Facilitating Literature Searches for Work based learning Students Using an Action Research Approach.

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Abstract

This paper describes an action research project in a university to identify the requirements of Work based learning (WBL) students in respect of literature searches for practice enquiries and outlines measures subsequently taken to improve student support. The study confirms previous research that WBL students need to consult a wide variety of source material and not just academic texts. Students report uncertainty in using non-academic sources and difficulties searching. As a result, academic practices have been adapted to provide more consistent, comprehensive support. These include the production of online resources and modified practices by tutors and librarians. In line with the action research approach practices are monitored on an ongoing basis to ensure their continuing relevance.

Keywords: Action Research; Work Based Learning, Literature Searching, Practice Knowledge, Practice Enquiry.

Introduction

‘Literature searching’ is an umbrella term to include searching, recording, analysis, evaluation and synthesis of an extant body of knowledge and can be considered an essential element in establishing the construct validity of any formal research or enquiry (Dellinger 2005). Academic tutors routinely create materials to facilitate the process for their students and there are numerous published guides (Booth, Papaioannou and Sutton 2016; Fink 2014; Hart 2018; Gash 2000; Jesson, Matheson and Lacey 2011; Machi and McEvoy 2016; Oliver
There are also numerous guides on YouTube, Vimeo, the Khan Academy¹ and many other sites. Research evidence suggests that tailored guidance on literature searching for dissertations or their equivalent is an effective means of improving student proficiency (Abdekhoda et al 2017; Allen and Weber 2013; Hinostroza et.al. 2018; Just 2012). In recent years there has been global growth in the number of students completing Work Based Learning (WBL) programmes based upon the requirements for knowledge creation in the workplace (Boud and Solomon 2001). Within such programmes are experiential learning modules where students, under guidance, attempt to create practice knowledge (Cochrane-Smith and Lytle 2009; Dadds and Hart 2001; Fergusson 2019; Jarvis 1999). Such investigations are best described as ‘Practice’ or ‘Practitioner Enquiry’ (Lawrence and Murray 2000). Insofar as they are akin to conventional subject discipline dissertations they employ the traditional methods of academic enquiry- literature search, rational method of enquiry and analysis as a corrective to dominant modes of ‘naturalistic’ decision making in the workplace (Talbot and Lilley 2014). The knowledge created can be technical or procedural; it can be concerned with principles for a series of actions or the solution of a particular problem (Toledano-O’Farrill 2017). A distinctive feature of practice knowledge is that does not exist for its own sake: it is intimately connected with real world actions- doing (Carr and Kemmis 1986; Gibbons et. al. 1994; Nowotny, Scott and Gibbons 2001). Work based projects which generate new practice knowledge are therefore intended to have practical application in the workplace (Armsby and Costley 2000; Armsby and Costley 2007; Garnett 2005). As a consequence, most projects require the active support of other stakeholders in the organisation or extended practice group so that learning contracts require the signature(s) of other, significant stakeholders (Algers, Lindstrom and Svensson 2016).

¹ YouTube: https://www.youtube.com/ Vimeo: https://vimeo.com/ the Khan Academy: https://www.khanacademy.org/
The purpose of this paper is to consider how pedagogic practice can be improved to support WBL students undertaking literature searches for the purposes of creating practice knowledge within a formal academic framework.

**Context of the Study**

The institution where the research took place is a medium sized (approximately 20,000 students) public university in the North of England with a varied portfolio of undergraduate and postgraduate programmes. Most of its student body is younger, full time undergraduates but for twenty years it has had a specialist unit catering for the needs of adults in full time work. To do so it uses a trans-disciplinary ‘shell programme’ (Talbot 2017). A shell programme is a type of whole programme learning contract, as pioneered by Knowles (1986). There are no formal entry requirements other than the ability to be able to study at university level. Students can start at any time and within reason, study at their own pace at times and places convenient for them. The framework enables the student to negotiate subject and hence curriculum with the university. The subject must relate to the requirements of the workplace and the university must be able to provide underpinning expertise to support the negotiated programme of study. The award title and hence learning pathway (the curriculum) within the framework is therefore precisely configured around the requirements of learners. The framework is designed to incorporate claims for past learning, present learning in the form of workplace projects as well as conventional subject discipline modules as the basis for future actions. University regulations require Bachelor and Masters level students to complete a dissertation equivalent, in the form of a workplace project. The project obeys standard academic conventions, such as employing a recognised methodology and engage in structured reading of relevant literature. The difference is that the project is intended to create
practice rather than academic knowledge. An important first step is therefore to briefly outline what is meant, in the context of WBL by the term ‘practice knowledge’

