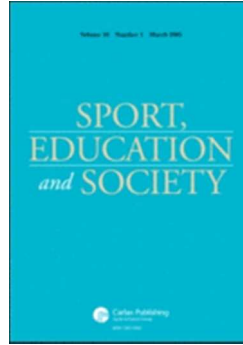


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Learning to be human in a digital world: A model of Values Fluency Education for Physical Education

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4 **Title: Learning to be human in a digital world: A model of Values Fluency**
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6 **Education for Physical Education**
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Abstract

It is argued that negotiation and performance of identity in contemporary society is linked with the value-laden spaces in which individuals spend time. Concepts of space, place and identity have become important when looking to understand elements of social practice, in light of the recognition that life is becoming progressively more mobile, varied and challenging. This has resulted in a shift in how subsequent generations experience space and place within digitally-mediated social landscapes. It is asserted that young people in contemporary society can be seen to occupy a *hybrid* virtual-real world (Jordan, 2009) where they experience the multiplication of place or duplication of space (Papacharissi, 2011). Such complex social geographies, we contend, have important implications for young people's negotiation and performance of identity, the acquisition of socio-technical capital (Resnick, 2001) and, ultimately, digital well-being.

In a time when there is a focus on developing global and connected citizens (Greene, 1995) we argue that pupils need to be both digitally fluent *and* values fluent as they negotiate spaces of reality and virtual reality. Both constructs require the learner to engage critically with information and misinformation as presented on ever-changing digital interfaces (Kahne & Bowyer, 2017) and to make value choices. Given that physical education (PE) has been identified as a significant place for meaning-making (Spracklen, 2015) and a core site for values-based education (McCuaig et al, 2015) it is identified as a key context in which to examine some of the challenges posed for students and educators with regard to values-based practices in digitally-mediated spaces. Within this conceptual paper, we propose a praxis model of values fluency to help PE teachers to support young people to recognise and successfully navigate hybrid spaces, to critically engage with sociotechnical capital and become adept at transferring and translating values across and between social contexts.

Keywords: Values Fluency Education, digital age, identity, physical education, Values Compass

Introduction

Floridi (2015) outlines the radical nature of the philosophical task ahead of educators in a digital age, using the words of Neurath (1959): “No tabula rasa exists. We are like sailors who must rebuild their ship on the open sea, never able to dismantle it in dry-dock and to reconstruct it there out of the best materials” (p.201). As Floridi (2015) puts it, we are effectively “building the raft while swimming” (p.23).

This paper developed from conversations between the authors around areas of shared interest across separate research projects, which focused on young people’s learning and development in values-based education within the field of PE (Chambers, 2016). More specifically, it grew from a recognition that increasingly complex social landscapes play a central role in young people’s negotiation and performance of identity, and that transitions within, between and across social spaces represent a challenge for educators that has perhaps not fully been appreciated. Concepts of space, place and identity have become incredibly important when looking to understand young people’s social practices, given that the nature of social life is becoming progressively more mobile, varied and challenging. The rise in new technologies, and the forms of communication, connection and expression these support, has rendered the social landscape ever more complex; fostering an interconnecting network of virtual and physical spaces which blend within the realities of everyday life (Ergler et al, 2016). As Paiva (2015) asserts, “virtual spaces have become, culturally, actual spaces” and can therefore be understood as part of the everyday lifescape (p. 2). There are real implications here for young people’s sense of place and the ways in which they negotiate and perform identity within different socio-spatial and digitalised contexts.

Ergler et al (2016) contend that digital technologies are increasingly part of young people’s everyday lives, asserting, “the omnipresence of new technologies such as smartphones, tablet computers and digital cameras has altered how children engage with their physical and social surroundings” (p. 129). In this instance, it may be helpful to think of digital technologies as not mere tools but rather social forces that are increasingly affecting our fundamental understanding of reality i.e. our self-conception (who we are), our mutual interactions (how we socialise); our conception of reality (our metaphysics); and our interactions with reality (our agency) (Floridi, 2015). In recognising the social power of technology, researchers are forced to think of new and

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3 innovative ways of engaging with youth, to understand their complex lives and
4 everyday activities in increasingly digitally-mediated childhoods (Ergler et al., 2016).
5 Similarly, Schaffer and Clinton (2016), drawing on Dewey (1953), describe how we
6 now need to change how we think about thinking i.e. “the mind is an ecological system
7 in which individuals interact with cultural tools to produce thought and action” (p.285).
8 Therefore, in the presence of new cultural forces (such as digital technologies) our ways
9 of being, knowing and perceiving ourselves in relation to our contexts change. Bearing
10 in mind these calls to think and examine differently, this discussion considers how
11 young people’s socio-spatial and digitally-mediated experiences shape, in particular,
12 their values-based practices. In this paper, we use the field of physical education (PE), a
13 space that has been recognised as relevant for values-based education and the
14 acquisition of life-skills (see McCuaig et al., 2015) as an illustrative context.
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24 **Contemporary notions of Space and Place and Identity**

