

Information Literacy in the Workplace

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Information Literacy in the Workplace

Edited by
Marc Forster

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Contents

Figures and tables	vii
Contributors	ix
Foreword	xiii
<i>Jane Secker</i>	
1 Information Literacy and the workplace: new concepts, new perspectives?	1
<i>Marc Forster</i>	
2 How is Information Literacy experienced in the workplace?	11
<i>Marc Forster</i>	
3 Information Literacy and the personal dimension: team players, empowered clients and career development	29
<i>Marc Forster</i>	
4 From transaction to transformation: organizational learning and knowledge creation experience within Informed Systems	41
<i>Mary M. Somerville and Christine S. Bruce</i>	
5 Virtuality at work: an enabler of professional Information Literacy	57
<i>Elham Sayyad Abdi</i>	
6 Determining the value of Information Literacy for employers	67
<i>Stéphane Goldstein and Andrew Whitworth</i>	
7 Information Literacy's role in workplace competence, 'best practice' and the ethics of professional obligation	85
<i>Marc Forster</i>	

8	Learning within for beyond: exploring a workplace Information Literacy design	97
	<i>Annemaree Lloyd</i>	
9	Developing information professional competences in disciplinary domains: a challenge for higher education	113
	<i>Stephen Roberts</i>	
10	The 'hidden' value of Information Literacy in the workplace context: how to unlock and create value	131
	<i>Bonnie Cheuk</i>	
11	The 'Workplace Experience Framework' and evidence-based Information Literacy education	149
	<i>Marc Forster</i>	
	References	165
	Index	181

Figures and tables

Figures

- 2.1 Relationship between dimensions, themes and Categories of Description22
- 5.1 Information Literacy as experienced by web professionals64
- 6.1 Value propositions relevant to Information Literacy72
- 6.2 The DeVIL tool.....81
- 8.1 DASIL (Dimensions of Activity and Skills of Information Literacy: a practice-based model).....107
- 8.2 Enactment of Information Literacy practice108
- 9.1 The 14-theme PIIK model.....121
- 11.1 Information Literacy questionnaire163

Tables

- 11.1 Dimensions of Variation traced in the first interview transcript159
- 11.2 Dimensions of Variation traced in the second interview transcript159
- 11.3 Categories of Description from the first interview161
- 11.4 Categories of Description from the second interview.....161

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Foreword

I was delighted to be asked to write the Foreword to this book, which bridges an important gap between the Information Literacy work researchers and practitioners do in higher education, with the support that is needed in the workplace. Better collaboration between information professionals in all sectors has long been aspired to, but it is only relatively recently that work is being done to join the dots between Information Literacy initiatives in schools, higher education and the workplace. Understanding how people's 'information landscapes' (Lloyd, 2010) shift as they transition to a new environment is hugely relevant and this book offers us new perspectives.

I was particularly pleased to be invited to write this Foreword, as I am indebted to Marc Forster for a number of reasons. Most recently he has been a valuable addition to the CILIP Information Literacy Group's committee. And it was through his doctoral work that I first properly engaged with the research methodology, phenomenography, a methodology that originated in the field of education but has been used increasingly in Information Literacy research (Yates, Partridge and Bruce, 2012) in recent years. A qualitative methodology, it is concerned with the variation in the way phenomena are 'experienced'. Understanding of the variations in the way Information Literacy is experienced and so given 'meaning', often in terms of the personal or collaborative knowledge it develops, helps us see how Information Literacy contributes to work, study and other aspects of our daily lives. I was already familiar with the work of Christine S. Bruce and the seven faces of Information Literacy; however, through Marc's work I saw how looking at themes and variations of complexity within experiences of Information Literacy translated into the work that I did on a day-to-day basis. Interacting with another person's work is an enlightening, highly reflective and iterative process and one that can fundamentally change our understanding of a subject.

I became familiar with Marc's work around the same time that I was compiling a response to the draft Information Literacy framework issued by the Association of College and Research Libraries (ACRL) in the USA, and so as well as reading up on phenomenography I was becoming aware of threshold concepts and the notion of liminality, mainly through the writing of Barbara Fister (Fister, 2015). The notion of passing through a portal is for me a wonderful metaphor for learning. When I've carried out research in the past I often know I am on the verge of a meaningful breakthrough when I am struggling deeply to assimilate some new knowledge with what I think I already know. Phenomenography was for me a threshold concept, but through Marc's work I've passed through that portal and I am fundamentally changed by it. It wasn't easy and I am also grateful to Emma Coonan for her insights and the discussions we had along the way. My experiences of meeting Marc left me wondering how Emma and I might have conceived 'A New Curriculum for Information Literacy' (ANCIL) if we'd used this research method in 2011, when we carried out our research together (Secker and Coonan, 2013). I hope it is perhaps something in future we can return to, when we could have another go at 'Rethinking Information Literacy'! The theme of transitions was very important in ANCIL as we looked at the Information Literacy support students need on entering higher education from school, and on leaving university to enter the workplace. Understanding more about this experience, and more deeply through phenomenography, seems to me to be the next step.