**Practice Knowledge in the Context of Literature Searching for WBL Practice Enquiries.**

Knowledge in the context of WBL is often described as being ‘trans-disciplinary’ (Costley and Pizzolato 2018; Gibbs 2005; Portwood 2007) in the sense that it includes disciplinary, inter-disciplinary, multi-disciplinary and knowledge external to discipline (Nicolescu 2002; MacGregor and Volckman 2013). Subject discipline knowledge is often integral to practice knowledge so that for example, medical science forms the core of medical practice knowledge (Biglan 1973). While subject discipline(s) provides a useful starting point it does not enable us to fully understand what we mean by ‘practice knowledge’ in the context of WBL literature searching nor is there space here to fully consider what we mean by the term. A starting point is to narrow it down to mean what Mariano and Awazu, (2016) call ‘artifacts’—that which is explicit and verifiable, rather than that which is tacit, for example (Sternberg and Horvath 1999). Practice knowledge is situation dependent and contextual (Hager Lee and Reich 2012; Lave and Wenger 1991); specialisation of roles and expertise, even amongst those working side by side, ensures knowledge in a field of practice is not available to all collectively (Styhre 2011). Relevant artifacts in each case with therefore vary. A body of practice knowledge can be limited or mediated by social structures such as organisations (Argyris 1993; Edvinsson and Malone 1997; Davenport and Prusack 1998; Leonard-Barton 1995; Nonaka 1991), wherein it can be purely procedural (Fischer, Boreham and Nyhan 2004). It can be contained within the professions (Eraut 1994; Freidson 1986; Kemmis 2010; Kinsella and Pitman 2012; Markauskaite and Goodyear 2016; Thorne and Hayes 1997; Young and Muller 2014) or other occupational groups (Bartholomew 2008; Friedson 1988;
Artifacts can therefore originate from within organisations, professional groups and other occupational structures. Practice relevant literature is often concerned with excellence and ‘best practice’ (Tyson 2018; Trimmer and Newman 2019; Winch 2010) so that artifacts proclaiming examples are a rich source of useful literature. All of this implies that literature searching for practice knowledge creation covers many domains. It is likely to include academic literature from perhaps multiple disciplines, professional literature, government and other state bodies, international bodies, think tanks, regulatory bodies, internal and external organisational sources, information from professional bodies and trade associations, practitioners’ networks, reports, minutes, news source, professional and trade journals, websites and competitions promoting best practice, blogs and so on. It may be theoretical, empirical, informational, procedural or organisational. It includes knowledge of practice as well as knowledge relevant to it. It is clear WBL students need to go well beyond traditional academic sources to find relevant literature.

Deciding what is authoritative within that complex mix presents further difficulties.

**Academic Practices to Support WBL Literature Searching**

In the case study presented here, literature searching is included as part of a one day induction to help with undertaking a work based project. This is led by a Distance Librarian which in the past has concentrated solely on searching the university library catalogue. There has also been some written advice as part of dedicated online resources. Students are also referred to specialist texts on searching although this is scant: Costley, Elliott and Gibbs (2010) include a chapter but the other widely used student guides for WBL students, Workman (2010) and Workman and Nottingham (2015) have nothing specific on the subject.
To the authors’ knowledge no other published or online resources, at time of writing, exist. The principal guidance students receive is from supervising tutors. The disparate nature of projects requires tutors to act as a ‘guide on the side’ rather than a subject specialist (King 1993). Within the tutor team there are specialists in some areas of professional practice who are familiar with authoritative literature but this is not always possible, given the complexities of organisational cultures and individual roles. In many instances the student is better placed to identify relevant source material than the tutor. In other cases the tutor may obliged to learn what is relevant alongside the student. Having a checklist of potential sources is some help but every search is likely to use different source material. The literature search in each instance will be determined by the nature of the enquiry, the area of practice, the organisational setting and so on. Walsh (2010) has characterised the selection of an appropriate methodology for WBL investigations as ‘bricolage’: the same term may be applied to literature searching.