25 The performance of identity in the contemporary climate is inherently linked with the
26 spaces in which individuals spend time and is influenced by the ideas and values
27 embedded within each context (Hopkins, 2010). Recent changes in the traditional
28 structure and organisation of social life are perceived to have precipitated the need for
29 more fluid understandings of identity and belonging. For the younger generation, this
30 has led to new patterns of youth transitions as well as an increase in agentic action. As
31 social actors who are “enmeshed in richly diverse social worlds rather than separated
32 out, disconnected individuals” (Blundell, 2016 p.41), it is important to recognise the
33 significance of spatiality when seeking to understand the social realities in which young
34 people live. Anderson and Jones (2009) also emphasise the connections between people
35 and place as they seek to explore young people’s lifescapes, noting that “places are
36 intimate, peopled, and emotive...they are humanized versions of space” (p.293). This
37 gives rise to an understanding of young people as having multi-dimensional, shifting
38 and *spatialised* identities, where localities matter and are open to context specific
39 interpretation (Hopkins 2010).
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51 Drawing on a Bourdieusian perspective, Sandford (in press) highlights the increasingly
52 complex social geographies of young people and emphasises the challenge many
53 individuals face in moving within and between social fields. In particular, there is
54 challenge in navigating the *transitional* spaces between fields; spaces of intersection
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3 that often require individuals to manage the demands of competing structural
4 influences, resources and practices. The resources (capital) available to individuals in
5 these intersecting spaces, and their capacity to make suitable decisions about how they
6 could/should be used, can result in appropriate practice and aid an individual's sense of
7 identity and belonging ('fit'), while failure to do so could lead to marginalisation (see
8 Hill et al., 2015). Jordan (2009) alludes to the impact of this complex practice when she
9 speaks of 'hybridity' and the blurring of boundaries between real and virtual spaces,
10 commenting that here consciousness becomes "to some extent shared between an
11 offline physical and an online virtual self" (p.3). This identification of an interstitial or
12 hybrid space contains echoes of Soja's (1996) notion of a 'third space' (p.57). In such
13 spaces, individuals experience the duplication of space or, as Papacharissi, (2011) has
14 argued, the multiplication of place, with events occurring simultaneously in both real
15 and virtual time. This is pertinent, given the growing significance of digital technologies
16 and the access they offer to virtual space. Not only are individuals being required to
17 navigate the complex, intersecting landscape of physical (actual) space, they
18 increasingly need to do so whilst simultaneously engaging with multiple realities. This
19 raises some important questions about the nature and impact of those boundary regions
20 that sit at the intersection of social realities. In particular, there are clear implications,
21 we contend, for the negotiation and performance of identity (real/imagined,
22 embodied/disembodied) in these spaces. Indeed, it appears to have significant
23 consequences for contexts in which multiple generations work/live together e.g. in
24 physical education settings.
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40 **Generational Identity in a Digital World**