The work presented in this book resonated with me, as I have always believed that Information Literacy is something that matters at least as much when a person leaves formal education and enters the workplace, or needs to deal with information in their day-to-day life. Having spent most of my career working in higher education, supporting academic staff, many of whom are extremely experienced researchers and teachers, I have observed how Information Literacy is an ongoing process that evolves and develops throughout one's career. It's not something we can achieve and check off as complete through taking a one-off course. That said, developing critical evaluation skills while in formal education must surely put you at an advantage on entering the workplace, provided you recognize how your information landscape has shifted. For me Information Literacy is always contextual and that is why it is helpful to customize our Information Literacy interventions in what has been described as the 'boutique model' (Secker, 2012).

Several years later I was inspired to test out phenomenography in a study of librarians' experiences of copyright with my co-researcher and fellow copyright education enthusiast Chris Morrison (Secker and Morrison, 2016). Workplace learning is clearly hugely important to the information profession, not just because librarians act as teachers of others, but also because they are

learners themselves. In order to teach others you need to be a lifelong learner, and for those working in the library sector continuing professional development has never been more important than it is now, with the rapid pace of change, driven largely by technology. A one-year Master's in librarianship or information studies really is only the foundation to becoming an information professional. Remember, many professionals (lawyers, doctors, nurses) study their craft for more than three years. Much of what librarians learn is 'on the job' and the changing pace of technology makes workplace learning vital. I've found the notion of communities of practice hugely helpful in understanding how librarians develop their own skills and knowledge and share what they think with colleagues and those in other institutions. Librarians are networked learners and in many ways a role model for other professionals and the notion of a community of practice is an important theme in workplace learning in this book.

As I said at the start, I was delighted to be asked to write this Foreword. This is a challenging book to read, but the selection of the chapters and the different voices that we hear make it a *compelling* read. We need to be constantly challenged to develop a deeper understanding of Information Literacy in all its guises and we need a critical and theoretical underpinning to our work as librarians and information professionals. In this book we have something to enlighten and challenge us, to reinforce what we already know, and tell us something new. The contributors include some writers who are shining lights in the Information Literacy field, such as Christine S. Bruce, Annemaree Lloyd, Bonnie Cheuk, Andrew Whitworth and Stéphane Goldstein. Each chapter offers us something new and valuable, but it is the sum of its parts that is the strength of this book and what make it such a rare treat. I hope you will read it and be enlightened, enthused and inspired.

Information Literacy really does have the power to transform people's lives and we see this particularly clearly in the workplace. The skills people develop at work impact on the success of the organizations that they work for, and on the economy and society more broadly. However, behaviours and knowledge can also be carried forward into daily lives, to enrich them, and as UNESCO says, enable them to fulfil both their personal and professional goals. There are new perspectives in this book but it is not before time that Information Literacy is recognized as something that transcends the education sector and has the power to underpin success in people's working and daily lives.

Jane Secker
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Learning within for beyond: exploring a workplace Information Literacy design

Annemaree Lloyd

This chapter will discuss:

- how the intensification of work and creation of new ways of working can present librarians with challenges in terms of creating Information Literacy (IL) education that provides scaffolding for students' transitions into professional or vocational practice.
- how by addressing this need, librarians must balance students' transitions at both ends of the process – into higher education or vocational settings, and then into the workplace. This complexity requires a recasting of pedagogical practices to accommodate changes in the nature of work. With this in mind, common themes drawn from practice-based research are used to construct a conceptualization of workplace IL instruction.

Introduction

Modern workplaces are *fast* places, blending traditional and new versions of work and ways of working. The workplace is now characterized by rapid rates of change; seamless integration of technology; the broadening of networks; incorporation of social media, e-mail and other multimedia platforms; and the ability to work without propinquity (White, 2012). The need to accommodate change and to provide innovative responses to workplace challenges requires employees to continually update, extend and improve their capacity to understand their workplace information landscapes. The increasing messiness of the workplace results in the growth of formal and informal sources of information, which compounds the issue of workers being able to identify, locate and share 'quality information' (Martin, 2013). The implications of these

changes are increased uncertainty about employer expectations of new workers, and the need to ensure that new workers have the capacity to demonstrate information resilience (Lloyd, 2013).

This chapter considers the teaching of IL practice in the light of the messiness created by rapid workplace changes and evolving ways of working. Themes which are common to a practice perspective and act as a scaffold to conceptualizing workplace IL instruction are described. A premise of this chapter is that current models and frameworks of IL do not adequately prepare students for workplace learning because they do not account for the preparatory nature of higher education or for the change in learning cultures that new graduates and novices face when they transition into the workplace.

Bodies of literature related to IL, practice-based learning, transition, and workplace learning inform this chapter, which is guided by the question: 'How do we prepare students to transition from preparatory contexts to the world of work?' This question should be of interest to librarians charged with the responsibility of supporting the development of graduate attributes because it emphasizes the importance of scaffolding IL across the trajectory of students' university learning experiences.

