Life Transitions, Learning and Digital Technologies –Common Threads and Conceptions

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Abstract. This positional paper opened a symposium within the Information Technology in Educational Management (ITEM) strand of the IFIP KEYCIT conference in Potsdam, Germany, on 2nd July 2014. The key question asked, across the seven papers presented and included as chapters in this book, was: how do digital technologies support life transitions? The argument within this initial positional paper asked a pre-requisite question: what are life transitions, and how might they be connected to digital technologies and learning? Life transitions can occur at different times across a lifespan, and different technologies may be used by those involved, not only according to the age of the learner, but also according to their needs. Temporal shifts as learning technologies develop make their influences on life transitions difficult to generalise or even to monitor; affordances and facilities that learners can use over time, and which they can apply to their life transition needs, change, as digital technologies are diversified. This paper considers features and factors that affect learners in their uses of digital technologies in life transition settings. A framework for exploring the ways learners might use digital technologies within life transitions will be developed; other papers within the symposium explore factors and features in a variety of more specific settings and detail.

Keywords: Life transitions, digital technologies, life transition factors, life transition features.

1 Introducing the Concepts

This chapter asks a central question, which the following six chapters also consider, but from a variety of different perspectives: how do digital technologies support life transitions? Before this question can be tackled, a pre-requisite question needs to be considered: what are life transitions? Across a range of papers presented [1, 2, 3, 4] a number of life transitions are illustrated – moving from one part of the education system to another, from education to work, and from one set of working practices to another. Features of these transitions can be quite different. The nature of the distinct transitions researched will be explored in this paper, as will their relationships with digital skills and the development of digital skills to support specific needs in each distinctive transition.

Life transitions could be considered the same as ongoing development, in that transitions are happening very often across the lifespan; in fact, they could be

considered as happening continuously in some respects. However, in the context of the studies considered here, life transitions are not defined in the same way as life development. Life development is described as a continuous development across age ranges, through physical, cognitive and social perspectives (see, for example, Bee [5]). In the context of the studies considered here, life transitions are concerned with major shifts or rifts, which are normally outside the control of the individual, are concerned often with major contextual shifts, and may give rise to potential emotional or social or cognitive concerns or issues. Other authors have defined such transitions as transfers (for example, Galton, Gray and Rudduck [6]). An example would be, in a learning context, the move from a primary (first or elementary) school to a secondary (high) school. Although this move happens for the vast majority of learners, many do not experience major issues or challenges, but some do, and these can persist for long periods of time. So, life transitions that are challenging or difficult may never occur for some people. For most of us, they do occur, but probably not too often, but for some of us, they recur or persist or are concerned with major issues or challenges. The concern of many in this respect is that a life transition can occur in ways that do not affect future prospects adversely. While most learners move through a life transition at the age of 11 or 12 years in the United Kingdom (UK), for example, many go on to prosper in terms of their learning. However, studies have shown that learner attitudes, interests and attainments tend to be lowered after this transition [6, 7, 8, 9]. For those where there are these potential adverse effects, are digital technologies able to help and support? But evidence points to the need to consider underlying factors, rather than a superficial concern with continuity alone. As Galton et al. [9] stated:

"The dominant assumption has been that continuities in pupils' learning need to be strengthened. But when we tuned in to what Y6 [Year 6] and Y7 pupils were saying it became clear that while continuity matters for some aspects of transfer, discontinuity is also important – especially for pupils. Continuity has been mainly thought about in terms of the curriculum and is currently supported by 'Bridging Units'. However, there can be problems if the transfer school receives pupils from a large number of feeder schools, where the units have been handled in different ways, and if pupils regard them as 'last year's work'. Ironically, while policy makers and schools have given attention to curricular continuity they have thought less about continuity in ways of learning." (p.v)

This report indicates that if digital technologies are to have an impact on supporting challenging life transitions, then they may need to address more a continuity of ways of learning, and then leading to evolving or developing shifts in learning, rather than necessarily providing a continuity of context or setting.

This paper will consider features and factors that could affect learners in their uses of digital technologies in life transition settings, particularly focusing on those life transitions that might considered to be difficult or challenging. A framework of the ways learners might use digital technologies within life transitions will be developed.