41 In 1928, the German sociologist, Mannheim, put forward the theory that cohorts within
42 world populations tended to gather around shared experiences rather than social class or
43 geographical location. He recognized that chronological cohorts experiencing the same
44 cultural events, interpreted through a similar lens based on their life-stage of
45 sociological development, would forever share a sense of a common perspective. This
46 was the theory of generations. Taylor (2008) later argued that such thinking led to a
47 scholarly focus on the *values*, characteristics and behaviours of chronological
48 generations. Building on the original work of Mannheim (1928), McCrindle and
49 Wolfinger (2011) recently proposed a sociological definition of generations, i.e. those
50 born within a similar span of time who share a comparable age and life stage and who
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3 were shaped by common events, trends and developments. They asserted that younger
4 generations are very different to previous youth cultures due to digital technology, mass
5 marketing, politics and pop culture. As a result, they have notably different aspirations,
6 worldviews and digital personas, most notably as digital immigrants (reluctant adopters
7 of technology), digital adaptives (willingly embrace technology) or digital natives
8 (immersed in technology) (McCrindle, 2011). It was Marc Prensky (2001) who first
9 dubbed Generation Z/Millennials as ‘digital natives’, although this appears to be
10 something of a misnomer, as recent research suggests that they do not always fully
11 understand the complexities inherent in the use of ubiquitous technologies or the
12 implications of their impact (Organisation for Economic Cooperation and Development,
13 2015).
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22 In his influential work, Erikson (1968) described how identity formation was a lifelong
23 endeavour but that adolescence was a pivotal moment; a time where individuals try on
24 different identities and seek affirmation from their peers in relation to their development
25 values and beliefs. In emerging adulthood, the focus then shifts to an individual’s
26 broader purpose in society and identity becomes (relatively) more stable. However,
27 Gergen (2000) queries whether this theory adequately captures the complexities of
28 identity formation in a digital society. Today, identity development takes place in a
29 world of ubiquitous social media where it is possible to craft multiple identities. As
30 Davis and Weinstein (2017) note, this makes it challenging when trying to “disentangle
31 ‘digital life’ from the contexts in which today’s adolescents and emerging adults
32 navigate key development tasks” (p.1). Given the features of networked technologies
33 (i.e. asynchronous communication, 24/7 connectivity, feelings of
34 anonymity/pseudonymity and the public persistent nature of online communication)
35 they ask what the implications are for the processes of identity development in spaces
36 that increasingly presume consistency, authenticity and accountability across contexts.
37 Moreover, they call for educators to encourage youth to be self-reflective regarding on-
38 line identity expression.
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51 Kirkpatrick (2012) cites Mark Zuckerberg, chairman and co-founder of Facebook, as
52 promoting the idea of a single identity and commenting that having multiple identities
53 “is an example of a lack of integrity” (n.p.). However, Zimmer (2010) refutes this view,
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3 arguing that individuals are constantly engaged in a process of managing identity
4 performance:
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8 This is how we navigate the multiple and increasingly complex spheres of
9 our lives. It is not that you pretend to be someone that you are not; rather,
10 *you turn the volume up on some aspects of your identity, and tone down*
11 *others, all based on the particular context you find yourself* (our emphasis,
12 n.p).
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17 We contend that here, Zuckerberg is perhaps hinting at the need for some form of stable
18 'core' identity amid the multiple iterations of self - one that remains central to social
19 practice across an individual's 'lifescape' (Anderson & Jones, 2009). Holroyd (2002)
20 has previously noted 'enduring aspects' of young people's identities and has drawn on
21 Bourdieu's notion of habitus to help theorise how deeply embedded ideas, values and
22 dispositions can help individuals maintain relatively coherent understandings of self in
23 shifting terrain. Interestingly, in an interview recorded in 2014 as Facebook turned ten
24 years old, Zuckerberg appeared to have a change of heart in relation to identity (and
25 anonymity) siding more with Zimmer's perspective. As he commented, "we don't need
26 to keep on only doing real identity things... If you're always under the pressure of real
27 identity, I think that is somewhat of a burden" (n.p.).
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37 This also seems to link with Floridi's (2015, p.11) view of a more welcoming and freer
38 public sphere that acknowledges "that everybody needs both shelter from the public
39 gaze and exposure" (p.11). There certainly appears to be a struggle to understand fluid
40 identities in digital-real contexts. To make sense of this, Lewin and Lundie (2016)
41 discuss the philosophies of digital pedagogy and call for more sustained reflection on
42 the complex nature of technological change. They draw on the work of Stiegler (2010)
43 and note his focus on the impact of digital cultures/resources on intellectual and
44 cognitive development, as well as the process of individual and social formation,
45 arguing that this has implications for the educative purpose of 'subjectification'.
46 Moreover, Ess (2015) also describes that "endorsing responsibility in a hyperconnected
47 reality requires acknowledging how our actions, perceptions, intentions, morality, even
48 corporality are interwoven with technologies in general, and ICTs in particular" (p.18).
49 Within the following section we look to the work of Papacharissi (2011) and look more
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3 closely at the resources available for identity construction within those hybrid spaces
4 where real and virtual worlds intersect. Here, we focus on individuals' connections with
5 others, the acquisition of relevant knowledge/information, and the sharing of socio-
6 technical capital.
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10 **Social and Socio-technical Capital in Hybrid Spaces**

11 Broadly conceived, social capital refers to the benefits that can be attained from
12 connections between people through their social networks. Bourdieu (1986) described it
13 as “the aggregate of the actual or potential resources which are linked to possession of a
14 durable network of more or less institutionalized relationships of mutual acquaintance
15 and recognition” (p. 249). Social capital comprises the links, shared values and
16 understandings in society that enable individuals and groups to trust each other and
17 facilitate collaboration. At a more nuanced level, the role of social structure, social
18 norms and trust, reciprocity, solidarity and the flow of information are also key.
19 Scrivens and Smith (2011) for example, describe how social capital can be defined in
20 relation to the following four areas: i) personal relationships; ii) social network support;
21 iii) civic engagement; and iv) trust and cooperative norms (p.5). Putnam (2000) also
22 spoke of two kinds of social capital for the offline world: bridging capital (connecting
23 heterogenous groups) and bonding capital (linking homogenous group). In an online
24 world, however, the term *sociotechnical capital* (Resnick, 2001) has come to be used,
25 because of the reach of online communication tools to connect socially.
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38 Resnick (2001) describes how technology changes social capital in digital spaces,
39 enhancing a person's bridging social capital. It does this by removing impediments to
40 interaction e.g. information flow, reach, distance and time. It also enables the formation
41 of group identities, which can be fostered through synchronous and asynchronous
42 interactions. Socio-technical capital involves the flow of information and images and
43 can be seen to impact the performance of identity (Papacharissi & Easton, 2012). As
44 argued earlier, it is accepted that technology-induced changes in the situational
45 geography of social life (Meryowitz, 1985) mean that identity is now performed in
46 virtual, real and hybrid contexts. Both the spaces and the individuals performing in
47 these spaces are metamorphic, with cycles of self-presentation and impression
48 formation being dependent on those viewing the performance. However, the boundaries
49 between these public spheres can become blurred, as “individuals perform on multiple
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3 stages, and in doing so they blend social spheres online that may have been separate
4 offline” (ibid, p.307). In this way, Papacharissi (2011) argues, we could perceive such
5 blurring as causing a loss rather than a multiplication of place:
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9 It is the architectural equivalent of lifting all walls physically separating
10 rooms, houses, offices, buildings, and all concrete structures, this
11 rearrangement of boundaries results in a loss of the unique connection of
12 interaction to place (pp.307-308).
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17 As people move across the porous boundaries between real and virtual into hybrid
18 spaces with ease, they have ready access to the socio-technical capital available within
19 them. Boyd (2014) refers to this as context collapse. A downside here is that in these
20 spaces the diminished role of gatekeepers means that there are vastly expanded
21 opportunities for the circulation of both information and misinformation (McCordle
22 and Wolfinger, 2011). Research indicates that young people are often unaware of the
23 hybridity of their social spaces and may believe that they are ‘unseen’ in virtual space
24 (Roche & Kevane, 2017); effectively donning an *invisibility cloak* which renders them
25 ‘safe’, allowing them to say and do as they please. We argue that an uncritical
26 appreciation of the acquisition and transfer of socio-technical capital between and
27 across such spaces, holds significant implications for young people’s construction of
28 identity and associated digital well-being. We further assert that PE, with its pro-social
29 values focus, is a key site for empowering young people to become critical prosumers
30 [simultaneously producing and consuming] of knowledge and social capital and thus to
31 flourish i.e. enjoy digital wellbeing.
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43 **A Case for Digital Wellbeing**