The concept of *literacies of information* is also introduced to highlight the foundational nature of IL, and the complexity and deictic nature of information and technologies that form part of the information landscape of the modern workplace. In this view, IL, as a way of knowing (Lloyd, 2003), is *enacted* through contemporary literacies practices such as digital literacy, media or analogue literacy and information-related activities and competencies, which are shaped and authorized by a particular site or context. This approach draws our attention to the construct of IL as it is conceptualized through practice. *Information resilience* (Lloyd, 2012; 2014) is also conceptualized in this chapter as an outcome of IL practice and an attribute of an information-literate person. Information resilience describes the capacity to respond to uncertainty by learning to operationalize information skills and activities to gain access to information resources.

Finally, the chapter describes the DASIL model (Dimensions, Activities and Skills of IL) as a scaffold for developing IL instruction. The final section of this chapter considers IL in relation to building information-resilient workers.

Workplace Information Literacy research

A review of the corpus of literature for this topic will not be undertaken here (see the annotated bibliography by Lloyd, 2010; Williams, Cooper and Wavell, 2014). It is sufficient to note that workplace IL has not received the same attention from library and information studies researchers (Crawford and Irving, 2009; Head, 2012; Lloyd, 2010) as it has in other contexts. In many

cases, research has been limited to understanding searching skills or to use with technology, with few studies exploring the deeper, complex nexus of working (i.e. working practices, performance and information creation and use). This means that IL researchers who are interested in the workplace must often draw from research that is conducted in other fields and that is relevant to understanding how people experience and use information in learning about work. In fields such as organizational studies and workplace learning, research into new versions of work (e.g. work that is hybridized, mobile or without spatial or temporal propinquity) can inform the pedagogical practices of vocational and university librarians. From an information perspective this kind of research can raise questions about the nature of information practices in the changing versions of work. It can also lead to questions about whether IL education taught in the preparatory contexts of university, school-based or vocational education has currency and relevance to the changing spatial arrangements of work and ways of working, e.g. project-based, or where workers need to navigate multiple contexts across a number of companies (Costas, 2013) or mobile work without the support of colleagues, established structures or the contingent sources of knowledge offered by traditional offices (Harmer and Pauleen, 2012). Head's (2012) research suggests that while students enter the workplace with an excellent ability to search for information online, they are often unaware of other sources of information that are necessary for the performance of work. Research by Central New York University (Gashirpv and Matsuucki, 2013) has identified that universities and academics need to pay more attention to what employers are saying – namely that, while students may leave formal education with an ability to use computers, they are lacking in the critical literacies of information that enable them to think creatively in order to find solutions to real-world problems that do not always involve finding the solution online. Similarly, White (2012), exploring work in the digital workplace, has indicated the need to be aware of how searching on different devices may produce different versions of the same result because of platform or language variations. These findings have implications for revisiting or recasting IL education.

Information intensification and new versions of work

Graduates enter a working world that has been shaped by the demands of new capitalism (Sennett, 2007) from which the knowledge economy has emerged. New paradigms of work are characterized by an intensification of workload and new versions of work may be mobile and cross boundaries (Costas, 2013), occurring in stable offices, but also out into temporary settings such as in cafés or airport transit lounges. This type of work requires workers

to become agile critical thinkers, not only about the issues and challenges specific to work, but also those associated with the actual process of working. It also creates a paradigm shift where new versions of work are characterized by the increased availability of information; broader networks; a diversification of information sources; deictic forms of new media; a shift in flows of knowledge; a wider range of information access and output points; and changes in the temporal and spatial nature of the workplace, and in technologies used in the performance of work.

Achieving a high level of competitiveness requires organizations to reorganize themselves horizontally, to allow problem solving and decision making to flow laterally across the organization rather than vertically from the top (Baralou and Tsoukas, 2015; White, 2012). As a consequence, the information environments and landscapes of modern workplaces have become messy and highly complex, and the need to access and use information, to think critically, to become informed, and to create and innovate, has become a pervasive aspect of everyday working life.

Coupled with this, workers must become adept at information work, not only in relation to developing content knowledge, but also competency knowledge and expertise in managing the process and flow of work and use of technologies to ensure that workflow information remains uninterrupted by technology failures or service failures (Martin, 2013).

To accommodate the complexity of the workplace, new literacies of information have emerged alongside older and more stable literacies that support the multimodal workplace landscapes that workers experience. The intensification of the information environments of work influences the way an information landscape is experienced as a 'push and pull' environment. In addition to receiving information, workers now play a dynamic role as creators and evaluators, circulators and disseminators. The transition into professional practice is marked, first by the need to apply newly gained professional content knowledge in the performance of work, and second by the need to map the workplace environments and landscapes to understand their structural aspects and to recognize information affordances, and to connect with information sources about governance, work structures and sites of professional knowledge (Fenwick, 2013).

