# Patterns of Inclusion: Fostering Digital Citizenship through Hybrid Education

# Alex Young Pedersen<sup>1\*</sup>, Rikke Toft Nørgaard<sup>1</sup> and Christian Köppe<sup>2</sup>

<sup>1</sup>Centre for Teaching Development and Digital Media, Aarhus University, Aarhus, Denmark // <sup>2</sup>Academy of Communication and Information Technology, HAN University of Applied Sciences, Arnhem, The Netherlands // alex@tdm.au.dk // rtoft@tdm.au.dk // christian.koppe@han.nl

\*Corresponding author

### ABSTRACT

Reconsidering the concept of digital citizenship and the essential component of education the authors propose that the concept of Hybrid Education may serve both as a guideline for the utilization of digital technologies in education and as a methodology for fostering new forms of participation, inclusion and engagement in society. Following T.H. Marshall's conception of citizenship the authors suggest that becoming, belonging and the capabilities to do so is essential to digital citizenship in a culturally diverse and digitally mediated world. The paper presents a theory-based, value driven and practical orientated framework for innovation in education. The paper documents a process where participants situated around the globe worked in collaboration with a group of participants gathered at a workshop on the concept of hybridity in education and on identifying and describing educational patterns for Hybrid Education that are directly applicable in relation to the concept of digital citizenship. The process introduces a value-based and vision-driven design pattern approach to innovation in education by framing and aligning values and visions of the participants. This work resulted in approximately 85 unique pattern candidates that address various aspects of hybridity in education. In conclusion, the concept and practice of Hybrid Education is both productive and conducive to the reconsidered idea of digital citizenship proposed in the paper.

### Keywords

Digital citizenship, Hybrid education, Educational design, Educational patterns

# Introduction

This paper offers a reconsideration of the concept of digital citizenship especially focusing on the philosophical and normative underpinnings. Furthermore, the paper presents an introduction to the concepts of Hybrid Education and educational patterns that may serve as the practical and theory-based means to re-configure education in alignment with and framed by certain values and visions directly applicable for digital citizenship and education for digital citizenship. The paper documents a process of educational innovation conducted in collaboration between different educational researchers from around the world participating online and face-to-face. The three authors of this paper all participated in this process.

# Citizenship and education

Education is central to the process of creating citizens. In his seminal essay on citizenship – *Citizenship and Social Class* – Marshall (1950) stressed the importance of education both as a basic social right and an individual obligation in relation to the state. Marshall suggested a tri-partition of citizenship rights into civil, political and social rights as he saw them evolve and materialize in England during the eighteenth century (civil rights), nineteenth century (political rights) and the twentieth century (social rights). Citizenship is defined as "a status bestowed on those who are full members of a community. All who possess the status are equal with respect to the rights and the duties with which the status is endowed." (Marshall, 1950, p. 28). To become a full member of a community education was needed. Marshall saw education as a central social right and a right closely connected to citizen formation: "The education of children has a direct bearing on citizenship, and, when the State guarantees that all children shall be educated, it has the requirements and the nature of citizenship definitely in mind. It is trying to stimulate the growth of citizens in the making. The right to education is a genuine social right of citizenship, because the aim of education during childhood is to shape the future adult. Fundamentally it should be regarded, not as the right of the child to go to school, but as the right of the adult citizen to have been educated." (Marshall, 1950, p. 25). Education is thus essential in the establishment and endowment of the universal status of citizenship and the enjoyment of the rights connected to this status.

Marshall (1950) saw citizenship as an evolutionary concept that increased the equality at every step of its expansion which was why it came into conflict with the concept of social class exactly because of its egalitarian scope which Lipset (1964) saw as the most central tenet in Marshall's work. Consistent with his view of citizenship as an evolving concept reflecting the historical development and the expansion of rights and inclusion

of different social groups, Banks (2008) argues for expanding Marshall's concept of citizenship to include *cultural democracy* and *cultural citizenship* given that virtually all liberal democracies are multinational or multiethnic. Given the ubiquitous and pervasive character of digital technologies in mediating communication, participation and forging of cultural identities (Johnson et al., 2014; Gillespie, 2010; Coleman, 2010) the expanded concept of citizenship should also include the aspect of digital citizenship defined as "representing capacity, belonging, and the potential for political and economic engagement in society in the information age" (Mossberger et al., 2008, p. 2).

Thus, we see digital citizenship as a continuation and broadening of the core Marshallian concept of citizenship. But the relationship between education and digital citizenship needs to be reconsidered to better fit the changing circumstances; the possibilities and dangers inherent in the advent of a digitally mediated world. It also brings into question the concept and practice of digital citizenship.

# **Digital Citizenship reconsidered**

Taking into account both Banks (2008) and Mossberger et al. (2008) and their expansion of the concept of citizenship and consistent with Marshall's evolutionary and egalitarian approach we suggest that *becoming* and *belonging* and the *capabilities* to do so is essential to digital citizenship. This takes into account that there are multiple paths of becoming and multiple spaces and places of belonging in a culturally diverse and digitally mediated world. Furthermore, that the capabilities to become and to belong are unequally distributed. These three parts of citizenship are also present and closely intertwined in Marshall's conception of citizenship and depended almost entirely on the role of education for their realization. Therefore, education needs to be reconfigured to fit our changed context and in doing so begs the question of how to renew education.

### Capabilities

Drawing on the insights of the practice-based participatory arts and media project, *Digital Commonwealth*, McGillivray et al. (2016, p. 724) conclude that "a critical digital citizenship agenda needs to be embedded in educational narratives, where young people are, through practice, asked to ponder how digitally mediated publics operate in the school setting and beyond. Integrating 'making' and 'thinking critically' about the benefits and dangers of pervasive digital media in and outside of school is imperative." Furthermore, they concluded that pedagogies need to be aligned with technologies to prepare both students and teachers to deal with the opportunities and threats of a digitally mediated world (McGillivray et al., 2016).