44 Floridi (2015) describes three core risks of hyperconnected spaces that young people
45 need to be aware of: (1) **Control of knowledge and power**; (2) **Experiencing**
46 **freedom, equality and otherness in public spheres** (with implications for mediated
47 identities/calculated interactions and related concepts such as profiling, lateral
48 surveillance and ‘big brother’ surveillance); and (3) **The abundance of information**
49 (leading to cognitive overload, distraction and disempowerment through data
50 manipulation). Given such concerns, we contend that young people need to be taught to
51 be/feel safe in those spaces where real and virtual worlds intersect. In other words, they
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3 need to enjoy **digital wellbeing**, which includes: being able to look after personal
4 health, safety and relationships in digital settings; using digital media to foster
5 community actions and wellbeing; and acting safely and responsibly in digital
6 environments (JISC #1minuteCPD, 2016). Underpinning digital wellbeing are the core
7 concepts of digital literacy and digital fluency.
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12 The New Zealand Ministry of Education (2016) defines digital literacy as “the ability to
13 know **how** to use digital technologies and **what** to do with them” (authors’ emphasis)
14 (n.p.). However, Miller and Bartlett (2012) push for the more sophisticated concept of
15 digital fluency as the key skill for a digital age. They assert digital fluency is “a
16 tripartite concept constituting critical thinking, net savviness and diversity” (n.p.)
17 arguing that this helps to create a pedagogical framework that is more fitting for the
18 digital age. Digital fluency in action is argued to be:
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25 The ability to decide **when** to use specific digital technologies to achieve
26 their desired outcome. A digitally fluent person can articulate **why** the tools
27 they are using will provide their desired outcome (New Zealand Ministry of
28 Education, 2016 n.p.).
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33 Miller and Bartlett (2012) describe how digital fluency rests on critical engagement
34 with digital media, noting how this requires the combination of classic skills (e.g.
35 checks and techniques to assess the trustworthiness and accuracy of information) with
36 new forms of knowledge (e.g. understanding the cyber structure of the world-wide
37 web). Briggs and Makice (2012) also provide a clear model depicting the road to digital
38 fluency, through the stages of anti-literacy, pre-literacy, literacy and fluency. The model
39 is underpinned by three facets: Knowledge, Skills and Mindset. The characteristics of
40 ‘anti-literacy’ are manifested as believing that all technology is detrimental. When the
41 person is encouraged to be more open to the possibility that there may be benefits in
42 engaging with technology, they move to the pre-literacy stage. Having begun to work
43 with technology the ‘literate’ person can use technology comfortably but may be
44 blinkered to experimentation with technology. Again, if nudged to begin to critically
45 engage with technology, the person moves to the ‘digitally fluent’ stage.
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3 To enjoy digital fluency, therefore, a person must be digitally literate i.e. proficient in
4 key **digital skills/competences**. The European Commission's (2016) 'A new skills
5 agenda for Europe' document and the more recent 'Key Competences for Lifelong
6 Learning' proposal (2018), set out how Europe will address the current skills challenges.
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8 It aims to ensure that all EU citizens will have a core set of competences needed for
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10 personal development, social inclusion, active citizenship and employment. These
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12 competences include literacy, numeracy, science and foreign languages, as well as more
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14 transversal skills such as digital competence, entrepreneurship, critical thinking,
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16 problem solving and 'learning to learn'. As part of this core drive, the 'European Digital
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18 Competence Framework for Citizens' (DigComp 2.1) offers a tool to improve citizens'
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20 digital competencies (e.g. relating to information and data literacy, communication and
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22 collaboration and problem-solving). In the fields of education, training and
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24 employment, this provides a common reference framework of what it means to be
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26 digitally 'savoir faire' (savvy) in an increasingly globalised and digital world.