Current models of Information Literacy

At present, there is no model, set of standards or framework specifically related to workplace IL. Current models of IL are drawn from educational contexts, which in turn influence pedagogical thinking and instructional practices (ACRL, 2000; 2015; SCONUL, 2011; Secker and Coonan, 2011). In a review of these frameworks, standards and guidelines, Martin (2013) suggests

that a more socio-cultural understanding of information has begun to emerge in these models as they are revised. According to Martin, IL is recognized as 'holistic, contextual and emerging out of an individual's information experiences' (Martin, 2013, 124). In all models, individual agency continues to be highlighted, underpinning the focus on individual learners – bounded within educational structures.

Still missing, however, is serious consideration of the role of the community and other forms of knowledge and knowing that shape the contextual elements which form the information landscape and the information practices related to it (Harris, 2008; Lloyd, 2006). The absence of these elements from IL education continues to have implications for the development of reflective thinking, which is a critical element of IL practice, and one that is developed over time and in relation to the context or setting. It also has implications for students' IL development by confining and shaping their IL experience within the boundaries of educational practice.

In the UK, Secker and Coonan (2011) argued that IL still suffers from the disjuncture that exists between aspiration statements of IL as a critical catalyst to the complex learning required in the 21st century and integrated institutional frameworks, which place IL at the centre of discipline-based teaching and learning strategies. This has resulted in 'a failure to establish common frameworks and terminology and understanding around IL and what it is intended to achieve' (Secker and Coonan, 2011, 5).

In the USA, the Association of College and Research Librarians (ACRL, 2014; 2015) has finalized the *Framework for Information Literacy for Higher Education*. There is some evidence that the guidelines move away from a systematic concept of IL towards understanding IL as part of a 'complex ecosystem' akin to the information landscape construct (Lloyd, 2006).

In the framework, there is also a change in focus from textual objects as primary learning objects towards recognizing a recognition of a wider range of modalities (social, corporeal, in addition to textual) and the multimodal nature of literacies (visual, data, multimedia), which requires a broader range of metacompetencies (Lloyd, 2003). This appears to incorporate a genuflection to the social theory-based research of authors such as Lloyd (2010), Lundh and Alexandersson (2012), Pilerot (2016) and Limberg and Sundin (2006), who have identified the limitations of the previous skills- and individual-attribute-focused guidelines, and in doing so argued for conceptions that highlight the social and relational nature of the practice (ACRL, 2014, 4). This earlier research led Lloyd to state that IL had different contexts, different concepts and different truths (Lloyd, 2005).

In moving away from a fixed notion of IL, the framework advocates core understandings, sets of practices, ways of thinking, metacognitive strategies and critical reflection (ACRL, 2014, 4). While this approach provides a more

realistic understanding of the role of IL in supporting ways of knowing (Lloyd, 2003), the terminology around the framework implies a rigid or bounded interpretation. This limitation may be a result of the document's inability to account for transition, and the role of preparatory settings – such as higher education institutions – to support the move from novice to expert to novice as individuals move through the higher education system, gaining expertise in the educational setting, but then requiring support to prepare for the novice state that will occur with transition to the workplace.

A changing perspective on Information Literacy: literacies of information

In some cases, the revisions to the current crop of frameworks acknowledge the deictic nature of new literacy practices and a more socio-cultural view of information. This change in perspective has resulted in IL practice often being renamed and rebadged. This is due to changes to information environments that are brought about by the exponential growth of knowledge and changes to information and communication technologies that are continually shaping and reshaping the way in which the practice is conceived (e.g. digital literacy, media literacy, computer literacy; the context of the practice, e.g. health literacy, academic research literacy; or the outcomes of the practice). Meanwhile, other iterations such as transliteracy emphasize the cognitive and social capabilities in communication across a wide range of contemporary literacies and media platforms (Andretta, 2009).

However, the foundational concepts related to IL as a practice composed of a range of activities and skills remain deeply lodged within each renaming. With each definition or rebadging largely focused on access to information, a more complex suite of literacies and multimodalities and material practices emerge. This complexity can be conceptualized as a *literacies of information* (first mentioned by Poirier and Robinson, 2014); the term reflects a more holistic way of thinking about the many activities and skills that are enacted in context, and which act as a conduit between people and information.

How we know is reflected through the dimensions of our social contexts. As a practice, IL is inherent within other practices, particularly learning. Consequently, it is difficult to talk about learning without acknowledging that *information* is central to all learning. This single point is important, as it has implications for how we teach IL and what elements we focus on at the higher education and vocational levels. A changing view from IL to include the companion concept of literacies of information is closely aligned with the common features of the practice approach – specifically as practices such as IL are shaped by the social-political, material-economic and cultural-

discursive dimensions (Kemmis and Grootenboer, 2008) that shape the ‘site of the social’ (Schatzki, 2002) and the material practices inherent within it.