Digital citizenship needs a critical stance in relation to the capacity for an ethically guided use of technologies. Our use of digital technologies is inherently ambiguous and involves both a positive and a negative universalizing gesture (Samuels, 2008). For example, digital technologies have made possible the connections on a global scale that enable people to both broaden or narrow their world-view (Colleoni et al., 2014). Digital technologies such as social media make it possible to connect to the rest of the world and at the same time disconnecting from the localities in which they are physically embedded. The exposure to and engagement with other voices can lead to openness and curiosity but also to echo chambers of meaning (Goldie et al., 2014). In rare cases these monotone voices can even underpin a process of radicalization where the exposure to and the appropriation of different narratives offer individuals the collective possibility of affirming themselves as actors and of finding compatibility between self-perception and group recognition that may in the mind of the perpetrator legitimize violent action (Archetti, 2015). Education for digital citizenship is not simply a matter of information, knowledge and know-how. It is also a matter of interpersonal and inherently ethical relations, of how we think about and behave towards others, particularly those who differ from us in their race, religion, class and the like (Kymlicka, 2002).

Drawing on the concept of capabilities (Sen, 1979) we propose a "basic capability equality" which by analogy lets us shift focus away from mere technologies to what technology enables people to do. What a person is able to do say with a smartphone for instance may vary greatly from person to person. The problems encountered by different people when using digital technologies are numerous and go under the simplified notion of the "digital divide" (Warschauer, 2004). The focus of the capability approach "is here on the freedom a person actually has to do this or be that – things that he or she may value doing or being." (Sen, 2009, p. 232). The capabilities approach takes into account that people are different and as Sen remarks: "If human beings were very like each other, this would not have mattered a great deal, but there is evidence that the conversion of goods to capabilities varies from person to person to person substantially, and the equality of the former may still be far from the equality of the

latter." (Sen, 1979, p. 219). Therefore, it is not enough that people have an equal right to some level of education if they for some reasons are unable to attend school at a regular basis. The right to education may be equal but the actual capacity for utilizing and exercising this right may be very unequal say between a young adult living at home supported by his or her parents and a single mom living on her own and working to take care of her child. A reconfiguration of digital citizen education should take this capabilities approach into account.

#### Becoming

Becoming is closely connected to Hannah Arendt's ideas of natality and plurality. Natality for Arendt is that basic human condition; "the new beginning inherent in birth can make itself felt in the world only because the newcomer possesses the capacity of beginning something anew, that is, of acting" (Arendt, 1958, p. 9). Human beginnings in the political and historical sense is connected to the human activity of action. The human condition for Arendt is connected with three categories of activities; labor, work and action. Labor assures both individual survival and that of the species. Work produces human artifacts and bestow a measure of permanence on the mortal life of humans. Action that engage in the founding and preserving of the political life conditions memory and thus produces history. Action and natality is the central categories of politics for Arendt. But action would be an unnecessary luxury if humans were reproducible and interchangeable therefore the arena for action is a plurality of humans. Arendt writes: "Plurality is the condition of human action because we are all the same, that is, human, in such a way that nobody is ever the same as anyone else who ever lived, lives or will live." (Arendt, 1958, p. 8). With action in plurality we become a someone and a somebody and this becoming is for Arendt central to the process of education.

Education for Arendt "is the point at which we decide whether we love the world enough to assume responsibility for it and by the same token save it from that ruin which, except for renewal, except for the coming of the new and young, would be inevitable. And education, too, is where we decide whether we love our children enough not to expel them from our world and leave them to their own devices, nor to strike from their hands their chance of undertaking something new, something unforeseen by us, but to prepare, them in advance for the task of renewing a common world." (Arendt, 1954/1987, p. 196). First and foremost, it is important to bear in mind that education for Arendt is a passionate and ethically driven occupation that must strike the delicate balance between conservation and renewal. Secondly that responsibility is the central category of an education that leaves the possibility of renewal open. Authority of the teacher springs from his or her responsibility of the world. And as Arendt points out: "Anyone who refuses to assume joint responsibility for the world should not have children and must not be allowed to take part in educating them" (Arendt, 1954/1987, p. 189). Education makes both becoming of the individual and the renewal of the common world possible. Both possibilities hinge on the idea of responsibility which in turn in closely connected to belonging.

#### Belonging

To keep a sense of belonging and a feeling of inclusion build on heterogeneous groups can be very difficult as many attempts of integration have proven. To maintain some sort of inclusion of culturally diverse communities it is productive to think in terms of difference. This is partly empirically founded since our societies have changed so much that it is no longer viable to assume that strangers can be kept out. And as Bauman in a rather optimistic tone wrote "Postmodern times are marked by an almost universal agreement that difference is not merely unavoidable, but good, precious, and in need of protection and cultivation" (Bauman, 1997, p. 33). This was not a call for returning to some pre-modern plurality of "tribes" but a chance to rethink the conditions of individual freedom in diversity based on a more inclusive concept of citizenship, not reducing inclusion to the standard vocabulary of assimilation. This deprives the person destined to be assimilated of his or her culture and identity (Biesta, 2004). Belonging and being a member of a community was also central to Marshall, but that idea is very dependent on the inclusion via the creation of formal equality of rights. Another form of belonging respecting difference can be found in the reading of Alphonso Lingis. What Lingis (1994) shows is that there exists a different community, a community in which we are all in a sense strangers to each other, what Lingis refers to as a community of those who have nothing in common. This community differs from what Lingis calls the rational community and which echoes the community envisioned by Marshall where our voice is the voice of representation and rationality and one that is in principle recognizable to us via rational reconstruction or as Lingis puts it: "In our system of laws and our social institutions, we recognize our formulated experience, our judgment, our debated consensus. In our rational enterprises we find, in principle nothing alien to us, foreign, and impervious to our understanding; we only find ourselves." (Lingis, 1994, p. 6). On the other hand, the community of those who have nothing in common is constituted by our response to the stranger. The communication is ontologically prior to community but establishes community in the act of our response. As Biesta (2004, p. 318) remarks echoing both Lingis and Arendt: "It only matters that we respond, that we take responsibility, that we take our responsibility." What constitutes this other community inside the rational community is our responsiveness. This community is one that we share in the ethical act of responding. In other words, it exists as a possibility not as something that we can assure or guarantee by any technological or deliberate way. In education which for the most part is catering for the rational community the only thing we can do is to sometimes suspend judgement of others and create opportunities to encounter what is different, strange and other. This opening up to a world of plurality is what constitutes the possibility of becoming and belonging through the acts of claiming responsibility. The digital practices of the students need to be incorporated into education or at least education needs to be reconfigured to be open to these cultural encounters.

