Digital Skills for Those in Transition – Where Next

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Abstract. How do digital technologies support life transitions? This chapter will provide an overview, accommodating findings presented within the previous six chapters, and highlighting areas for future research. In this context, it is clear that different learning landscapes allow for different learning approaches and enable uses of sometimes specific digital technologies. In learning contexts, a "formal curriculum offers a core range of subject needs; the informal curriculum provides opportunities for these to be developed in another context and with the support or involvement of parents, family or friends; and the non-formal curriculum provides opportunities for young people to work in teams and groups on authentic problems and products" ([1], pp. 200-201). There are implications for developing effective uses in the future that relate to supporting learners in different life transitions. An analysis of individuals in a specific life transition, and the importance of uses of digital technologies and associated digital and soft skills in a learning setting will be offered.

Keywords: Digital technologies, learning landscapes, informal, formal and non-formal learning

1 Introduction

From evidence presented in the six previous symposium papers, a number of key questions can be considered:
- How and under what conditions do digital technologies and skills enable a stabilising or positive impact upon life transitions?
- What associated skills are concerned 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 of change rather than just responding to it?
- What is the potential of digital technologies to support life transitions, in relation to recommendations about what needs to happen next?

In taking our understanding further, and in developing appropriate practices to support lifelong learners in the future, there is a clear need to explore these research questions in the context of life transitions and the roles that digital and associated soft skills play in: employment; training; and school settings. Within these settings there is a need to explore different life transitions, which might build further from: an employment transition that aims to strengthen business effectiveness and efficiency through knowledge sharing developments; training transitions concerned with major

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employment shifts (from ex-armed forces to civilian employment); transitions concerned with major social shifts (from non-employment to employment); or school to college transitions (across a key secondary to tertiary phase). Our understanding in these fields has been considered in previous chapters in the context of emerging research from local, regional, national and international perspectives.

2 Implications for Research Approach and Methods

A starting point, and perhaps a fundamentally important starting point in considering research questions about those in life transitions, is to explore some of the implications for research approach and methods. What is clear from the previous papers in this section is that different research methods have been used when exploring related research questions and issues. These have spanned:

- Organisational case studies (see [2, 3], where the case study is based in a single organisation, and methods to gather evidence included questionnaires and interviews.
- Individual case studies (see [4], where the case study is based at an individual level, where evidence is gathered through observation and semi-structured interviews.
- Individual ethnographic case studies (see [5], where the case study is based at an individual level, where evidence is gathered at multiple times through observation, discussion and ethnographic immersion.

There is distinction here of approach and methods for gathering evidence that align with perceptions and demands of structure and complexity (or level of transition difficulty, perhaps). When individuals are within a formal organisation (like a company or a school), the structure may be considered formal, with the life transition not being considered highly complex or difficult, so organisational case studies may be considered appropriate. When individuals are within a formal organisation (such as a school), and the structure may be considered formal, but life transitions are considered in some way potentially complex or more difficult, then individual case studies might be considered to be more appropriate. These approaches and methods would fall within the more traditional case study approaches described by Yin [6] or Stake [7]. Of note, perhaps, the use of digital frameworks to identify digital skills, such as those presented in an earlier chapter in this section [8], also aligns well with this form of research and development. But, when individuals are within an informal organisation (such as a mentoring or counselling group), and where life transitions are considered potentially complex and difficult, then individual ethnographic case studies might be considered more appropriate and necessary. These approaches and methods would fall within the literature described by Mead [9] or Fetterman [10].

Clearly there are potential implications arising, both with regard to the nature of the evidence that is gathered, and the way that evidence may be used. Using questionnaires and interviews might suggest that a positivist view of the evidence is being considered; that there is a way to consider the evidence in terms of a quantitative concern leading to an overview. On the other hand, using individual and ethnographic case studies, where interviews, observations and an ongoing trail of

evidence is captured over time, suggests that there is need to accommodate interpretative concerns; these ways are focused on qualitative concerns that allow individual needs within specific contexts to be understood quite clearly. Even considering this small number of studies suggests a need to consider fundamental elements of research approach that accommodate:

- Increasing complexity of the situation at an individual level (the needs and characteristics of the individual become as important, if not more so, than the organisational and structural concerns).
- Increasing difficulty with handling life transitions (where the need for understanding the role of context and surroundings, and the building of trust, becomes paramount).