Core workplace themes which influence a practice-based learning design

A number of practice-based themes (Gherardi, 2009a; Orlikowski, 2007; Schatzki, 2002) inform an evolving view of workplace IL and can contribute to developing workplace IL-focused pedagogy. These themes are situated within historical and social contexts, emphasizing the collective, relational and embodied nature of practice and ways of knowing in the workplace. The concepts of transition and travel are also important scaffolding elements which must be acknowledged. Each theme is briefly described in the next section.

Collective nature of work

Practices are composed of collective and situated processes (knowing-in-practice) that connect ‘knowing, working, organising, learning and innovating’ (Reich and Hager, 2014, 3). In previous studies of IL in the workplace (Bonner and Lloyd, 2011; Lloyd, 2009; 2010), the practices that shape and name work are viewed as collaborative enterprises between occupational knowledge and the institutional and technical discourses of a setting. The mediation of the information landscape through information sharing plays a significant role in workers developing a shared sense of practice, performance, context and content. A significant aspect of the collective nature of work emphasizes the tacit, nuanced and contingent forms of information that are only available at the moment of practice, yet shape those intersubjective understandings that allow teams to form.

Socio-materiality of work

Taking up this theme, Orlikowski (2007, 1437) argues that ‘the social and material are considered to be inextricably related – there is no social that is not also material, and no material that is not also social’. Knowledge is therefore embodied and mediated through the signs, symbols and tools of practice (Lloyd, 2006). Embodied knowledge is produced through practice. This knowledge (know-how) is anchored in performance of practising from the situatedness of the practice and material objects, signs and symbols of practice. The theme of ‘practical understanding’ has been taken up by a number of authors. Gherardi (2009b, 354) suggests that knowledge is embodied and practices anchored through material practices.

Embodied nature of work

The physicality of practice that is located within the body is an important source of information about practical knowledge, but also about nuanced, contingent and often peripheral ways of knowing that are temporally and spatially situated. In discussing the relationship that exists between knowledge and practice, Gherardi (2009b, 354) suggests that ‘not only do people work with bodies, they also know through them’. Schatzki (1996, 44) adopts a more ontological approach, locating the body as a central feature of practices, and indicates that ‘it is through the performance of bodily actions that the performance of other actions is constituted or affected’. The embodied nature of work has been described previously (Lloyd, 2006; 2010), and understanding the corporeality of practice presents challenges for the development of workplace IL instruction whose traditional IL instructional roles have focused on student’s access to print.

The relational nature of work

The relational nature of work refers to variety of relationships that exist amongst people who are connected to each other in the same practices (e.g. school librarians, teachers, school principals, administrators) and who share the same work endeavours and material objects (computers, machines, tools) (Reich and Hager, 2014, 424). Expanding on this theme, Reich and Hager suggest that ‘practices are always co-produced by a range of actors in space and time with bodies as vital locus of the practice’ (2014, 425).

Historical and social antecedents of work practices

Work practices have histories and are shaped and reshaped over time by institutional and social dimensions. Central to this idea is the role of power in the shaping of a work practice. Power can be located within the sanctioning and legitimizing of practice-based knowledges at formal (e.g. institutional) and informal (group) levels. The ideas of transition through practice and change over time are also suggestive of the temporality of practice, and need to be considered in IL learning design. The evolving and changing nature of work requires an agile and information-resilient workforce.

Transition

The concept of transition is taken up in this chapter, as it is connected to the construction and reconstruction of identity (learning to become a student; being a student; and then learning to become a practitioner). Transitions are fundamentally about learning and Fenwick (2013) identifies three main

dimensions of transitions that affect professional work. These are described by Fenwick as:

- 1 regulation, governance and accountability – which references a need to understand organization control (new managerialism); compliance and adherence to regulations; regulation of performance; and increasing emphasis on customer choice, which contests professional knowledge.
- 2 professional work structures – interpersonal work requires collaboration between diverse groups of experts (e.g. multiagency). This shift blurs knowledge boundaries and may result in new ways of knowing professional knowledge domains.
- 3 ways knowledge is produced, reproduced and circulated within professional communities (Green, 2009, 4). According to Fenwick there is a distinction between ‘practice-as-knowledge and knowing *per se*. Graduates require the capacity to perform work in ways that are guided by and validated against shared knowledge and established conventions for practice’ (Fenwick, 2013, 356).

Foundational to these conceptions of transitions is the requirement to reduce uncertainty in relation to each by establishing transitional competency, which enables new graduates to enter the workplace work-ready.

A practice-based approach to teaching Information Literacy

The DASIL (Dimensions of Activity and Skills of Information Literacy) model emphasizes the dimensions of practice through which sayings and doings shape the activities and skills that emerge to connect people to the various information landscapes that constitute the knowledge base of the setting.

Practice-based approaches have the potential to inform a pedagogical model for IL. These approaches emphasize the relational elements of community and participation (Lave and Wenger, 1991), and enactment, which is shaped by the socio-cultural, material-economic, and cultural-discursive practices of the setting (Kemmis and Grootenboer, 2008; Reich and Hager, 2014). Shove, Pantzar and Watson suggest that a practice combines a bundle of elements that are enacted through meaning, competency and materiality, which form together and link together in specific ways (Shove, Pantzar and Watson, 2012).

