**Critical perspectives on methodology in pedagogic research**

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**Abstract**

The emancipatory dimension to higher education represents one of the sector’s most compelling characteristics, but it remains important to develop understanding of the sources of determination that shape practice. Drawing on critical realist perspectives, we explore generative mechanisms by which methodology in pedagogic research affects the sector’s emancipatory potential. In this, we critique the research that led to the Structure of Learning Outcomes taxonomy. Our analysis here enables us to offer a revised version of the taxonomy that is sensitive to horizontal knowledge structures. We further consider a set of studies employing approaches to research that were sensitive to variation in knowledge across disciplines, social relations, reflexivity, corporate agency and other considerations, enabling us to illuminate the stratified basis for our explanatory critique. There is potential for our analysis to assist in developing approaches that are distinctive to research into higher education.

**Key words** Constructive alignment, SOLO taxonomy, critical realism, research into higher education, reflexivity.

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**Introduction**

The close connection between higher education and transformations of various kinds represents one of the sector’s most compelling characteristics. There has been a longstanding assumption that higher education represents an emancipatory endeavour. Barnett (1990), for instance, argued that the overall project of higher education is one of emancipation, a project achieved for students through critical self-reflection and a readiness to question what is taken for granted. Mezirow (1991) suggested that adults should experience a transformation of their assumptions about the world as they learn. Each of these theorists contends that society benefits as a result. In more recent years, though, neo-liberal analyses of higher education have suggested that a university degree primarily offers personal rather than public advantage. Bok (2009) suggests that a primary focus of higher education is now to prepare students for subsequent employment. Lynch (2006) contends that in the process students are increasingly seen by institutions as consumers of education. [Molesworth](http://www.tandfonline.com.ezproxy.liv.ac.uk/action/doSearch?Contrib=Molesworth%2C+M), [Nixon](http://www.tandfonline.com.ezproxy.liv.ac.uk/action/doSearch?Contrib=Nixon%2C+E) & Scullion (2009) further argue that consumerism is reflected in the attitudes that many students now manifest as they look to acquire a degree rather than become learners, thereby avoiding any transformation into scholars.

 A great deal may be lost may be lost, however, if the emancipatory dimension to higher education is weakened. Bhaskar (1993) argues that emancipation pertains to desired rather than undesired sources of determination. It can hardly be assumed that an economic focus is always best suited to the diversity of students’ aspirations, responsibilities and needs. Lynch (2006), indeed, argues that academics must develop a counter discourse to that of neo-liberalism if higher education’s wider societal responsibilities are to be served. Given this context, it is important that we find ways to develop our understanding of those sources of determination that shape both curricula and pedagogy in higher education.

It might be thought that the processes by which pedagogic research is conducted are marginal to this debate. Maton (2013), however, argues that educational research is often typified by knowledge-blindness. He focuses specifically on the way in which pedagogic research places disciplinary knowledge in the background, arguing that ‘psychologically-informed approaches typically focus on generic processes of learning and side-line differences between the forms of knowledge being learned’ (Maton, 2013, 9). It is clear in his analysis that the approach taken to research influences the characteristics of the knowledge that emerges, and the uses to which it can be put. He goes on to argue that there are implications for the way in which students learn, and for the outcomes they are able to achieve. Maton’s work, though, focuses on analysing the implications of the structuring of knowledge rather than on the research processes that gave rise to that structuring. Sayer (1992, 9), meanwhile, highlights the importance of addressing the way that knowledge is produced, as well as considering its use in social activity. There is good scope to trace further the mechanisms that are at work in shaping pedagogic knowledge, as also in drawing out consequences that relate to emancipation. This task is particularly important given that both Clegg and Stevenson (2013) and Tight (2013) suggest that research on methodology receives limited attention in higher education journals.

This study explores ways in which methodologies employed in research into teaching in higher education subsequently influence both knowledge and practice. In what ways do approaches to research shape our knowledge and practice within higher education? In addressing this question, we outline and explore sources of determination by which methodologies employed in pedagogic research affect the emancipatory potential of higher education. If we look at current orthodoxies in the social sciences at large, however, Law (2004) argues that the emphasis remains on technique and conceptualisation of the research design. But issues of purpose and interest only become more fully transparent in a fuller consideration of sources of determination. We seek to lay the ground for further analyses that connect approaches to research in higher education and the emancipatory potential of the field, but also hope to assist in developing research approaches that are distinctive to the study of higher education. Tight (2013), indeed, argues that almost all of the research approaches that are widely used for research into higher education are drawn from the social sciences more widely, rather than developed from within the field itself.