3 Using a Framework to Explore the Key Research Questions

This chapter does not attempt to answer all of the key research questions in every life transition context that might occur. Some of the research questions are certainly the focus of studies reported in previous papers. These papers identify the dimensions within the framework of factors influencing life transitions [11], although there is an important addition to consider within the motivational dimension highlighted by one of the previous paper authors, Rogers [12] - adaptability. The dimensions and elements of the framework can be represented in tabular form (see Table 1).

It is possible to use this framework as a means to identify, for any particular life transition in any given context, those elements that are considered important. Importance can be related in a number of ways:

- For the individual themselves.
- For those who are concerned with the transition and supporting that individual.
- For those where digital technologies have the potential to support the individual.

To exemplify this approach, the example of individuals in difficult life transitions, for ex-armed forces personnel moving to civilian employment, is taken (discussed further in [5]). In Table 1, elements considered to be important are shown with ticks in the three right-hand columns. It should be noted that this coding is based on experience of the author from current evidence gathered:

- A – important for the individual themselves.
- B – important for those who are concerned with the transition and supporting that individual.
- C – important for those where digital technologies have the potential to support the individual.

Table 1: Framework to consider factors influencing life transitions

Dimension	Elements	A	B	C
Digital	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			
	For what purpose	√	√	√
Learning	The importance of learning continuity		√	√
	Ways of learning rather than the 'content' of learning		√	√
	How to develop shifts in learning	√	√	√
	The importance of information as well as communication	√	√	√
	Having appropriate accurate and useful information about the transition	√	√	√
Social	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	√	√	√
	Knowledge sharing skills	√	√	√
Temporality	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	√	√	√
	Developing an appropriate time plan	√	√	√

Dimension	Elements	A	B	C
Motivational	The importance of the concept of adaptability	√	√	√
	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	√	√	√
Affective	The role of attitudes	√	√	√
	Whether developing new friendships is important		√	√
	Getting initial contact and 'footholds'	√	√	√
	Gaining initial experience	√	√	
	Being aware of behaviours and emotions	√	√	√
Contextual	The concern with continuity, or the importance of discontinuity	√		√
	The role of context or setting	√	√	√
	Concerns with new routines or organisation	√	√	√
	Being involved in systems that are 'simple' rather than 'complex'	√		
	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	√	√	√

What is clear from the pattern identified in Table 1 is:
- The role of those supporting individuals in life transitions is fundamentally important; they are concerned not only with elements associated with individuals in transition, but with additional elements too.
- The role of digital technologies in supporting individuals in life transitions appears to be high.

4   Extending the Roles of Digital Technologies in supporting those in Life Transitions

Using the analysis in Table 1, it is possible to identify ways that digital technologies might be further used in supportive practices. These additional ways are outlined in Table 2. In this example, the support provided by digital technologies would involve uses of either an online chat facility, or texts or emails. There is a width of literature that indicates how such support has been and can be developed in educational settings, through either mentor [13] or less formal 'connector' roles [14].

Table 2: Considering ways digital technologies might support individuals in life transitions