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28 In 2017, the Chambers & Sandford also highlighted another core aspect of digital
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30 wellbeing: values. It is important to acknowledge that both technology and the user are
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32 values-laden, as are the spaces in which they interact. It is therefore crucial to consider
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34 the role of both 'internal' values (those characteristic of technology) and the 'external'
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36 values (concerned with a particular human undertaking) when seeking a better
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38 understanding of practice in digitally-mediated spaces (Gonzalez, 2015). Given the
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40 issues highlighted earlier in this paper, we contend that both *digital fluency* and *values*
41
42 *fluency* are constituent parts of digital wellbeing for young people. In this context, we
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44 define
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46 **values literacy** as the ability to read a situation (real or virtual), make a value judgment
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48 on it and then enact that value judgment. More recently, we have moved to a more
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50 nuanced understanding of values literacy in action, settling upon the notion of **values**
51
52 **fluency**. We argue that a values fluent person can articulate why they enact particular
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54 values in real and virtual settings and gauge the consequences of such actions
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56 (Chambers & Sandford, 2017). By teaching young people to be values fluent, therefore,
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58 we can help to then to ethically and empathically re-engage and desist from digital
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60 inhibition (Hargreaves, 2016), which can often lead to digital forgery (Boyd, 2014) of
their identity online.

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3 Having outlined the theoretical framework underpinning our model, we now move on to
4 consider the role of education in facilitating the journey to values fluency within the
5 school context of PE; a space in which multiple generations are working together and
6 there is a clear values-focus to practice. Ilgen et al (2005) speak of deep-level diversity
7 (such as differences in values, thoughts, and attitudes) in this context. This has
8 important implications for how teachers educate pupils within the arena of values-based
9 education and values fluency.
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15 **Values Based Education in Physical Education**

16 Dewey (1938) argued that the primary intent of education and schooling is not so much
17 to *prepare* students to live a useful life, but to teach them how to live the current
18 environment. More recently, Maxine Greene (1995) suggested that young people must
19 be well informed and have the educational abilities and sensitivities needed to critically
20 examine the world in which we live. As outlined above, however, the current
21 environment is characterised by constant change and flux, which presents limitless
22 moral dilemmas for young people across local, national and international contexts.
23 Nonetheless, education has a transformative power and as such has a key role in
24 developing a positive moral/values compass for young people: values education is thus
25 a core purpose of schooling. This can be defined as the aspect of educational practice in
26 which moral values as well as norms, dispositions, and skills grounded in those values
27 are mediated or learned by students (e.g. Halstead & Taylor, 2000). The enterprise of
28 education is inextricably linked with the development of values, although
29 internationally values-based education is known by a number of names (including moral
30 education and character education) and has been presented as a “pedagogical imperative
31 for student wellbeing” (Lovat, Toomey & Clement, 2010, p. 1). In this paper, we
32 borrow Halstead and Taylor’s (2000) definition of values education, which comprises
33 the following aspects: moral education, character education, ethics education, civic
34 education, and citizenship education. While acknowledging that this is something of a
35 ‘catch-all’ term, this definition is deemed valuable in that it embraces personal, social
36 and cultural issues that are so central to our broader argument. Furthermore, we suggest
37 that all aspects are important to consider in supporting digital wellbeing.
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54 Schools are perceived to be central places in which to shape the character, life skills and
55 values orientation of young people and “are uniquely placed to teach the knowledge,
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3 skills and attitudes that underpin responsible citizenship” (McCuaig et al, 2015, p.21).
4 More specifically, Spracklen (2015) has also argued that the geography of PE renders it
5 a pertinent space for meaning-making. Certainly, policymakers have traditionally turned
6 to PE to provide young citizens with the values and attitudes “that underpin a peaceful,
7 productive, healthy and cohesive population” (McCuaig et al, 2015 p.3). Moreover,
8 there is a considerable body of literature supporting the potential for participation in
9 sport, PE and physical activity to yield numerous benefits for young people (see Rossi
10 & Jeanes, 2016). Within this literature, there is a strong emphasis on the capacity for
11 such activities to enhance social and interpersonal skills. Recent debates have included,
12 for example, the capacity for sport and PE to: build character, facilitate the development
13 of ‘life skills’, support positive youth development, promote citizenship, aid socio-
14 moral development and, more broadly, promote community development and conflict
15 resolution (ibid). Thus, while we make no argument here that PE is the only vehicle
16 through which we can promote values fluency, we do contend that it is a pertinent one.
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27 In discussing why PE is such a suitable context for social development, several authors
28 point to the unique nature of practice in this space. In their summary of literature,
29 McCuaig et al., (2015) note that research identifies three ‘special’ characteristics’ that
30 are somewhat unique to PE and school sport programmes: the subject matter, the
31 learning environments and the caring teacher-student relationships. Moreover, they
32 contend that there is considerable agreement that values, morals and life skills need to
33 be ‘taught, not caught’ through PE and sport and that careful consideration be given to
34 the development of educational resources, practices and approaches to learning in this
35 respect. Bearing in mind the earlier discussion, this latter point is perhaps worthy of
36 further consideration. As learning is a set of personal and interpersonal activities, deeply
37 rooted in specific social and cultural contexts, when those contexts change how people
38 learn changes, also. We therefore perhaps need a revised appreciation of the processes
39 of learning within an increasingly digitally-mediated world.
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50 It is clear that the advent of digital technology has caused the socio-cultural context for
51 learners to change, with almost borderless classrooms encouraging greater learner
52 mobility, choice and access to knowledge (Chambers et al (in press). Indeed, Bates
53 (2016) has described the nature of knowledge in a digital society as ‘amorphous’, while
54 Siemens (2005) pronounced that knowledge is created beyond the level of individual
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3 human participants and is constantly shifting and changing. Siemens asserts that this
4 seismic change requires a new learning theory for a digital age - Connectivism. This
5 theorises that decisions are based on mercurial foundations, where there is a deluge of
6 new information, which is iteratively altering the social landscape and the learner needs
7 to decipher between important and unimportant information ‘in the moment’. In other
8 words, there is a need for learner agility. For Siemens (2005), the amplification of
9 learning, knowledge and understanding through the extension of a personal network is
10 the epitome of connectivism. Bates (2016) also outlines how knowledge is a chaotic,
11 shifting phenomenon, moving through a complex network of nodes (which themselves
12 are transient). Speaking of the power of the network and knowledge flow and creation
13 within, Siemens (2005) purports that “the pipe is more important than the content within
14 the pipe” (n.p.).