**Research approach**

In seeking to explore ways in which methodology in pedagogic research affects both teaching and the emancipatory potential of higher education, we turn to the paradigm of critical realism. This present paper primarily constitutes a conceptual argument framed by critical realism. The paradigm offers a rigorous grounding from which to address our overarching research question. Rather than seeking to propose causal laws, critical realism as a field offers a non-reductive explanatory critique that draws attention to the underlying basis for the actual events that we experience. Bhaskar (1993) argues that we may be aware to a lesser or greater extent of the underlying structures and generative mechanisms, but these nonetheless constitute an aspect of social reality. Sayer (1992) emphasises further that a realist notion of causality draws on the notion of casual powers, which may or may not be triggered in any given circumstance, rather than on ways in which discrete events are linked together in a relationship of cause and effect. In identifying structures and mechanisms in play, it will then be possible to consider the varying ways in which identified sources of determination might be desired. Bhaskar (1986) argues that it is agents themselves who must play a central role in determining the needs and aspirations to be pursued if emancipation is to occur.

The argument that follows is thus predicated on identifying generative mechanisms by which approaches to pedagogic research influence practice in higher education, and affect scope for emancipation. The notion of explanatory critique is central here, as Bhaskar (1986, 169-179) argues that ‘accounts of social reality are not only value-impregnated but value-impregnating’ and that this provides social science with an impulse towards emancipation. Our overall line of reasoning is thus framed in critical realist terms. In identifying mechanisms in play, furthermore, it is helpful to consider specific examples of pedagogic research conducted according to different approaches, given that such a focus will enable us to both illuminate and draw out our argument. We thus selected four studies in view of the approaches to research that they each employed.

 If emancipation requires agents themselves to play a central role in determining the needs and aspirations to be pursued, as Bhaskar (1986) argues, then it is helpful to consider how the needs and aspirations of the relevant agents involved in higher education are either integral or marginal to research methodology. We note further the emphasis on ‘wanted’ and ‘desired’ sources of determination in Bhaskar’s understanding of emancipation. The use of these terms implies a reflexive awareness on the part of the subjects concerned in relation to what they do want or desire. Archer (2003) specifically highlights how the prioritisation of concerns, for instance, represents an integral part of a subject’s reflexivity. Critical realism also pays particular attention to the stratified basis for social reality. Bhaskar (2008) contends that social reality is constituted across a range of strata, including the intra-personal, the person taken as an entity, inter-personal interactions, and social structure. The selection of three of our four studies was partly made in order to include approaches to research that displayed sensitivity to this layering of social reality; while also taking into account the cultural domain. The cultural domain complements the stratification of social reality, with knowledge particularly relevant as a distinctive feature of higher education. Furthermore, Archer (2012) and Donati (2011) advert to the importance of social relations as social structures that frame reflexivity, reflexivity that we have argued is central to a critical realist understanding of emancipation. It was important to include studies that incorporated sensitivity to such considerations within the approaches to research that they employed.

Alongside this, it would be helpful also include a contrasting study, one that integrated a research methodology that was reductive in relation to a fuller range of such strata, and to the voices of teachers and students. While many studies would have been good candidates for inclusion, we decided to focus on the study by Collis and Biggs (1976). Biggs (1996) argues that the notion of constructive alignment was specifically underpinned by research on the structure of learning outcomes. Constructive alignment involves designing curricula and pedagogy to effect an alignment between intended learning outcomes, activities undertaken by students and teachers, and assessment to verify whether the learning has been achieved. Alignment is said to be constructive in that it is the learner who constructs his or her own understanding. This model is widely employed in higher education across the world, with Kandlbinder and Peseta (2009) identifying it as the second most frequently adopted concept on programmes of professional development in teaching across Australia, New Zealand and the UK. Kotzee (2010) argues that constructivism underpins the vast majority of learning theory as it is currently applied in higher education today. The theory of constructive alignment has received some critical attention (see, e.g. Jervis and Jervis (2005)), however, the research on the SOLO taxonomy has substantively escaped critique.

After critiquing this study by Collis and Biggs, we develop our argument by considering how a set of further approaches to pedagogic research may be seen to influence practice. The specific research studies considered pertain to ethnography, collaborative action research and longitudinal archiving, although we could have selected studies linked to institutional research (Delaney, 2009), critical pedagogy (McLean, 2006), narrative methodologies (Trahar, 2013) or further areas. The first of the articles that we consider is by Lea and Street (1998), a seminal ethnographic-style study that helped to establish a new approach to induction of students into the academic practices that typify higher education. We next consider Harland (2002), a disciplinary-focused piece of collaborative action research involving a partnership with students. This article represents concerns that will be pertinent to a significant constituency of pedagogic researchers. Our final paper concerns a novel application of an established approach to research from the arts and humanities. Sword (2008) describes the creation of a longitudinal archive focused around documents linked to a Postgraduate Certificate in Academic Practice for early-career lecturers and other university staff. Following an introduction to each of these three papers, we draw out a set of common methodological themes, rather than analysing these papers in isolation from each other.

This overall approach enables us to address a specific set of ways in which methodology may be seen to influence practice, although we acknowledge that analysis of further studies and approaches to research would yield a richer picture. As the argument unfolds, we draw specific attention to these above critical realist considerations, in order to further motivate the inclusion of each study.