2 Examples of Life Transitions

Concerning life transitions and learning, there are some clear examples of where challenging and difficult life transitions are recognised:

- Going to kindergarten or school for the first time. This is a shift in context, from an informal (home) to more formal (class group or play) setting, where the form of learning may be quite different, moving from a personally known one-to-one situation, to a personally unknown one-to-group situation, from 'home discourse' to 'play discourse'. The Harvard Family Research Project [10] from their review of practices to support this transition positively, identified the need for kindergartens to have contact with preschool families, contact with preschool children, kindergarten visits, the setting up of appropriate home learning activities, informational meetings, information dissemination and home visits. Although the report did not focus on uses of digital technologies in this context, there are clearly potential ways in which digital technologies could support the communication, information, and forms of learning that are being highlighted here as being fundamental to this transition.

- Transferring from a primary to a secondary school. This is a shift in context, from one formal setting to another, but where the form of learning may be quite different, moving often from a group or project-work focus largely with a single teacher, to a classroom learning situation that focuses on individuals' learning and involving many teachers. A study for the then government department of education in England [11] identified some critical factors to support a transition from primary to secondary school: "developing new friendships and improving their self-esteem and confidence; having settled so well in school life that they caused no concerns to their parents; showing an increasing interest in school and school work; getting used to their new routines and school organisation with great ease; experiencing curriculum continuity" (p.ii). Again, whilst not focusing specifically on the roles of digital technologies, it is clear that there are a range of functions that could support these specific and important factors.

- Moving from school to a training setting. This is again a shift in context, but from a formal to a non-formal (often project or group based), where the form of learning may shift from individually focused and assessed to collaboratively focused and assessed, where the content moves from concepts and knowledge that need to be put into practice, to concepts and knowledge that are within and for practice. Although this transition clearly involves important accommodation to shifts in forms and contexts of learning, there is limited research that has looked at it from a transition perspective. More research has focused on the way that an integrated approach to support a continuity from education to training might work most successfully. For example, the Wolf Report [12] on the state of further education in the UK, emphasised the need for ensuring qualifications fit to business or employment demands, for accurate and useful information about prospects and opportunities, and for simplified systems to be put in place.

- Moving from unemployment to employment. This involves a shift in context, from informal (home) to formal (work-based) settings, where the form of learning shifts from informal (home) or non-formal (group or training) to formal (work-based)

practice. A recent report by The Work Foundation [13] indicated that the number of people in the UK who are unemployed is high (and clearly this fact in itself enables a range of attitudes to form within different contexts), that length of time in unemployment is a key issue, that many are poorly qualified, they find it difficult to get an initial foothold, they often lack work experience, and that they are diverse in terms of their position to employment. These key points again are not addressed within the report in terms of how digital technologies might support this group, but there are clear ways in which that might be considered and approached.

- Changing responsibilities within employment. This may not involve a contextual shift, but it does involve potential shifts in terms of forms of learning, from individual to group perhaps, from formal (within the work-place and just-in-time) to formal (project based or training) practice. Even if the form of learning does not appear to shift for the individual involved, the practices themselves that are required may shift, such that the need for a change in the form of learning is not recognised. Examples of these transitions are provided within the symposium papers [3, 4], who explore how digital technologies are adopted by employees within specific companies, and the challenges that they face in moving forward with elements of knowledge management that are introduced to support business needs. The roles of affective and motivation factors are highlighted particularly by these authors.
- Moving from one area of employment to another. This involves a shift in context, but may well also involve a shift in the forms of learning, from formal (within the work-place and just-in-time) to formal (project based or training) practice. An example of this form of transition, where the transition is found to be difficult by some, is where members of the armed forces move to civilian employment. Davies [14] has studied how individuals and groups are supported in these ways, and the roles that digital technologies play. This example is discussed further in a section presented later in this paper.

3   Digital Technologies Accessible to Those in Life Transitions

From these examples, it is clear that life transitions occur at different times across a lifespan, and different technologies might be used by individuals in terms of their need to accommodate both their age and their purpose. Taking the example of the life transition from home to kindergarten, early learners (up to 5 years of age) may well use digital technologies such as Bee-Bot programmable floor robots, Roamers or Pixie Robots, but these are not likely to be used by older learners. However, they also use devices modified specifically to accommodate access and use, such as laptop computers, mobile telephones, photocopiers, scanners and televisions [15]. In this case, technologies accessible to users clearly affect how they can be applied to life transitions; for example, they may well be modelling potential uses that can be applied at later times, rather than using the digital technologies per se to support their life transitions.