This reconsideration of digital citizenship takes aim at the philosophical and ethical foundations for a reconfiguration of education. Thinking in education without some careful pondering at the foundations and underlying values can be problematic as Giroux points out: "Divorced from the imperatives of a democratic society, pedagogy is reduced to a matter of taste, individual choice, and job training. Pedagogy is a mode of witnessing, a public engagement in which students learn to be attentive and responsible to the memories and narratives of others." (Giroux, 2011, p. 83).

In trying to uncover values and frame educational innovation we present a case of how this may practically unfold and hopefully give some inspiration and guidance for colleagues in education. Guiding the process was the idea of Hybrid Education and the methodology of educational patterns both of which may prove particularly important and relevant in relation to the education for and the practice of digital citizenship. These two ideas will be presented in the following.

## **Hybrid education**

*Hybridity* as a term originates from Latin and has its roots in biology. In its most basic sense it refers to a cross-fertilization or amalgamation. For example, Charles Darwin used the term in this way in 1876 to describe his experiments in cross-fertilization of plants. Likewise, it has been used to describe the ways that in which the ancient Greeks and Romans to a large degree adopted and integrated elements from foreign cultures in their own, thus, in effect, creating hybridized cultures. In the field of archeology, the term has been widely used to describe the so-called "international style" of Eastern Mediterranean Late Bronze Age pieces of art, that "exhibit complete hybridization such that no one 'foreign' culture can be said to predominate." (Feldman, 2006, p. 30).

The concept of hybridity has been closely connected to post-colonialism and multicultural awareness as well as an effort to remove the negative connotations from terms such as hybrid, bastard or mongrel and infuse it with more positive potentials and valuable productivity. Here, the focus is on the ability to open up new spaces, forms and understandings through the productive use of hybridity. Importantly, it is not a sequential blend of something like flipped classroom or blended learning that understands itself in sequences of online and offline, rather, it is something *other*, a new breed or something that is at least two places at once (Bhabha, 1994). With Bakhtin (1984), we can say that a hybrid is always polyphonic in nature, thus to be understood as a dialogically evolving concept. In recent times, hybridity has also been conceptualized as an effect of globalization, where new global and hybrid cultures emerge. In a globalized world, some remnants of different cultures intermingle and breed new ways of being and becoming a citizen. Today, many people are in effect not as much citizens of a specific nationality or nation-state as hybrid citizens in a digital world wherein they forge new hybrid ways of becoming and belonging between different cultures in local, national and global contexts in a seamless and continuous flow without a beginning and end akin to a rhizome (Deleuze & Guattari, 1980). In this way, a reconsidered concept of citizenship can be seen as a *hybrid, rhizomatic, polyphonic* and *heterogeneous* concept.

As a philosophical concept, hybridity suggests hesitation at a threshold. Hybridity is not an attempt to neatly bridge the gap, but extends the moment of hesitation and thereby evades easy categorization. And, as we allow two things to rub against each other, two things that might not otherwise touch, we invite them to interact, allowing synthesis and perforation along their boundaries. As the analog and digital, the physical and virtual, intermingle, we must let go of the containers for becoming and belonging to which we've grown accustomed. We must open up to hybridizing acts of citizenship to connections that are, like the web, associative and lively but also sometimes disturbing and deformed. In this, hybridity is not always safe, moving incessantly toward new breeds not yet known or described - something still not fully determined or categorized (Stommel & Rorabaugh, 2012).

Following from the above, Hybrid Education is likewise a rhizomatic, mongrel and heterogeneous composite that combines different elements to create something other, that is not a new blend but a new breed. Like a mule is neither a horse nor a donkey, but something third in its own right that came into being through the crossbreeding of horses and donkeys. Hybrid Education is such crossbreeding of different dimensions like online and on-site, digital and analogue, formal and informal. Hybridity as a term has been explored in relation to education, where it has been described as being "about the moment of play, in which the two sides of the binary begin to dance around (and through) one another before landing in some new configuration. [Hybrid Education] is not just about what will become of us in the wake of technological and cultural transformation, but also (and perhaps more predominantly) about the process of becoming itself." (Stommel, 2012). Hybridity within education is the acknowledgement of otherness and difference as something productive and of in-between spaces which "provide the terrain for elaborating strategies of selfhood-singular or communal-that initiate new signs of identity, and innovative sites of collaboration, and contestation, in the act of defining the idea of society itself." (Bhabha, 1994, p. 2). Furthermore, following from its close connections to globalization, hybridity accentuates how students increasingly build on a global hybrid culture base of experience that shapes both their identities and expectations of education. Hybridity emerges through the multitude of identities as a reality of the global classroom. Today, education is not for homogeneous citizens of a certain nationality belonging to a more or less uniform culture, but for a cascade of multifarious hybrid citizens that become and belong in the world in a myriad of different ways. Overall, the compound concept of hybrid education for hybrid citizenship promotes the potentials and possibilities for adopting values, activities, experiences, and formats in education that specifically focuses on the creation of new hybrids. As such, Hybrid Education is characterized by disruption, openendedness, risk-taking, experimentation, empathy, dialogue, and critical creativity (Stommel, 2012). Capturing the idea of Hybrid Education in a practical manner and putting it to work on already existing structures of educational institutions needs some sort of methodological frame. The authors suggest that the language of educational patterns may serve as this frame.