Dimension	Elements	Ways digital technologies might be used by supporters
Digital	Concerned with the digital technologies that are accessible to the individual	Finding out what digital technologies individuals can access
	Those that can be used	Finding out what they use
	For what purpose	Finding out what individuals use the digital technologies for
Learning	The importance of learning continuity	Using approaches to match previous learning
	Ways of learning rather than the 'content' of learning	Exploring how to learn with the digital technologies
	How to develop shifts in learning	Highlighting ways different approaches might support the individual
	The importance of information as well as communication	Sending pertinent details and information updates
	Having appropriate accurate and useful information about the transition	Eliciting regular feedback from the individual
Social	How trust, shared understanding, reciprocal relationships, common norms and cooperation are handled	Eliciting ongoing online discussions that broach these concerns
	Considering the roles of the home as well as the formal learning environment	Asking about and discussing these points as appropriate
	Integrating concerns of those around the individual	Asking about roles of others and discussing these
	Considering how support might work within a given situation	Discussing possible roles and responsibilities initially and later
	The levels of support that might be accessible	Describing how often support might be provided
	Providing links	Sending links of potential use
	Building social and cultural capital	Exploring and highlighting this concern in an ongoing way
	Knowledge sharing skills	Supporting a wider network involvement

Dimension	Elements	Ways digital technologies might be used by supporters
Temporality	When and how often difficult life transitions emerge	Raising this appropriately
	How long they are felt to be likely to persist	Monitoring this issue
	The roles trust, shared understanding, reciprocal relationships, common norms and cooperation play in various aspects of temporal communities	Encouraging, asking about and highlighting these issues at appropriate and regular points
	Thinking ahead and being aware of shifts and opportunities	Encouraging feedback and generation of overviews of plans
	Having time to build up relationships	Offering regular positive online interactions
	Developing an appropriate time plan	Discussing a time plan and monitoring this regularly
Motivational	The importance of the concept of adaptability	Bringing in discussion of this need
	The roles of interests and attainment, improving self-esteem and confidence	Gaining ideas of interest, and feeding back positively about aspects of these
	The importance of qualifications, or demands from those in 'authority'	Asking about and discussing these points as appropriate
	Accommodating age and purpose	Relating to a 'close' companion
	The ways that the individual develops over time	Monitoring what is happening, and sharing what is being developed
	The importance of opportunities to gather, reflect and discuss	Agreeing regular feedback
	The roles of identity, agency and structure, adjusting, identifying available assistance, and collaboration as needed	Raising these and discussing them as appropriate over time
Affective	The role of attitudes	Monitoring these from interactions
	Whether developing new friendships is important	Gauging the importance of this when interacting
	Getting initial contact and 'footholds'	Providing contacts and opportunities
	Being aware of behaviours and emotions	Monitoring these and discussing them over time

Dimension	Elements	Ways digital technologies might be used by supporters
Contextual	The concern with continuity, or the importance of discontinuity	Picking up this point and discussing as appropriate
	The role of context or setting	Monitoring and discussing
	Concerns with new routines or organisation	Bringing up and considering ways to accommodate this need
	Being involved in systems that are 'simple' rather than 'complex'	Breaking down needs into steps that can be identified and handled
	Being aware that systems do themselves change	Raising this point for discussion
	Being aware of the implications of formal, informal and non-formal settings	Raising and discussing this concern as appropriate
	Whether situations are based on team and problem-solving needs or more formal classroom needs	Highlighting these points and discussing them as appropriate
	Being aware of increasing external factors, and those who become 'significant others' over time	Highlighting these and discussing the importance of individuals and their roles

From details in Table 2, it is clear that communicative forms of digital technologies (chat facilities, texts, or email, for example) are likely to be vitally important if digital technologies can be used to support not only those who are in life transitions that they find difficult, but also those who are supporting them. However, while these details are suggestive, their use in practice within these situations needs to be trialled and explored.

Some studies have demonstrated that individuals who are experiencing life difficulties can gain from use of communicative as well as information technologies. For example, Dangwal and Sharma [15] reported that women in sheltered homes who had experienced violence engaged with digital technologies, and these supported both recreational and educational purposes, enabling them to develop wider interests. In a school-based context, Blood et al. [16] identified impacts of handheld devices on completion of learning activities and on planning of tasks for learners with negative attitudes. However, some studies have indicated the importance of considering the selection of digital technologies that will specifically address the needs of particular groups (e.g. Schinke, Fang, Cole and Cohen-Cutler [17] considered this in the context of supporting adolescent girls from minority ethnic groups involved in alcohol abuse). So, while this paper has considered the ways that a framework might be used to explore how digital technologies might support those in life transitions, it is clear that it is important that each context is considered separately, so that appropriate digital technologies can be implemented, according to user and purpose.

