning? What needs to be scrutinized and explored for each and every field of knowledge – school subject as much as academic discipline – are the consequences of digitalization efforts for communication processes at the school, in the classroom or in any relevant learning environment as well as the relationship between learners and teachers and other stakeholder groups. The main focus needs to rest on (disciplinary) content, concepts and the methodology of a school subject and discipline, because "technology follows pedagogy" and because digital transformation is all about the changing roles of the individuals involved in educational processes, here: the researchers, teachers, and, most importantly, the learners.

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