### Educational patterns and pattern language: Framework and workshop

Educational patterns provide the teacher with a set of pre-packaged examples of educational designs and a comprehensive language for making new educational designs. The idea of patterns and pattern language stems from the work of the architect Christopher W. Alexander and colleagues for them patterns "describes a problem which occurs over and over again, and then the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice" (Alexander et al., 1977). Analogue to this definition of patterns, educational patterns are hypothesized solutions to recurring problems in an educational context e.g. the pattern PROBLEM ORIENTATION offers a solution to the difficulties of motivating the students when introducing a new topic. This pattern suggests to build on the student's prior knowledge and to present a problem that the new topic solves (Fricke & Völter, 2000). Each pattern is part of a larger whole and exist in relation to other patterns. Therefore, patterns are organized in relation to one another in a network structure and explicitly mentions other patterns. The educational patterns for hybridity share the fundamental view of patterns and their relation to the world expounded by Alexander et al. (1977), that things are not build in isolation but must also repair the world around them. Furthermore, each individual pattern is formatted in a codified manner as to make it possible to evaluate and possibly modify it without losing the essence that is central to it. Educational patterns are specific examples of educational design that functions as representations of how to support learning in particular cases (Goodyear, 2005). They are procedural in nature and open to improvement. Patterns may in some cases even be highly speculative until they have been put to the test in real life setting. Existing educational patterns cover areas such as learning with technology (Goodyear & Retalis, 2010; Mor et al., 2014), MOOC-design (Warburton & Mor, 2015), assessments (Bergin et al., 2015), flipped classrooms (Köppe et al., 2015), lecture design (Köppe, 2013), seminars (Fricke & Völter, 2000), or general pedagogical practices (Bergin et al., 2012).

#### Pattern mining ground

EduPLoP is part of the Pattern Languages of Programs (PLoP) conference series and supported by both the Hillside Group and Hillside Europe. EduPLoP focus primarily on educational innovation through the collaborative design of patterns. It is designed as a pattern writing workshop where a small group of experts collaboratively works on identifying and describing patterns of a pre-defined domain in education. The first EduPLoP was held in 2015 in the Netherlands and the participants worked on patterns for Assessment-Driven Course Design (Bergin et al., 2015).

During the EduPLoP16 at Sandbjerg Estate in the southern part of Denmark on patterns for Hybrid Education the participants both worked on the concept of hybridity in education as well as working together in hybrid ways before, during and after the workshop through working digitally and materially, connecting remotely from around the globe from academic and non-academic spaces, working asynchronously and synchronously as well as individually and collectively. Through this framework, a hybrid group of experts within design patterns, hybrid pedagogy, educational technologies and online education collaborated on identifying and describing patterns for Hybrid Education. The EduPLoP16 was supported by both Aarhus University (DK) and University of Surrey (UK).

As Hybrid Education on the one hand is firmly based within the field of critical pedagogy (Stommel, 2012; Roraboaugh & Stommel, 2012) and on the other hand is focused on designing for educational experiences and interactions the group took a human-centered (Giacomin, 2015) and empathic (Gagnon, 2014; Köppen & Meinel, 2015; Battarbee, Suri & Howard, 2014) approach to hybrid education. EduPLoP16 was structured in a way that bears resemblance with the concept of value-based and vision-driven educational design thinking (Nørgård, 2016; Aaen & Nørgård, 2015; Mor et al., 2016) where design patterns are formed on the basis of specific values and driven by value-based visions. Accordingly, the EduPLoP16 workshop developed a pattern language for Hybrid Education through a workshop sequence in 6 steps structured around a value-based workshop, a vison-driven workshop, a brainstorm session, a sorting workshop, a pattern writing workshop.

#### The value-based workshop

The value-based workshop focused on identifying the core individual values of the hybrid participant group and establish a collective value framework for designing hybrid education. The value framework made the underlying values of the group's teaching and development practice explicit and enabled a collective alignment between the things we do (what and how) and the reasons for and purpose of doing so (why). The workshop was carried out to ensure that the group kept in touch with its educational values to realize the values, goals and purpose of hybrid education (see Figure 1).

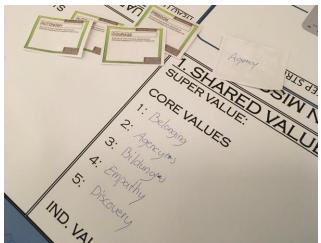


Figure 1. Identifying shared values in the value-driven workshop

#### The vision driven workshop

This workshop focused on activating the collective values in individual visions for hybrid education and subsequently transform these into a collective position or manifest that guide the development of design patterns. In this way, the values and visions guided the decision-making and design-arguments of the following pattern workshops thus making the pattern design not only focused on the what and the how but also on the why of the teacher and student experiences and interactions fostered and promoted by the design patterns. Overall, the value and vision workshop enabled the development of an intentional pattern language for Hybrid Education that provided the group with a secure foundation and intentional drive in the next step of the process where design patterns were brainstormed and developed.

#### The brainstorm session

The brainstorm session following the value and vision workshop to generate concrete examples of hybrid education from the group's own development and teaching practice. These examples spanned well above 100 different sticky notes with specific titles of activities, practices and formats for Hybrid Education (see Figure 2).



Figure 2. Brainstorming session

#### The sorting workshops

In this workshop session, the sticky notes from previous were collectively clustered and then sorted into higherlevel categories. These categories combined a range of examples that were within the same affinity space. The clusters were given a common heading such as "hybrid production" or "inside out" to designate different areas of hybrid education (see Figure 3).



Figure 3. Sorting workshop

#### The pattern writing workshops

Following the brainstorm and clustering workshops the group split up in different online-onsite hybrid subgroups containing experts from different fields and practices and shepherded by an expert within design pattern writing to write up the different categories and examples as design patterns using a shared pattern template. The sub-groups distributed the different categories amongst them and moved them into pattern templates and categorization trees to develop a structured pattern language for Hybrid Education.