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24 As outlined earlier in this paper, we recognise that young people’s increasingly complex
25 social landscapes play a central role in their on-going construction and negotiation of
26 identity. Moreover, the complex transitions within this nodal landscape represent a
27 particular challenge for educators. Schools (and, more specifically, PE) have an
28 important role to play in educating young people to make those transitions confidently
29 and competently and to enjoy digital wellbeing (Beetham, 2016). To do this, we argue,
30 they need to be educated to be both digitally fluent and values fluent. The role of the
31 teacher becomes crucial here as they strive:

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38 To help young people know where to find knowledge, to know what to do
39 with it when they get it, to know ‘good’ knowledge from ‘bad’ knowledge,
40 to know how to use it, to apply it, to synthesize it, to be creative with it, to
41 add to it even, to know which bits to use and when and how to use them and
42 to know how to remember key parts of it – *in other words all the things*
43 *computers can’t do yet* (Gilbert, 2014, p.30, our emphasis).

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49 To help teachers to fulfil this role, in the following section we present a proposed model
50 of praxis for values fluency education. Through this model, we consider how educators
51 (and, in this context, physical educators) can support young people to recognise and
52 successfully navigate hybrid spaces, critically engage with sociotechnical capital and
53 become adept at transferring and translating values across and between social contexts.

A Model of Praxis for Values Fluency Education

Within PE, the use of models-based practice is well established, and some existing models specifically focus on the development of pro-social values such as those discussed above e.g. Sport Education (Siedentop, 1994) and Teaching for Personal and Social Responsibility (Hellison, 1995). However, as noted by Chambers (2016), a digital society challenges our understanding of pedagogy and invites new forms of learning activity and existing pedagogical practices may thus no longer be sufficient to develop values fluent children in a hybrid world (ibid). We have suggested that children need to be simultaneously digitally fluent and values fluent to be digitally well.

Therefore, what is required now perhaps is a mechanism of 'rethinking pedagogy for an age of digital information and communication' (Beetham & Sharpe, 2013, pp.4-6). In developing this, it is important to consider that a digitally literate and fluent person, becomes hyper-connected across places and spaces. Geddes (2011), an expert in neuroscience, identified that consciousness is correlated with the synchronisation process of brain activities. Viewing learning as connectivism (Siemens, 2005) helps to make sense of this, as the learning is the constant state of connecting nodes (people) and augmenting knowledge as it flows through this network of nodes. From an individual's point of view, Csikszentmihalyi (1990) describes that when we are most conscious we disconnect, somewhat paradoxically, from the world around us. Our senses are effectively 'turned off' and we lose track of time - we are in a state describes as *flow*.

We can engage in flow through positive and negative behaviours.

Taking an ecological systems perspective to Values Fluency Education (VFE) acknowledges the composite of individual and environmental forces that mutually influence and constitute how basic values are constructed and reinforced. The concept of *Terroir* seems to help explain the intricacies of such a context, capturing the situated nature of learning values (Lave & Wenger, 1991). According to Chambers (2015, p.16):

Terroir is [...]translated as a 'sense of place' [...]. The theory of *terroir* encompasses the almost metaphysical circle of soil, nature, appellation and human activity. Culture is etymologically related to *terroir*, as it has at its root the Latin *colère*, meaning to till. Culture, therefore, is akin to *terroir*.