Different levels of technology are accessible according to age. Examples are demonstrated by evidence from Ofcom in the UK [16], while data from other sources indicates that levels are different in other countries, however (see, for example, [17]). So, the preponderance of mobile telephones in some countries (such as Japan, for example), might mean that learners are aware of how these devices can be used to support social interaction (communication) purposes, but not necessarily for learning purposes. A shift here is concerned with purpose related to need, which might be apparent to some, but not to many others.

Technologies accessible to individuals also change over time. Mega-changes (about every ten years) and major changes (about every five years) are more hardware related [18], while regular changes are more software related and are concerned with the introduction of new software, upgrades of existing software, and the doubling in the power of computer capacity within an eighteen month period. These changes affect the affordances and facilities that learners can use over time, and how they can apply them to their life transition needs. For example, the facility now to create on-the-spot video recordings means that learners can capture experiences that they can re-run, reflect on, and discuss with others. This means that new forms of learning might be explored in these ways in the future; individuals in life transitions might experience new situations, capture them on video, and then have chance to discuss these with others so that their shift towards those practices might be more easily accommodated. This practice has been reported already in the transitions from primary to secondary school, where pre-recorded video material is used in primary schools to discuss transitional features in moving to secondary schools (see [19]).

4 Changes in Context

Life transitions that involve a change in context can be vitally important for some learners. Learning settings do change for individuals across a lifespan. Early learners initially experience informal, home settings. For some, from perhaps 3 years of age, and for others from about 6 years of age, they experience learning in somewhat more formal kindergarten or nursery school settings, moving to more formal settings from about 5 to 7 years of age, while from about 9 to 11 years of age many learners will experience learning within non-formal club and society settings. More informal settings can again predominate for some learners when they reach 16 years of age or more, when learning happens at home, and non-formal experiences tend to increase as learners work in more specific communities, societies or groups [20]. In training and employment situations, non-formal settings may also arise more frequently, where groups of learners are involved in problem-solving or team endeavour approaches rather than being involved in more formal classroom settings. The roles of attitudes and motivations, behaviours and emotions, clearly can come into play within the contexts of these shifts. For example, take the way that an individual on the autistic spectrum might experience a shift from a more formal to a more non-formal setting, where the need and forms of learning change from individually focused study to collaborative working and outcomes. In a context not concerned with digital technologies, a case study from CareTech Community Services [21], illustrates the

importance of time and care in building up positive relationships if young people with autism are to move towards collaborative working with others. The UK National Health Service [22] indicates the need for a 'transition plan' to support this process. For such difficult transitions, it is possible that there are roles for digital technologies in supporting individuals in developing trust and bridging social relationships.

5   Increasing Complexity

Researchers are indicating that life transitions are in some ways changing and that, consequently, different ways to consider these are needed. Wyn [23], in a keynote presentation to the British Educational Research Association (BERA) argued that increased complexity is the case now with life transitions, that more external factors are increasing complexity, with a move from a close context or learning setting (within a defined geographical area with a low number of 'significant others' [24] to a wide geographical area bounded by internet or mobile telephone access with a larger number of potential 'significant others'. Ecclestone et al. [25] argue additionally that life transitions are becoming more drawn-out, so the time frame for some individuals in moving from unemployment to employment, for example, is becoming longer. In the careers context, Hooley et al. [26] argue that the level and form of support is also shifting, and that it is becoming less for some career transitions (at least in some situations). In this respect, therefore, it can also be argued that the context change is not so much a 'location' concern now, as a 'virtual location' concern bounded by access and facility using internet and mobile telephone applications, for example.

Indeed, digital technologies are already being seen to be used differently in different transitions. For example, workers moving to new countries, who may be working in one country with their families in another country, have been shown to use communication technologies to support their social networking [27]. In another context, some teachers have used video-based resources to support learners prior to transition (transfer) from primary school [28], while others have supported video-recorded interviews by learners in a primary school with those in a secondary school.