#### The convergent-divergent hybrid pattern writing workshop

In the final workshop the online-onsite sub-groups met together to discuss, merge, exchange and elaborate on the different evolving design patterns within the groups. This was done in a co-constructive manner to check for redundancy between patterns and make sure that the different patterns aligned with the shared values and visions

of the group. Special attention went into the formulation of a synopsis for each pattern candidate explicating both the what, how and why of the pattern through a process of repeating review and questioning from both face-to-face discussions and online collaboration in Google Docs.

## **Results of the EduPLoP workshop - A Pattern language of hybrid education**

The result of the EduPLoP16 at Sandbjerg was approximately 85 unique pattern candidates distributed between 9 categories. The categories and patterns were arranged into a graphic mind map shoving related pattern candidates and every pattern had its own template under the different categories. By the end of the workshop some templates were still very rudimentary while some were more or less finished. All patterns were rated with \*-symbols indicating the state they were currently in.

### Value-based and vision-driven hybrid educational patterns

As outlined above, the development of a pattern language of Hybrid Education began with the value and vision workshop. The reason for putting the *why-ness* of design – the values and visions – before the *how-ness* and the *what-ness*, is to create a space for educational innovation and transformation. It is within the moral basis or virtues of educational design that the possibility for a new emancipatory space in education arises (Nixon, 2008). Change in educational practice stems from a change in the underlying values and visions for the future. In order to transform or innovate through educational design in ways that honors what is morally purposeful about education, and avoid crude instrumentalism we have to see it as "all of a piece and understand how the various activities that comprise it hang together" (Nixon, 2008, p. 1).

In other words, when developing a pattern language for Hybrid Education we need to make sure that the why, how and what are intimately connected and integrated. In this view, design patterns are always the putting into practice of what Nixon calls "virtuous academic practice" characterized by certain moral dispositions and a shared sense of moral purposefulness (Nixon, 2008, p. 8). Here, the value-based and vision-driven approach to developing a pattern language for Hybrid Education is taken to make explicit the moral foundation of the values and visions that sustain such an effort. And also, to practice those values and visions across a wide range of patterns.

Through the value-based and vision-driven approach each participant in the group started out by identifying the 5 underlying values driving their educational thinking and practice. These values were then shared and clustered into 6 core value categories shared by the entire collective and thus constituting a shared value foundation for further work. It is important to bear in mind that the identified core value categories are connected and not mutually exclusive, thus underlying values like for example *sensitivity, experimentation* or *curiosity* are shared across categories. The shared value foundation for Hybrid Education is presented in Table 1.

	Table 1. Shared value foundation for Hybrid Education
Core value category	Underlying values
Empathy	Care, Respect, Commitment, Compassion, Sensitivity, Invitational
Belonging & being	Contribution, Sensitivity, Care, Generosity
Playfulness	Joy, Creativity, Curiosity, Exploration, Experimentation
Agency & empowerment	Autonomy, Resourcefulness, Self-determination, Freedom, Autonomy, Courage
Bildung	Thoughtfulness, Discipline, Professionalism
Discovery	Experimentation, Curiosity, Exploration

With these values as a collective basis for their work, the group then moved on to generate visions that should drive the development of Hybrid Education. Here, the values were integrated with the readings about hybrid pedagogy ahead of the workshop as well as opening talks by Maha Bali (The American University in Cairo, Egypt) and Bonnie Stewart (University of Prince Edward Island, Canada), one of the founders and editors of *Hybrid Pedagogy - a digital journal of learning, teaching, and technology*.

Fusing the notion of hybridity and hybrid pedagogy with the shared educational values (Table 1) produced individual vision statements that were then collected and put together to form a shared vision statement or manifesto about Hybrid Education. The shared vision statements that drove the development of the pattern language for Hybrid Education is presented in Table 2. Again, it is important to notice that the individual vision statements are not mutually exclusive and that the inspirational core value category in Table 2 are included to

give the reader an idea of the fusing process as well as provide some structure for arranging the individual vision statements.