Enacting a practice such as IL is therefore accomplished through ongoing relationships and interaction between people and the objects of their practice, where meaning (know-why – about the practice) and competency (practice know-how) combine with the material artefacts, signs and symbols of the practice (technologies, tools and texts). A practice-based approach to IL education is antithetical to cognitivist or behavioural approaches because it

does not position learning as an acquisition rooted in conceptions of technical or instrumental rationality; nor does it advocate for an individual epistemology of practice.

Information literacy is inherently entwined with other social practices and is shaped in the same way as other practices, reflecting the socio-cultural, material-economic and cultural-discursive practices of the setting (Kemmis and Grootenboer, 2008). To become information-literate and to know the information landscape and its paths, nodes and edges requires understanding how the normative and non-normative modalities of information are legitimized within a setting. Therefore, it is important that in developing a practice-based approach to workplace IL pedagogy, librarians accommodate skills and activities that enable students to engage with:

- meaning – what knowledges are legitimized within a setting; what performances are legitimized?
- competencies – the skills and know-how that are operationalized in the practice
- materiality – the range of technologies and artefacts through which the practice emerges and is enacted (Shove, Pantzar and Watson, 2012).

A practice-based approach to teaching IL also requires that students develop a broader and more holistic approach to understanding how information travels within the workplace. A holistic approach suggests that students develop the capacity to recognize:

- **Dimensions:** these are the social conditions that influence and shape what knowledges are sanctioned and what ways of knowing are enabled or contested. These social dimensions represent power and control over how information and sites of knowledge and information practices emerge. Identifying the dimensions that influence IL practice, allows students to recognize which literacies of information enable or constrain ways of knowing (digital, visual, corporeal, media, etc.).
- **Activities and skills of information work:** these relate to information work (e.g. critical thinking, information seeking, searching, sharing) and application of skills (e.g. finding, defining, accessing) representing the performance of IL practice (e.g. the way in which information is created, produced, reproduced, circulated, disseminated and accessed, how information is sought and managed relative to the dimensions of the setting or context).

Becoming information-literate is characterized by transitions from unknowing to knowing. This transition occurs on many levels creating many

types of information landscapes (workplace, education, etc.) that represent the myriad practices that constitute social life (Schatzki, 2002). The transitions occur in relation to knowledge domains but also in relation to subjective and intersubjective agencies.

The DASIL model is represented in Figure 8.1.

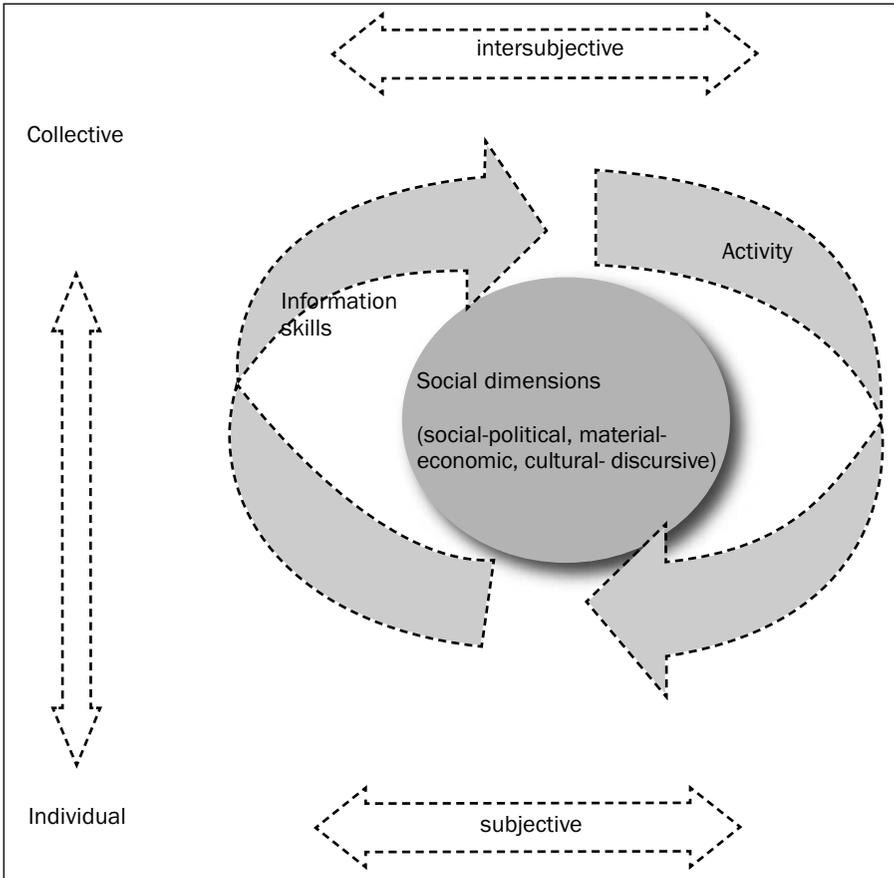


Figure 8.1 *DASIL (Dimensions of Activity and Skills of Information Literacy: a practice-based model)*

Conceptualizing Information Literacy learning design

Despite all good intentions, in general the teaching of IL and the development of IL programmes have a tendency to fall back on the most common and easiest of denominators – a focus on library-derived information skills – and at a minimum the bolting-on of IL as end-on sessions related to either library- or discipline-based orientation. This approach does not allow the scaffolding

required to engage students to disciplinary or competency knowledge of the workplace.