6   A Specific Example

At this point it is perhaps useful to consider a specific example of a difficult life transition that involves learning and digital technologies. It concerns the transition from employment in the armed forces to civilian employment [14]. In this study, the roles of three key factors were identified and detailed - identity, agency and structure. These were recognised as key socio-cultural concepts for understanding transition:

- Identify – the way an individual perceives themselves with respect to others and their environment, in the present, as well as in the future.
- Agency – the abilities and resources that an individual has to enable them to make a move from one situation to another.
- Structure – the way the individual has to handle the situation, and perhaps break it down into elements that are sequentially managed.

Daniel, Schwier and McCalla [29], in their review of online networks and the role of social capital, highlighted the importance of 'trust, shared understanding, reciprocal relationships, social network structures, common norms and cooperation, and the roles these entities play in various aspects of temporal communities' (p.xx). Interestingly, in a learning context, Luckin [30] describes cognitive elements that are strongly parallel to the concepts of identity, agency and structure:

- a Zone of Proximal Adjustment – how to make sense of what the needs are to move to the next stage of learning.
- a Zone of Available Assistance – identifying what is available to the learner that can be used, and how it can be assessed in terms of usefulness.
- a Zone of Collaboration – how to work with others in order to support a shift in learning.

Those three zones lie within a Zone of Proximal Development [31], but offer more detail about the processes that might be involved than was detailed within the original concept.

In terms of how some members of the armed forces are being supported in moving to civilian employment, digital technologies are being used to 'extend the scope of their on-line presence and identify their own learning opportunities' [14]. This clearly relates to how digital technologies are supporting challenges that individuals face with regard to identify, agency and structure, or to their proximal adjustment, available assistance and collaboration. In the study, Davies [14] indicates that in some instances, the digital technologies provide a vital link, enabling contact, building 'social and cultural capital, social networking and knowledge sharing skills', but he goes on to say that the importance of 'affective and motivational factors is clear'.

7 A Framework to Explore how Digital Technologies Might Support Life Transitions

So, are digital technologies and skills enabling a stabilising or positive impact upon life transitions? What associated skills are needed in developing social and cultural capital, integrated or developed alongside these digital skills? Do digital skills enable individuals to survive situations by empowering and enabling change rather than responding to it?

This paper does not attempt to answer all of these questions. Some of them are certainly the focus of research reported in the five papers that follow. But in this paper, I am making an attempt to identify a form of framework through which to explore how digital technologies might support life transitions. From the previous discussion in this paper, seven dimensions are apparent, when individuals are handling life transitions (often difficult life transitions). These are (in no particular order, and represented more appropriately, perhaps, in Figure 1):

- A digital dimension: concerned with the digital technologies that are accessible to the individual, those that can be used, those chosen for use by the individual and those supporting them, such as social network structures, and for what purpose.
- A learning dimension: the importance of learning continuity, or ways of learning

rather than the 'content' of learning, how to develop shifts in learning, the importance of information as well as communication, and having appropriate accurate and useful information about the transition.

- A social dimension: how trust, shared understanding, reciprocal relationships, common norms and cooperation are handled, considering the roles of the home as well as the formal learning environment, integrating concerns of those around the individual, considering how support might work within a given situation, the levels of support that might be accessible, providing links, building social and cultural capital, and knowledge sharing skills.

- A temporality dimension: when and how often difficult life transitions emerge, how long they are felt to be likely to persist, the roles trust, shared understanding, reciprocal relationships, common norms and cooperation play in various aspects of temporal communities, thinking ahead and being aware of shifts and opportunities, having time to build up relationships, and developing an appropriate time plan.

- A motivational dimension: the roles of interests and attainment, improving self-esteem and confidence, the importance of qualifications, or demands from those in 'authority', accommodating age and purpose, the ways that the individual develops over time, the importance of opportunities to gather, reflect and discuss, the roles of identity, agency and structure, adjusting, identifying available assistance, and collaboration as needed.

- An affective dimension: the role of attitudes, whether developing new friendships is important, getting initial contact and 'footholds', gaining initial experience, and being aware of behaviours and emotions.

- A contextual dimension: the concern with continuity, or the importance of discontinuity, and the role of context or setting, concerns with new routines or organisation, being involved in systems that are 'simple' rather than 'complex', but being aware that systems do themselves change, being aware of the implications of formal, informal and non-formal settings, whether situations are based on team and problem-solving needs or more formal classroom needs, being aware of increasing external factors, and those who become 'significant others' over time.