EmpathyHybridity promotes empowerment in order to establish autonomous learners through mutual respect and empathyBelonging and beingHybridity engenders empathy and empowerment through playful engagement with self and other Hybridity engenders empathy and empowerment through playful engagement with self and other Hybridity fosters playfulness in order to respect and celebrate each individual view through unrestricted contribution Hybridity fosters playfulness in order to develop openness through curiosity and experimentation Hybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and students Open hybridity empowers agency through possibilities of action and expression Hybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challenges Hybridity promotes critical interaction by confronting us with unexpected opportunities and challenges Hybridity invites experimentation through making the learning experience accessible and porous	Inspirational core value category Vision statements for a shared position on Hybrid Education	
Image: Second		
Belonging and beingHybrid space strengthening belonging by broadening & deepening perspectivesHybridity engenders empathy and empowerment through playful engagement with self and otherHybrid learning enables belonging in order to respect and celebrate each individual view through unrestricted contributionPlayfulnessPlayfulnessHybrid learning enables playfulness in order to develop openness through curiosity and experimentationHybrid openness enables playfulness by empowering learners to help build the learning experience and environmentHybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and studentsOpen hybridity empowers agency through possibilities of action and expression Hybrid space enable agency by tooling action in different waysBildungDiscoveryDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous	Empany	
PlayfulnessHybridity engenders empathy and empowerment through playful engagement with self and other Hybrid learning enables belonging in order to respect and celebrate each individual view through unrestricted contributionPlayfulnessHybridity fosters playfulness in order to develop openness through curiosity and experimentation Hybrid openness enables playfulness by empowering learners to help build the learning experience and environment Hybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and students Open hybridity empowers agency through possibilities of action and expression Hybrid space enable agency by tooling action in different waysBildungHybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity invites experimentation through making the learning experience accessible and porous	Palanging and haing	
engagement with self and otherHybrid learning enables belonging in order to respect and celebrate each individual view through unrestricted contributionPlayfulnessHybridity fosters playfulness in order to develop openness through curiosity and experimentationHybrid openness enables playfulness by empowering learners to help build the learning experience and environment Hybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and students Open hybridity empowers agency through possibilities of action and expression Hybrid space enable agency by tooling action in different waysBildungHybrid space enable agency by tooling action in different ways themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous	belonging and being	
Playfulnessindividual view through unrestricted contributionPlayfulnessHybridity fosters playfulness in order to develop openness through curiosity and experimentationHybrid openness enables playfulness by empowering learners to help build the learning experience and environmentHybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and students Open hybridity empowers agency through possibilities of action and expressionBildungHybrid space enable agency by tooling action in different ways Hybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous		
PlayfulnessHybridity fosters playfulness in order to develop openness through curiosity and experimentation Hybrid openness enables playfulness by empowering learners to help build the learning experience and environment Hybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and students Open hybridity empowers agency through possibilities of action and expression Hybrid space enable agency by tooling action in different ways Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challenges Hybridity invites experimentation through making the learning experience accessible and porous		
curiosity and experimentationHybrid openness enables playfulness by empowering learners to help build the learning experience and environmentHybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and studentsOpen hybridity empowers agency through possibilities of action and expressionBildungHybrid space enable agency by tooling action in different ways Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous	Playfulness	6
the learning experience and environmentHybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and students Open hybridity empowers agency through possibilities of action and expression Hybrid space enable agency by tooling action in different ways Hybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challenges Hybridity invites experimentation through making the learning experience accessible and porous		
Agency and empowermentHybrid pedagogy creates joy in order to increase the intrinsic motivation of studentsAgency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and studentsOpen hybridity empowers agency through possibilities of action and expressionBildungHybrid space enable agency by tooling action in different ways Hybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challenges Hybridity invites experimentation through making the learning experience accessible and porous		Hybrid openness enables playfulness by empowering learners to help build
Agency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and students Open hybridity empowers agency through possibilities of action and expression Hybrid space enable agency by tooling action in different ways Hybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous		the learning experience and environment
Agency and empowermentHybrid pedagogy supports empowerment in order to put control of the learning back in the hands of teachers and students Open hybridity empowers agency through possibilities of action and expression Hybrid space enable agency by tooling action in different ways Hybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous		Hybrid pedagogy creates joy in order to increase the intrinsic motivation of
Image: Section of the section of th		students
Open hybridity empowers agency through possibilities of action and expressionBildungHybrid space enable agency by tooling action in different waysBildungHybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous	Agency and empowerment	
expression Hybrid space enable agency by tooling action in different ways Bildung Hybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challenges Discovery Hybridity promotes critical interaction by confronting us with unexpected opportunities and challenges Hybridity invites experimentation through making the learning experience accessible and porous		6
BildungHybrid space invites discovery through different means of inquiry Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous		
Hybrid learning fosters Bildung in order to enable people to express themselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous		Hybrid space enable agency by tooling action in different ways
Discoverythemselves through coping with challengesDiscoveryHybridity promotes critical interaction by confronting us with unexpected opportunities and challengesHybridity invites experimentation through making the learning experience accessible and porous	Bildung	Hybrid space invites discovery through different means of inquiry
Discovery Hybridity promotes critical interaction by confronting us with unexpected opportunities and challenges Hybridity invites experimentation through making the learning experience accessible and porous		
Hybridity invites experimentation through making the learning experience accessible and porous	Discovery	Hybridity promotes critical interaction by confronting us with unexpected
		Hybridity invites experimentation through making the learning experience
Hybrid openness promotes exploration by making uncertainty part of the		Hybrid openness promotes exploration by making uncertainty part of the
course requirement		
Hybrid learning supports exploration in order to develop innovative		-
solutions through easy editing and saving of steps		
Open hybridity enables discovery beyond institutions		

Table 2. Vision statements for Hybrid Education

Following the development of a collective value-based and vision-driven approach to a pattern language for Hybrid Education the group moved onto first brainstorming examples of hybridity in education and hybrid teaching and learning, then clustering and categorizing the examples into hybrid educational patterns. Our intention is to evolve and develop all pattern candidates to full patterns and to describe them completely in future work. The categories themselves can also be seen as high-level patterns relating to and combining with other derived patterns, these patterns will be described in future work too.

# Hybrid education fostering Digital Citizenship

This paper and the value and vision workshops it describes was sparked by an initial interest in the domain of Hybrid Education. However, we regard most of the established values and visions are also highly relevant for education in digital citizenship. Furthermore, we find that the field of Hybrid Education fills a gap between more traditional ways of teaching catering for the classic concept of citizenship. Here, Hybrid Education may underpin and foster our reconsidered concept of digital citizenship better because it specifically strengthens the dimensions of *becoming* and *belonging* and the *capabilities* to do so, that we find essential for digital citizenship and which to a great extent coincides with the findings of the value workshop (see Table 1). Thus, the uncovered values and vision that initiated and framed the design process of educational patterns for Hybrid Education takes aim at the level of practice. An educational practice that we contend will foster the practice and realization of digital citizenship reconsidered.

Often, educational development within a topic such as digital citizenship is preoccupied with identifying relevant curricula/content for that topic as well as pedagogical approaches for teaching these (Hollandsworth et al., 2011;

Bennett, 2008). Rather than conveying texts or knowledge on digital citizenship through teaching, we propose to use Hybrid Education as an entry point for practicing and expressing digital citizenship in education. Here, digital citizenship becomes embedded in educational practice since the values, visions and design patterns inherent in Hybrid Education transform the essential educational component of digital citizenship.