The impetus for the enquiry was an observation of perceived deficiencies in the literature cited in many completed student projects. This impression was reinforced by similar observations on WBL programmes elsewhere where one of the authors has been an External Examiner. Feedback from students attending workshops was positive but not all students, who work full time, often at distance can attend. The online guidance to support literature searching was in purely written form and sketchy so in most cases students have relied heavily on advice and guidance from individual tutors. Informal discussions with colleagues in the university and other institutions revealed that tutors themselves were not always sure how best to guide students to relevant and appropriate materials beyond traditional academic sources. Nor was there any certainty about how librarians provided support. We have already noted the distinctive nature of WBL projects but there was a suspicion that tutors may have felt ‘safer’ advising on academic rather than non-academic
texts. It is observable that published student guides in vocational subjects emphasise the primacy of academic literature, often describing other material as ‘grey literature’ (Aveyard 2014; Coughlan and Cronin 2017; Hewitt-Taylor 2017). Dall Alba and Barnacle’s (2007) work suggests tutors may feel more comfortable advising on academic sources since all have difficulty adapting their ontological (and hence epistemological) perspectives necessary for differing approaches to knowledge creation in universities. Over-reliance on academic texts may also be a consequence of teaching as taught: Boud et al. (2018) and Oleson and Hora (2014) both observe the tendency for academics to reproduce pedagogic practices they experienced as students. WBL tutors seem to be in little doubt that academic literature should not be privileged in literature searches (Costley and Nottingham 2018) but how this translates into practical actions is unclear. Nor is there, to the authors’ knowledge any published studies on how librarians advise WBL students. All of this suggested the need to consider in detail how best WBL students can be guided in literature searching. From the foregoing, four objectives for the project were identified. The first of these was to understand the adequacy of current support for literature searching, from the perspective of students. A second objective was to identify what tutors regard as legitimate sources of practice relevant knowledge and provide a consistent basis for advising students on how to access all forms of literature. A third objective was to identify the collective views of tutors and students and translate these into the creation of improved online resources. A final objective was to secure the engagement of university librarians in the process of improving support.

**Materials and Methods: The Action Research Framework**

The methodology used to investigate the scope for improving literature searching for WBL students is an adapted action research framework, following Lewin (1946). Action research is
a widely tool for solving practical problems including issues related to pedagogic practices (Gibbs et. al. 2107). Action research is a means for diagnosing a ‘specific situation’ (p. 36) and is described as a tool of ‘rational social management’ (p.38). It is therefore not a research method in the formal, scientific sense but more a mechanism for organisational learning, based in part upon trial and error (Reavons 2011). For this reason it is often used by WBL students in practice enquiries (Raelin 2008). Lewin specified four stages to action research, repeated on a cyclical basis so that actions are constantly adjusted in response to the facts of a situation. In Lewin’s model the four stages are Initial planning, Action (implementation), Observation and Reflection/adjustment. Unlike more traditional approaches to research where formal investigation is assumed to lead to implementation, in action research, implementation, based upon information gathered, occurs at the front end of the process and is then monitored and reviewed thereafter to confirm, tweak, modify or abandon the chosen course of action on a continuous basis. This approach to investigation facilitates a trial and error approach whereby solutions are proposed, tried and adjusted in the light of experience (Oliver 2008). In one respect the case study reported here differs in form but not substance from Lewin’s model. At the time he was writing routine Quality Assurance (QA) processes in administrative settings were unheard of. Modern university QA policies and practices allow for constant feedback and adjustment so the third, Observation stage of the process relies upon ongoing academic QA processes.

**Results**

*Student Perspectives*

Twenty two students who had finished substantial experiential learning workplace projects completed an online questionnaire designed to establish their perception of the literature
searching process. Two thirds of respondents were postgraduate which approximates the overall proportion on the programme. No distinction was made in the data between ‘distance’ and ‘near’ learners although it should be noted all UK students learning at distance have the opportunity to use their local university library.² As might be expected all respondents reported they used the resources of the University library when conducting searches. Of these only nine used paper resources (books) from the university library. The University has a policy of buying e-books wherever possible so this is not too surprising. The University library was far from the only resource accessed and for five of the 22 it was not even the main source of material. Eight respondents said they had conducted Google searches (including Google Scholar). The commonest alternatives to academic materials were ‘websites’ (14 respondents). Further probing revealed this included the web pages of professional bodies and organisations and learning platforms. A further eight respondents had used reports from a variety of sources such as those created by government departments, company reports and professional bodies. Five respondents had used blogs as one explained for “more obtuse topics that are not found in the library catalogue”. Four cited newspaper sources, specifically naming one newspaper, the Guardian. Seven also indicated they had used the resources of other libraries. Given the highly contextualised nature of their learning it is not surprising that only five students said they used the tutor supplied, generic reading lists.