The approach explored in this chapter suggests that IL has a trajectory, continually moving from stages of unknowing to knowing, i.e. from novice to expert, in the context of spatial and temporal dimensions (Figure 8.2). Consequently, the process of teaching IL necessitates that educational librarians extend their understanding of IL and the nature of workplace learning and develop new forms of strategic knowledge that accommodate the multimodal nature of information work and new versions of work. The learning design offered here mirrors the movement from novice to expert to novice.

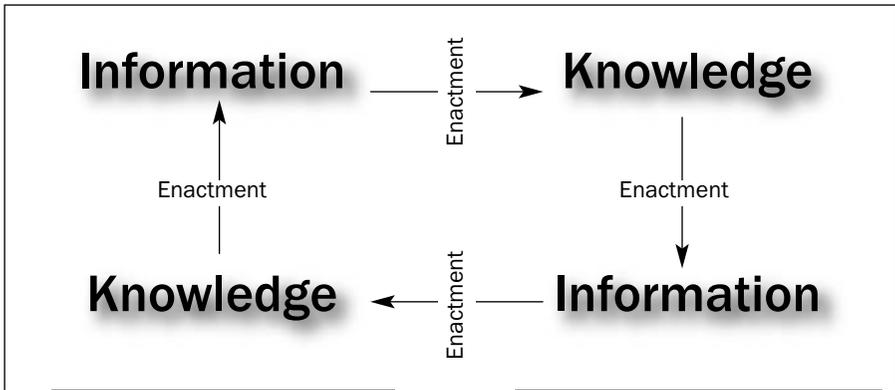


Figure 8.2 *Enactment of Information Literacy practice (adapted from Lloyd, 2004, 173)*

A learning design for IL in vocation and higher education sectors should accommodate the students' capacity to connect with the practice through competences, material and meanings (Shove, Pantzar and Watson, 2012) taking into account the preparatory nature of the setting and the trajectory of student movement from entry to exit. At the entry phase, the initial need is student engagement with abstract discipline-based knowledge and the corresponding IL practice that is associated with accessing information within this epistemic community. The exit phase focuses on the final stages of education, which should be geared to preparation for transition into the first year of work.

Information literacy therefore requires a programme of study which targets the various stages of the student educational experience and focuses on developing competencies that will enable graduates to draw from knowledge about IL practice to allow its enactment in workplace performance. The one-size-fits-all approach is not relevant to, nor is it suitable for, practice-based IL education.

To accommodate the preparatory and transitional elements of higher education or vocational settings the IL programme requires three stages. Each stage corresponds to the student learning trajectory, taking into account the practice elements of meaning, competency and materiality (Shove, Pantzar and Watson, 2012), described in an earlier section of this chapter.

A significant feature of a practice-based approach to IL education is a focus on constructive alignment, which is woven through each phase. Developing effective IL practice requires that tasks, learning and teaching experiences are connected and aligned to the objectives related to IL practice development in the context of the discipline in the first phases and then of professional practices as students begin the transition phase.

Constructive alignment is defined by Briggs (2003, 27) in the following way: ‘the “constructive” aspect refers to what the learner does, which is to construct meaning through relevant learning activities. The “alignment” aspect refers to what the teacher does, which is to set up a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes.’

Stages of Information Literacy development

While not prescriptive, a practice-based programme would accommodate the following stages.

Preparatory stages

Learning performance relates strongly to engaging with abstract discipline-based knowledge (know-why knowledges), and to learning the performance of IL as an enactment of higher education or vocational discourse. In the preparatory stages, student focus is on becoming embodied in the learning practice of the higher education institution through engagement with the epistemic and instrumental knowledges related to rules and regulations, and to undertake activities that connect students with the meaning making that is required to connect with their specific disciplines:

- **meaning:** enabling students to connect to the symbolic and practical meanings associated with engagement with discipline knowledge and with the discourse and discursive practices which shape the University
- **competency:** related to shaping of IL practice (activities and skills) in relation to the sayings, doings and relating (Kemmis and Grootenboer, 2008) of the setting (discourse and discursive practice)
- **materiality:** the technologies that support literacies of information in the setting.