In this context it is worth considering how the frameworks considered by Cranmer [4] might offer an indication of the forms and ranges of digital skills that individuals in life transitions supported in ways indicated in Table 2 might need. Table 3 uses the

Institute for Prospective Studies framework [18] to detail some of the range of digital skills needed, based on details in Table 2.

Table 3. Likely range of digital skills needed by individuals in ex-armed forces to civilian employment life transitions (Source of dimensions and elements: [18])

Dimension of digital competence	Elements	Digital competencies needed by those in the life transition
Information management	Identify, locate, access, retrieve, store and organise information	Identify, locate, access, retrieve, store and organise information
Collaboration	Link with others, participate in online networks and communities, interact constructively	Link with others, participate in online networks and communities, interact constructively
Communication and sharing	Communicate through online tools, taking into account privacy, safety and netiquette	Communicate through online tools, taking into account privacy, safety and netiquette
Creation of content and knowledge	Integrate and re-elaborate previous knowledge and content, construct new knowledge	Integrate and re-elaborate previous knowledge and content
Ethics and responsibility	Behave in an ethical and responsible way, aware of legal frames	Behave in an ethical and responsible way, aware of legal frames
Evaluation and problem solving	Identify digital needs, solve problems through digital means, assess the information retrieved	Identify digital needs, assess the information retrieved
Technical operations	Use technology and media, perform tasks through digital tools	Use technology and media, perform tasks through digital tools

The analysis in Table 3 suggests that while individuals could be supported through uses of digital technologies in difficult life transition situations, the range of digital skills needed by those individuals may be high. Whether individuals already have these digital skills and competencies, or how their development might be accommodated, is a question that cannot be readily answered at this time.

5   Conclusions

At the outset of this chapter, and at the outset of the papers in this section, four key research questions were posed:
- How and under what conditions do digital technologies and skills enable a stabilising or positive impact upon life transitions?

- What associated skills are concerned 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 of change rather than just responding to it?
- What is the potential of digital technologies to support life transitions, in relation to recommendations about what needs to happen next?

From the evidence presented in the seven papers in this chapter, it appears that a number of conclusions can be drawn, relating to these questions:

- Digital technologies and skills can enable a stabilising or positive impact upon life transitions for some individuals. However, the applications are not necessarily widely used with groups in life transitions, and it appears that the more difficult or complex the transition, the more specific the application of the technology might need to be.
- Associated skills concerned in developing social and cultural capital, integrated or developed alongside digital skills, have been identified in the framework shown in Table 1. How these skills are developed in association with digital skills is not identified in the studies reported here, however. It is also clear that individuals might need quite high levels of digtial competencies in order to benefit from forms of online support that might help them in difficult life transitions.
- Certainly individuals can survive situations by their being empowered and enabling of change rather than just responding to it. However, the role of the digital skills and technologies appears to be at a support level rather than having a direct influence, and the roles of adept supporters in enabling change in these circumstances is also highlighted.
- There appears to be a wider potential for digital technologies to support life transitions, but trials and research in this field are at a fairly early stage.

While it is possible to identify a range of important life transitions, and while it is possible to identify a framework through which to look at factors that are involved in and that influence ways individuals are able to move through those transitions, it is clear that there are important factors to consider in taking research further in this area:

- Appropriate selection and choice of research approach and methods to gather evidence that will be pertinent not just to the research outcome, but beyond that outcome for the individuals and those who support them.
- Matching of digital technologies to the needs of those in any specific life transition context.
- Awareness and facility with the uses of digital technologies so that appropriate communication and informational interactions can be used by all concerned.
- Development of appropriate interventions that focus on and support the factors that influence that transition.

Although those in life transitions may well be supported by appropriate uses of digital technologies, there are clearly many perspectives yet to be explored in order to gather relevant evidence to fully consider and focus wider application in this area.

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