At one level these responses are reassuring as students appear to be accessing a wide variety of academic and non-academic sources. However it also highlights the limitations. The most striking absence in the list of source material is internal documents. Many workplace issues are discussed in the form of reports, emails, audits, monitoring, memos and minutes. While

² The SCONUL scheme is a reciprocal arrangement between UK universities whereby distance learners at one university can access the library of another closer to home.
there may be confidentiality issues, internal data appears to be an under-used resource.

Similarly there were no references to specialist think tanks and policy units or publicly identified best practice. There are many websites dedicated to best practice and there are also many examples of good practice by award winners. Within higher education for example, the Higher Education Academy and Times Higher Education Supplement both run annual competitions for good practice which is highly relevant for practice enquiries.

Students were also asked about the way they conducted searches. From the responses it is clear students felt ill equipped for the task, especially the more isolated distance learners.

None of the respondents, including those who had struggled, asked for help. One complaint concerned the university library’s internal search function which a number of students found difficult to use. From the survey it is clear the problem is less to do with the system itself than problems identifying appropriate search terms which yielded meaningful results, difficulties in navigating publisher sites and a feeling of being overwhelmed by the number of results. Students also reported difficulties using e-books, due in part to the different access models used by publishers. For all the students the search process was random rather than systematic. Eight reported they would have liked greater tutor support. One student stated she would like to enhance her knowledge of what could be regarded as “useful websites”, while another said that being able to search newspapers effectively would be advantageous to him.

One participant said she felt she was acting “sporadically”, and that she would often have to “revert back to learning mode” each time she searched the literature. “Improving expertise” around literature searching and becoming “more technically-minded” were also mentioned, with one student wanting to know how to correctly “word” (ie phrase) searches. Another student mentioned that he would like to know if some non-academic sources, such as

Along with many others, the University uses Summon, so that its entire collection can be rapidly searched: https://www.proquest.com/products-services/The-Summon-Service.html. The use of Summon greatly increases students’ use of a library’s resources, especially journals (JUSP undated).
websites and company reports were to be appropriate within an academic context. The students were also asked about their preferences in respect of online learning resources. All had accessed the existing online learning resources and all but one student described them as ‘adequate’. 21 of the 22 thought an online video for literature searching would have greater immediacy than purely text based resources. Further questions were asked in terms of what form this should take. All but one student said the videos should be short. Beyond that there were differing views about the desirability of voice-over narration (8 students), sub-titling (6 students), colourful graphics (6 students) and screen casting (5 students). One of the students disclosed a physical impairment which might affect their ability to access the videos.

Perceptions of Tutors and Librarians

A second phase of the research involved semi-structured interviews with twelve university WBL tutors and the librarian with responsibility for meeting the needs of all distance learners, the majority of whom are WBL students. The distance librarian did not believe WBL students’ have distinctive needs in respect of literature searching and regarded theirs as essentially the same as other students. She saw her role as solely helping students to access the resources of the library. Accordingly she thought the development of videos to help with literature searching could meet the needs of all students in the university.

By contrast the WBL tutors were emphatic about the distinctive requirements of WBL for literature searching and did not consider it appropriate to develop learning resources with other academic departments. As in Costley and Nottingham’s (ibid) study they emphasised the need to go beyond academic sources. They also identified a lack of method in the way students searched evident in submissions. In terms of how learning support could be
enhanced all thought a series of short videos appropriate. An important consideration was to ensure materials are accessible for people with aural or visual impairment. Figure 1 illustrates the source material considered potentially relevant for work based literature searches by WBL tutors, compared with the sources identified by Costley, Elliott and Gibbs (ibid, p. 12).

**Figure 1: Practice Relevant Literature**

The list is not exhaustive and indicative only. The contextualised nature of practice knowledge means that what might be regarded as relevant and legitimate will vary in each instance, depending upon the requirements of the student and associated stakeholders.