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3 In applying this very compelling metaphor to values fluency, the contention is that a
4 young person is influenced by (and influences) the culture in which s/he is located, in
5 real or virtual space. An adapted version of Bronfenbrenner's (1979) multilevel
6 ecological systems perspective (Chambers, 2015, 2018) is used to underpin VFE. This
7 model is pertinent here as it involves collaboration between individuals, which is a
8 component of whole systems (Chandler, 2011). The model considers how values
9 fluency is enacted and shaped by systems at Bronfenbrenner's (1979) multiple levels:
10
11 (a) The ontogenic system/level (psychological and demographic individual
12 characteristics (Tinbergen, 1951); the microsystem/level (the immediate social context);
13 and (c) the macro level/system (broader societal influences). There are echoes here, too,
14 of the complex social landscapes discussed earlier in this article. It seems prudent,
15 therefore, that effective VFE should adopt an ecological perspective to educate students
16 to enact pro-social values in a highly mercurial and dynamic learning environment
17 (Chambers, in press).
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30 Developing a model of VFE is clearly a messy or 'wicked problem' (Rittel & Webber,
31 1973). The proposed *Model of Praxis for Values Fluency Education* strives to reinforce
32 positive or pro-social behaviours, which can both transfer and translate across hybrid
33 spaces. It does this by adopting pedagogies, which encourage young people to 'pause'
34 and reflect on their values and behaviours. Note that in the literature, personal values
35 are linked to beliefs concerning what situations or actions are desirable (Hawaja, 2018)
36 by that person and to broad motivational goals (Schwartz, 1994). Schwartz sees values
37 as stable standards by which we evaluate everything else, including the appropriateness
38 of any norms, attitudes, traits, or virtues that are presented to us. Our values are
39 hierarchical, in that some are more important than others, which has implications for
40 situations in which we are placed and the actions we choose.
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50 In this new model of praxis, the pupil's *Personal Values Compass* is firstly established
51 and then reinforced. This is achieved by using two pedagogical tools (a) the
52 development of a *Personal Values Compass* using the Onion Model of Reflection
53 (Korthagen & Vasalos, 2005) and (b) the reinforcement of the Personal Values
54 Compass through the critical analysis of *Values Dilemmas*. We propose that Values
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3 Dilemmas are drawn from authentic scenarios which amplify any or all of the five key
4 digital competencies for EU citizens in the DigComp 2.1 framework: *1: Information*
5 *and data literacy 2: Communication & collaboration; 3: Digital content creation; 4:*
6 *Safety; and 5. Problem solving* (see also Chambers et al, in press)
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11 The Onion Model of Reflection (ibid) allows the individual to establish their *Personal*
12 *Values Compass*. This approach was initially designed for PE teacher educators
13 (Chambers, 2018) but, we argue, the process also holds relevance for young people –
14 hence its adaptation/application here. The *Personal Values Compass* comprises
15 empirical tools to unlock an individual's personal mission, identity, beliefs,
16 competencies, behaviour and environment. Specifically, the young person interrogates
17 themselves in the following order: Personal Mission [what is their purpose in life?],
18 Personal Identity [what is their personality type?] and Personal Beliefs and Values [to
19 what beliefs and values do they subscribe?]. These three components may synthesise to
20 form the pupil's *Personal Values Compass* which itself has implications for the pupil's
21 behaviour in real, virtual and hybrid settings. This baseline *Personal Values Compass* is
22 then continuously tested and validated through the critical analysis of Values Dilemmas
23 (real, virtual and hybrid) that might occur during PE lessons (e.g. pupil uploading an
24 image of another pupil's performance to SnapChat without their permission). The PE
25 teacher encourages pupils to translate this learning into all aspects of their digital/hybrid
26 lives in and out of school. By using such approaches, we acknowledge that young
27 people now learn connectively in widespread hybrid and interconnected networks,
28 which rely on the individual and social capital of the network nodes. More than this, it
29 addresses the maxim that values need to be 'taught and not caught'.
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43 The idea that the acquisition of life skills (including values-based practices) should be
44 deliberately targeted within education has implications for teachers and teaching,
45 learners and learning and curriculum. In 1964, Krathwohl and colleagues developed a
46 key taxonomy which informs the praxis of VFE. Within this work they sought to
47 explain the learning trajectory in the affective domain. The taxonomy is ordered
48 according to the principle of internalisation, which refers to:
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53 ...the process whereby a person's affect toward an object passes from a general
54 awareness level to a point where the affect is 'internalized' and consistently
55 guides or controls the person's behaviour (Seels & Glasgow, 1990, p. 28).
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4 There are five levels in the taxonomy, the baseline being ‘receiving’ and leading up to
5 internalisation, when values are internalised and guide behaviour. More specifically:
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7 Receiving is being aware of or sensitive to the existence of certain ideas,
8 material, or phenomena and being willing to tolerate them. Examples include: to
9 differentiate, to accept, to listen (for), to respond to something/someone.
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11 Responding is being committed in some small measure to the ideas, materials, or
12 phenomena involved, by actively responding to them. Examples are: to comply
13 with, to follow, to commend, to volunteer, to spend leisure time, to acclaim.
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15 Valuing is willing to be perceived by others as valuing certain ideas, materials,
16 or phenomena. Examples include: to increase measured proficiency in, to
17 relinquish, to subsidise, to support, to debate.
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19 Organization is to relate the value to those already held by that person and bring
20 it into a harmonious and internally consistent philosophy. Examples are: to
21 discuss, to theorise, to formulate, to balance, to examine.
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23 Characterisation by value or value set is to act consistently in accordance with
24 the values he or she has internalised. Examples include: to revise, to require, to
25 avoid, to resist, to manage, to resolve, to be viewed by others as having that
26 particular value.
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35 We suggest that the idea of the Personal Values Compass can be used *with* Krathwohl's
36 Taxonomy by a PE teacher to both plan and assess pupil learning in the area of Values
37 Fluency Education. Although beyond the scope of this paper, further detail on the
38 development and application of the Personal Values Compass is outlined in Chambers,
39 Jones, Murphy & Sandford (2018).
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44 **Conclusion**