8   Conclusions

If digital technologies are to support individuals involved in life transitions (and perhaps difficult life transitions), then those who support and those who are directly experiencing these situations are likely to need to explore the issues presented in this framework, to identify the appropriate means and facilities accessible. The papers which follow will explore some of these key areas further, and the final paper in this section will look at these examples through the framework presented here.
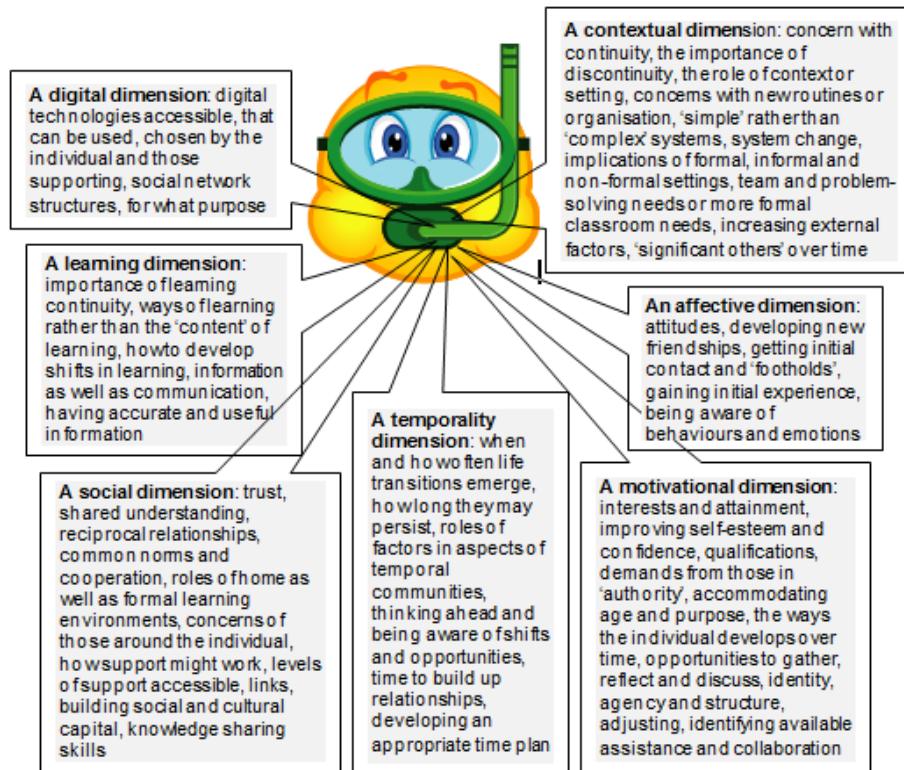
A digital dimension: digital technologies accessible, that can be used, chosen by the individual and those supporting, social network structures, for what purpose

A contextual dimension: concern with continuity, the importance of discontinuity, the role of context or setting, concerns with new routines or organisation, 'simple' rather than 'complex' systems, system change, implications of formal, informal and non-formal settings, team and problem-solving needs or more formal classroom needs, increasing external factors, 'significant others' over time

A learning dimension: importance of learning continuity, ways of learning rather than the 'content' of learning, how to develop shifts in learning, information as well as communication, having accurate and useful information

An affective dimension: attitudes, developing new friendships, getting initial contact and 'footholds', gaining initial experience, being aware of behaviours and emotions

A social dimension: trust, shared understanding, reciprocal relationships, common norms and cooperation, roles of home as well as formal learning environments, concerns of those around the individual, how support might work, levels of support accessible, links, building social and cultural capital, knowledge sharing skills

A temporality dimension: when and how often life transitions emerge, how long they may persist, roles of factors in aspects of temporal communities, thinking ahead and being aware of shifts and opportunities, time to build up relationships, developing an appropriate time plan

A motivational dimension: interests and attainment, improving self-esteem and confidence, qualifications, demands from those in 'authority', accommodating age and purpose, the ways the individual develops over time, opportunities to gather, reflect and discuss, identity, agency and structure, adjusting, identifying available assistance and collaboration

Fig.1: Factors influencing life transitions

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