A final interview, at the suggestion of the librarian, was conducted with the university’s Information Literacy Projects team. Their main contribution was to offer support for the production of the videos and emphasise the requirement for any videos to be consistent with the requirements of the university.

**Action- Improving Resources to Facilitate Literature Searches for WBL Students**

The first action has been to present the findings of the research to all tutors and the distance librarian and agree a common approach to practice, which has been used to upgrade advice contained on the Moodle module space. This has been reinforced by further workshops on the nature of practice knowledge and its facilitation at a tutor annual away day. In future students will be encouraged to include a statement (usually in the Appendix) outlining how their search was conducted. In a further development, a new Distance Librarian accepts WBL students have distinctive needs and is keen to develop his own expertise as part of an
expanded role. This acceptance of the changed role of the librarian has been greatly helped by the librarian completing a WBL course himself and understanding the issues from a student perspective. A further action has been to produce three short videos for students, based upon what is considered good practice in this kind of production (Martin and Martin 2015; Oud 2009; Rapchack 2017; Reed 2006; Rothera 2015; Ruedlinger 2012; Weeks and Putnam Davis 2017; Wells, Barry and Spence 2013). The videos are short but seek to address issues raised by tutors and students, such as the variety of sources, conducting searches systematically, identifying authoritative material, collecting and synthesising literature. All three were reviewed by the WBL tutor team during regular team meetings after filming and some minor changes made, mostly to ensure featured students reflect the demographic reality of adult learners. The videos have been placed on the online module space as a supplement to regular workshops and tutor advice. The videos have a sub-title option, following the response from a student with a declared disability⁴. A final action has been to contact the authors of the revised third edition of the Work Based Learning Student Handbook to ensure the inclusion of guidance on literature searching (Helyer et. al. 2021).

**Post Implementation Observation and Reflection**

As previously stated, the post-implementation observation stage of the process relies upon normal Quality Assurance procedures. The WBL tutor team meet monthly to discuss learning and teaching issues. ‘Literature searching’ is a standing item for the immediate future so that tutors can report student progress. In addition there is end-of-module student feedback, regular staff/student meetings and an annual programme monitoring review carried out by an

⁴ The videos can be viewed on Vimeo at [https://vimeo.com/showcase/6009626](https://vimeo.com/showcase/6009626) or via YouTube at [https://www.youtube.com/channel/UC1wAKSObiFvVz4Wbn3c3QQQ?view_as=subscriber](https://www.youtube.com/channel/UC1wAKSObiFvVz4Wbn3c3QQQ?view_as=subscriber)
independent member of the Faculty, as well as oversight by an independent (of the university) External Examiner. To date, no problems have been reported with the materials and improved written advice. Reported student feedback via Module Evaluations has been positive.

Despite its small scale the case study highlights the need to adapt pedagogic practices conducted within universities which aim, with their students, to co-create practice knowledge. The enquiry has, we believe, underpinned an improvement in guidance for students in our own university. Ours is far from the only university where the type of WBL described here exists: this suggests that the findings and outcomes presented here have wider relevance. In addition to the role of tutor support, the study highlights the important role of the other participants in the process of literature searching- librarians and the authors of textbooks. The traditional role of university librarians as curators and guides to the library holdings is evolving so that they play an active role in the learning process (Levy and Roberts 2005). Supporting WBL students presents a special challenge since it means having to adjust to a broader concept of knowledge. For this and the other reasons outlined above it is clear literature searching for WBL can be a more complex task for students, tutors and librarians than where study is within an established academic discipline. Ensuring greater rigour and consistency as well as providing appropriate learning resources is essential if practitioner students are able to fully exploit the opportunities presented by formal, accredited experiential learning.

While we are pleased with the overall outcome there is one issue highlighted by the student questionnaire which is perhaps more intractable. Students who clearly required academic support felt inhibited from asking for help. The WBL programme relies heavily
upon students acquiring the habit of independent, self-directed learning. Tutors always respond to requests for help and students already receive significant individual support but tutor time is a finite resource. Having the freedom to study what you want, where and when and at your own pace presents challenges from an institutional perspective but also for learners. Resources to support learning can and have been improved but there is always scope to consider if there is scope for still better support.
References