Evidence from the workplace literature suggests that reflective practice is context-bound (Smith and Trede, 2013), so the focus should be on the higher education context, more abstract-discipline knowledge base. Reflective practice should be introduced in the preparatory stage and focused towards understanding IL in the context of educational practices and the student's experiences of IL in the higher education/vocational setting.

Information Literacy emerges as embedded IL classes, coupled with disciplinary knowledge related understanding, the context of learning, and ways of knowing within the context. Introduction to critical IL skills should also include introduction to discourses and discursive practices related to university or vocational learning.

Intermediate stages

Emphasis at this stage is on continued development of critical skills (i.e. critical evaluation of information, problem solving and reflection on practice focusing on understanding information-seeking practices, conceptualizing information practices in the context of the discipline- or competency-based approach). Information Literacy emerges as:

- **meaning:** the ability to understand the shape of the learning environment and specific discipline and what enables and constrains information creation, reproduction, circulation, dissemination
- **competency:** competency in engaging with a range of activities that facilitate access to disciplinary knowledge
- **materiality:** the technologies and activities that support literacies of information in the setting.

Transition to work stage

The final stages of tertiary or vocational study are geared towards the transition to work and professional or vocational practice. In this phase, students must move beyond abstract discipline-based understanding of work towards more situated understandings of IL practices at work.

At this stage, librarians must refocus their attention away from the library and towards the transition to work experience. Therefore, a climate that will facilitate transition should be constructed, considering elements of authentic practice and problem solving, affording the opportunity for some generic elements of the practice (e.g. general internet searching and evaluating skills) to travel in ways that may be relevant and support the students as they begin the process of learning about the information landscapes of work and the literacies of information that support ways of knowing.

In this stage, the focus shifts to developing practice competency that can be enacted in workplace settings, allowing students to enter new information landscapes, with the ability to adapt to the range of literacies of information that support the work of the setting. Drawing from disciplinary and practice-based knowledge (which may be gained through visits to workplaces, or by surveying students who return from work placements) activities should be related to authentic practice, such as collaboration, reflection on action and practice that reflect situated everyday practices, bearing in mind that nuances related to social modalities will not be accessible but should nonetheless be acknowledged in the programme (Brown, Collins and Duguid, 1989; Herrington, 2006).

During this transition stage, students need to connect know-why knowledge with know-how (Lloyd, 2006). This requires reflection on:

- **meaning:** connected to the symbolic and practical meanings associated with engagement with discipline knowledge and with the discourse and discursive practices that may be encountered in the first year of work
- **competency:** related to shaping of IL practice (activities and skills) in relation to the sayings, doings and relational dynamics of the setting (discourse and discursive practice)
- **materiality:** the technologies that support literacies of information in the setting.

Building resilience for workplace transition: the role of librarians

A practice-based design addresses the teaching and learning of IL as central to learning and an important graduate attribute. Teaching the practice of IL at tertiary levels requires that librarians develop a resonance with the workplace and view their role not as pushers of information but as translators, mediators, sources of knowledge and collaborators:

- **Translators:** Librarians need to have knowledge about disciplinary information practices, and ways of knowing how disciplinary landscapes are constructed and the types of literacies of information that enable or constrain access.
- **Mediators:** Librarians are placed in unique positions to mediate the educational and discipline/workplace landscapes in order to identify knowledge, competencies and skills that students will require while studying and when in transition to the workplace.
- **Source experts:** This refers to the expertise of librarians in understanding the role of information and knowledge from both a disciplinary and a competence perspective.

- **Collaborators:** with employers, trainers, other educators and students who undertake practical work or work placements.

The framework described here emphasizes the phases which should be conceptualized in the construction of workplace IL programmes. Underpinning this approach to IL education design is the incremental development of knowledge – about IL as a practice and a metacompetency (Lloyd, 2003) that facilitates ways of knowing about content and the various literacies of information that will be enacted.

The process of moving from a preparatory setting into the workplace can be fraught with difficulties, as educational landscapes fracture and new workplace landscapes emerge. A key to addressing the uncertainty of transition is the information resilience that can be claimed as an outcome of IL practice. A key to reducing uncertainty is the capacity to connect and engage with information to solve problems associated with entering new or unfamiliar settings or adapting to changed situations (Lloyd, 2013). Herein lies a central role for university and vocational education librarians. The challenge is to consider how new versions of IL pedagogy and instruction practices might also be recast to accommodate old and new versions of work and working.

Conclusion

An important lesson emerging from workplace IL research (Head, 2012; Lloyd, 2010) is that, in IL, the practice does not stand alone from the many practices that create and construct a context. Rather, IL is a practice that is dispersed within a practice and is central to its construction. A practice-based approach to IL embraces the notion that practice (including workplace learning) is social. Therefore teaching IL is not simply about skills but also about developing the critical thinking and problem-solving skills that use access to information as the catalyst for motivated and purposeful action. These elements are critical to workplace learning.

This will require different ways of thinking, but if taken up could open up a new area and new opportunities for librarians in academic and vocational settings to support learning ‘from within for beyond’.