Bennett (2008, p. 21) stresses the importance of the student's experiences of engagement and active participation within the educational system to shape the outcomes of citizenship for future generations. Therefore, it would be beneficial to shift the focus from education *for* digital citizenship to different ways of practicing and experiencing digital citizenship may be enabled with Hybrid Education. This also offers new possibilities to authentically include education for digital citizenship in all its facets in educational practice.

### Conclusion

Digital citizenship can be fostered through a conceptual change of citizenship which takes into account the historical development and changes. We propose a reconsideration of the concept of digital citizenship by focusing on three intertwined philosophical underpinnings: *becoming, belonging* and the *capabilities* to do so. This has led us to reconsider the role of education in relation to citizenship and envision a change at the level of practice of the ways in which we perceive and act in education. Thinking and acting in hybrid ways change the scope and space for education making it more inclusive and conducive to the fostering of a digital citizenship that opens up to something other. In trying to bridge theory and practice we have presented a case of intercultural collaboration in a workshop format that resulted in approximately 85 educational patterns candidates for Hybrid Education and the process collaborative pattern mining can prove a viable pathway for innovation in education underpinning and fostering a new broader and value based conception of digital citizenship.

### References

Aaen, J. H., & Nørgård, R. T. (2015). Participatory academic communities: A Transdisciplinary perspective on participation in education beyond the institution. *Conjunctions. Transdisciplinary journal of cultural participation*, Special issue on Participation across, between and beyond disciplines and institutions (pp. 67–98). Aarhus, Denmark: The State and University Library Aarhus.

Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I., & Angel, S. (1977). A Pattern language: Towns, buildings, construction. New York, NY: Oxford University Press.

Archetti, C. (2015). Terrorism, communication and new media: Explaining radicalization in the digital age. *Perspectives on Terrorism*, 9(1), 49-59.

Arendt, H. (1954). Between past and future. Eight exercises in political thought (Enlarged ed.). Harmondsworth, UK: Penguin Books.

Arendt, H. (1958). The Human Condition (2nd ed.). Chicago, IL: The University of Chicago Press.

Bakhtin, M. M. (1984). *Problems of Dostoevsky's poetics* (C. Emerson, Trans. C. Emerson Ed.). Minneapolis, MN: University of Minnesota Press.

Banks, J. A. (2008). Diversity, group identity, and citizenship education in a global age. *Educational Researcher*, *37*(3), 129-139.

Barnett, R. (2004). Learning for an unknown future. *Higher Education Research & Development, 23*(3), 247-260. doi:10.1080/0729436042000235382

Barnett, R. (2011). Being a university. London, UK: Routledge.

Barnett, R. (2013). Imagining the university. London, UK: Routledge.

Battarbee, K., Fulton Suri, J., & Gibbs Howard, S. (2014). Empathy on the edge: Scaling and sustaining a human-centered approach in the evolving practice of Design. *IDEO*. Retrieved from http://www.ideo.com/images/uploads/news/pdfs/Empathy\_on\_the\_Edge.pdf

Bauman, Z. (1997). Postmodernity and its Discontents. Cambridge, UK: Polity Press.

Bennett, W. L. (2008). Changing citizenship in the digital age. Civic life online: Learning how digital media can engage youth. In *The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning* (pp. 1–24). Cambridge, MA: The MIT Press.

Bhabha, H. K. (1994). The Location of culture. New York, NY: Routledge.

Bergin, J., Eckstein, J., Völter, M., Sipos, M., Wallingford, E., Marquardt, K., & Manns, M. L. (Eds.). (2012). *Pedagogical patterns: Advice for educators*. New York, NY: Joseph Bergin Software Tools.

Bergin, J., Kohls, C., Köppe, C., Mor, Y., Portier, M., Schümmer, T., & Warburton, S. (2015). Assessment-driven course design - Foundational patterns. In *Proceedings of the 20th European Conference on Pattern Languages of Programs* (EuroPLoP'15) (pp. 1-13). Irsee, Germany: ACM.

Biesta, G (2004). The Community of those who have nothing in common: Education and the language of responsibility. *Interchange*, *35*(3), 307-324. doi:10.1007/bf02698880

Budd, R. (2017). Undergraduate orientations towards higher education in Germany and England: Problematizing the notion of "student as customer." *Higher Education*, 73(1), 23–37. doi.org/10.1007/s10734-015-9977-4

Coleman, E. G. (2010). Ethnographic approaches to digital media. *Annual review of anthropology, 39*, 487-505. doi:10.1146/annurev.anthro.012809.104945

Colleoni, E., Rozza, A., & Arvidsson, A. (2014). Echo chamber or public sphere? Predicting political orientation and measuring political homophily in Twitter using big data. *Journal of Communication*, 64(2), 317-332. doi:10.1111/jcom.12084

Darwin, C. R. (1876). The Effects of cross and self fertilisation in the vegetable kingdom. London, UK: John Murray.

Deleuze, G., & Guattari, F. (1980). A Thousand plateaus – Capitalism & schizophrenia (B. Massumi, Trans.). London, UK: Continuum.

Feldman, M. H. (2006). Diplomacy by design: Luxury arts and an "international style" in the ancient near east, 1400–1200 BCE. Chicago, IL: University of Chicago Press.

Filippakou, O., & Williams, G. (2015). *Higher education as a public good. Critical perspectives on theory, policy and practice.* New York, NY: Peter Lang.

Fricke, A., & Völter, M. (2000). Seminars - A Pedagogical pattern language about teaching seminars effectively. In *Proceedings of the 5th European Conference on Pattern Languages of Programs (EuroPLoP 2000)* (pp. 1-37). Irsee, Germany.

Gagnon, C. (2014). Learning from others: A Five years experience on teaching empathic design. In Y. K. Lim, K. Niedderer, J. Redström, E. Stolterman, & A. Valtonen (Eds.), *Proceedings of Design Research Society Biennial International Conference DRS 2014: Designs Big Debates* (pp. 16–19). Ume, Sweden: Ume Institute of Design, Ume University.