45 Given the focus of education (and PE within this) is in part to move citizens toward
46 *eudaimonia* i.e. human thriving and flourishing (Chatfield, 2012), educative practice
47 must morph and change to meet this challenge. The discussion above has documented
48 the potential to enhance young people’s development through Values Fluency
49 Education in physical education. However, it has also highlighted the complex social
50 landscapes of young people and the challenges they face in traversing both real, virtual
51 and hybrid spaces. Hybrid spaces can be potential places of conflict or contestation, yet
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3 in the hands of the expert PE teacher there is clear opportunity for these places to be
4 sites of ‘productive tension’ (Somerville & Perkins, 2003) and educational spaces,
5 offering authentic opportunities to learn about the intricacies of social practice.
6 Furthermore, we have recognised the crucial role of schools in the digital age in
7 promoting the capacity and commitment of pupils to use and identify accurate
8 information (Chambers et al, in press) and to “prepare youth to be informed about
9 controversial issues, able to critically assess evidence and factual claims related to such
10 issues, and able to judge and construct well-reasoned arguments” (Kahne & Bowyer,
11 2017, p.5). Taking this view, there are some important implications to consider for
12 educators and, moreover, key questions to ask around the nature and structure of
13 pedagogical practice. For example: To what extent does VFE need to recognize and
14 embrace the complex social experiences of young people?; (How) can PE teachers
15 support young people as they navigate these complex social landscapes and, in
16 particular, those challenging transitional or borderland spaces?; How do we ensure we
17 are all on ‘the same page’ with regard to values and the interpretation of values by
18 context?; and, how can we best prepare young people to recognise that values hold
19 different currency (capital in different places) and develop the key skills of transferal
20 and translation? Such questions fuel our continued work in this area and serve as
21 important reminders that, as Shaffer and Clinton (2016) argue, in a world where
22 educational culture is heavily influenced by technological change, it is imperative for
23 researchers (and practitioners) to make reflective spaces in which such issues can be
24 considered. We assert that supporting the development of each pupil's Personal Values
25 Compass can provide this space and, moreover, that with such a resource at their
26 disposal, pupils can be empowered to flourish and thrive as humans in a digital world.
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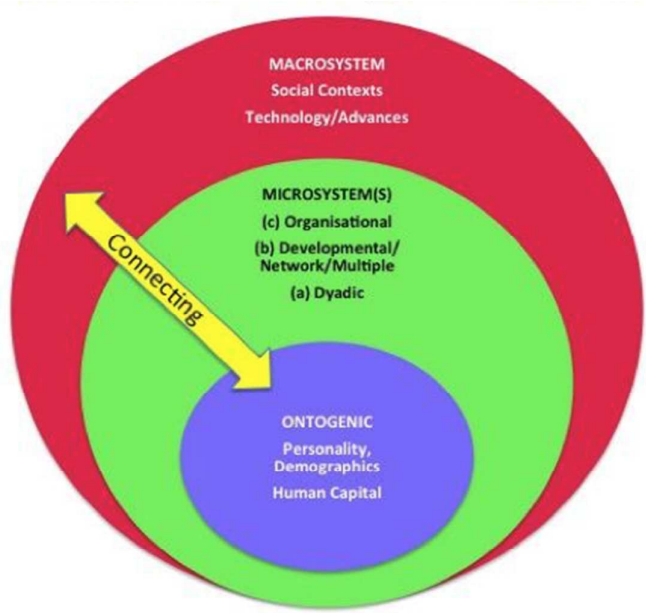


Figure 1: Values Fluency Education Schematic [adapted from Author]

Per Review Only