Giacomin, J. (2014). What is human centred design? *The Design Journal*, 17(4), 606-623. doi:10.2752/175630614X14056185480186

Gillespie, T. (2010). The Politics of "platforms." New Media & Society, 12(3), 347-364. doi:10.1177/1461444809342738

Giroux, H. A. (2011). On Critical pedagogy. New York, NY: Continuum Books.

Goldie, D., Linick, M., Jabbar, H., & Lubienski, C. (2014). Using bibliometric and social media analyses to explore the "echo chamber" hypothesis. *Educational Policy*, 28(2), 281-305. doi:10.1177/0895904813515330

Goodyear, P. (2005). Educational design and networked learning: Patterns, pattern languages and design practice. Australasian Journal of Educational Technology, 21(1), 82-101.

Goodyear, P., & Retalis, S. (Eds.). (2010). *Technology-enhanced learning: Design patterns and pattern languages*. Rotterdam, The Netherlands: Sense Publishers.

Johnson, L., Adams Becker, S., Estrada, V., Freeman, A., Kampylis, P., Vuorikari, R., & Punie, Y. (2014). *Horizon report Europe: 2014 Schools edition*. Luxembourg/Austin, TX: Publications Office of the European Union/The New Media Consortium.

Hollandsworth, R., Dowdy, L., & Donovan, J. (2011). Digital citizenship in K-12: It takes a village. *TechTrends*, 55(4), 37-47.

Köppe, C. (2015). Towards a pattern language for lecture design: An Inventory and categorization of existing lecture-relevant patterns. In *Proceedings of the 18th European Conference on Pattern Languages of Program* (Article 3). New York, NY: ACM. doi:10.1145/2739011.2739014

Köppe, C., Niels, R., Holwerda, R., Tijsma, L., Van Diepen, N., Van Turnhout, K., & Bakker, R. (2015). *Flipped classroom patterns: Designing valuable in-class meetings.* In *Proceedings of the 20th European Conference on Pattern Languages of Programs* (Article 26). New York, NY: ACM. doi:10.1145/2855321.2855348

Köppen, E., Meinel, C. (2015). Empathy via design thinking: creation of sense and knowledge. In H. Plattner, C. Meinel, & L. Leifer (Eds.), *Design Thinking Research. Understanding Innovation* (pp. 15–28). Cham, Switzerland: Springer.

Kymlicka, W. (2002). Civil society and government: A Liberal-egalitarian perspective. In N. L. Rosenblum & R. C. Post (Eds.), *Civil Society and Government* (pp. 79-110). Princeton, NJ: Princeton University Press.

Land, R. (2004). Educational development: Discourse, identity and practice. London, UK: McGraw-Hill Education.

Lingis, A. (1994). The Community of those who have nothing in common. Bloomington and Indianapolis, IN: Indiana University Press.

Marshall, T. H. (1950). Citizenship and social class. Cambridge, UK: Cambridge University Press.

McGillivray, D., McPherson, G., Jones, J., & McCandlish, A. (2016). Young people, digital media making and critical digital citizenship. *Leisure Studies*, *35*(6), 724-738. doi:10.1080/02614367.2015.1062041

Mor, Y., Mellar, H., Warburton, S., & Winters, N. (Eds.). (2014). Practical design patterns for teaching and learning with technology. Rotterdam, The Netherlands: Sense Publishers.

Mor, Y., Warburton, S., Nørgård, R. T., & Ullmo, P.-A. (2016). MOOC design workshop: Educational innovation with empathy and intent. In K. Verbert, M. Sharples, & T. Klobučar (Eds.), *Adaptive and Adaptable Learning: 11th European Conference on Technology Enhanced Learning, EC-TEL 2016, Lyon, France, September 13-16, 2016, Proceedings* (pp. 453-459). Cham, Switzerland: Springer International Publishing.

Mossberger, K., Tolbert, C. J., & McNeal, R. S. (2008). *Digital citizenship: The Internet, society, and participation*. Cambridge, MA: MIT Press.

Nixon, J. (2008). Towards the virtuous university. The Moral bases of academic practice. New York, NY: Routledge.

Nørgård, R.T. (2016). Værdi-baseret visions-drevet didaktisk designtænkning: innovation i undervisningen gennem intentionel brug af teknologier [Value-based vision-driven educational design thinking: innovation in teaching through intentional use of technologies]. Abstract from DUN Conference 2016, Vejle, Denmark.

Samuels, R. (2008). Auto-modernity after postmodernism: Autonomy and automation in culture, technology, and education. In M. Tara (Ed.), *Digital Youth, Innovation, and the Unexpected* (pp. 219-240). Cambridge, MA: The MIT Press.

Selwyn, N. (2007). Citizenship, technology and learning - a review of recent literature. Bristol, UK: Futurelab.

Sen, A. (1979, May 22). Equality of what? The Tanner lecture on human values. Stanford, CA: Stanford University.

Sen, A. (2009). The Idea of justice. Cambridge, MA: The Belknap Press of Harvard University Press.

Shumar, W. (1997). College for sale: A Critique of the commodification of higher education. College, identity, and school life series. London, UK: Falmer Press.

Stommel, J. (2012). *Hybridity, pt. 2: What is hybrid pedagogy?* Retrieved from http://www.digitalpedagogylab.com/hybridped/hybridity-pt-2-what-is-hybrid-pedagogy/

Stommel, J., & Rorabaugh, P. (2012). Hybridity, pt. 3: What does hybrid pedagogy do? Retrieved from http://www.digitalpedagogylab.com/hybridped/hybridity-pt-3-what-does-hybrid-pedagogy-do/

Warburton, S., & Mor, Y. (2015). A set of patterns for the structured design of MOOCs. *Open Learning: The Journal of Open, Distance and e-Learning, 30*(3), 206-220. doi:10.1080/02680513.2015.1100070

Warschauer, M. (2004). Technology and social inclusion: Rethinking the digital divide. Cambridge, MA: The MIT Press.