**The influence of the SOLO taxonomy**

The study by Collis and Biggs (1976) sought to characterise on a qualitative basis the learning of school pupils across a wide range of subjects in response to focused tasks. These tasks involved pupils processing a relatively limited amount of information, such as appreciating a poem, understanding a concept from geography, solving a mathematical problem, and so on. Collis and Biggs identified five levels to characterise variation in the quality of responses made by pupils. The levels were identified as (1) pre-structural; (2) uni-structural; (3) multi-structural; (4) relational; and (5) extended abstract. For instance, Biggs (1979, 387) indicates that a relational response is one that is conceptually integrated within the immediate context of the task, while an extended abstract response raises above the immediate context and its integrating concepts in order to embrace a higher level of abstraction. Biggs acknowledged, though, that it is not a straightforward matter to translate this taxonomy and the associated notion of constructive alignment into the context of higher education (Biggs, 1996, 350) To what extent is it possible to operationalise desirably high levels of understanding in ways that denote performances, that can be elicited by teaching/learning activities, and that can be assessed authentically? One of the key elements that comes with higher levels goals is the aggregation of learning. Biggs (1980) reports that they did not specifically seek in developing the SOLO taxonomy to consider an aggregation of learning that went beyond the immediate response to a given task. However, in deploying his argument for constructive alignment, Biggs effectively assumes that knowledge displays the same structuring when it is aggregated. Biggs highlights the hierarchical nature of understanding in general: “Many studies point to the hierarchical nature of understanding.” (1996, 351).

Bernstein’s work on the sociology of knowledge is relevant here. Maton (2009) argues that Bernstein’s work is relevant to realist approaches to social science. Bernstein (2000) argued that it is important to distinguish between horizontal knowledge structures and vertical knowledge structures. Horizontal knowledge structures are characteristically built up through adding distinctive bodies of knowledge, as occurs in the arts, humanities and social sciences. Sayer (1992), for instance, argues that social objects are highly related to each other, and likely to vary over time and space. This ensures that the contingencies and structures entailed are not necessarily transparent in generalisations. Vertical knowledge structures, meanwhile, involve theories of high generality that seek to integrate apparently disparate phenomena. However, in looking for a common structure to pupils’ responses, Collis and Biggs (1976) specifically sought to eliminate disciplinary variation, with no specific consideration given to wider contexts or to outcomes of learning that went beyond the immediate response to the task. Martin (2007, 85), indeed, suggests that research in educational psychology quite widely has a tendency to downplay communal understandings of selfhood and agency, side-lining social relations and cultural contexts in the process in order to concentrate on the ‘interior processes and functions of individuals’. The emphasis on the abstract dimension to knowledge in the SOLO taxonomy fails to take into account the horizontal knowledge structures typical of the arts and humanities. In such disciplines, as an integral feature of advanced learning, we would expect to see a clearer role for connections to context and for connections across different bodies of knowledge. The SOLO taxonomy is not sufficiently sensitive to horizontal knowledge structures, especially when used as a basis for defining higher level outcomes that pertain to the accumulation of learning. We see here a case of the knowledge-blindness identified by Maton (2013). Consideration of the limitations and validity of knowledge is detached from the knowledge itself. Arguing from a broadly realist position, Pratt and Swan (1999, 8) suggest such a separation fails to acknowledge the way in which all human knowledge is in some respects fallible.

Before we progress our argument further, though, it is worth noting that our analysis suggests that there is scope to adapt the SOLO taxonomy to take into account horizontal knowledge structures. Bigg’s own example of an assessment criterion in teacher education (Biggs, 1996, 352) that is supposed to reflect an extended abstract piece of work actually downplays generalisation as such, in favour of wider notions of originality in application and extension of course material. Is it a higher-level response to abstract and generalise, or to establish an original and concrete connection to a novel context? We would suggest that a more comprehensive taxonomy should consider both extended abstract and extended concrete responses, suggesting a single category of ‘extended’. We can refer to this as the extended SOLO taxonomy, or ESOLO. The levels of this new taxonomy are thus indicated as: (1) pre-structural; (2) uni-structural; (3) multi-structural; (4) relational; and (5) extended.

*Impact on pedagogic practices*

How might this cultural artefact of the SOLO taxonomy, with its role in helping to establish constructive alignment, actually impact on practice? There are a range of requirements, for instance, in the UK Quality Code for Higher Education (The Quality Assurance Agency for Higher Education, 2014) for universities within the UK to specify their programmes in terms of the outcomes, methods of learning and teaching, and assessment practices, with similar requirements in place within the European Higher Education Area (European Association for Quality Assurance in Higher Education, 2005). Such regulatory frameworks typically require a specification of learning outcomes at module and programme level, with at least an implicit expectation that the specified curriculum will be appropriately aligned (Jackson, 2000). When such frameworks are implemented within codes of practice, inspection regimes, institutional systems of reporting, marketing, reward and recognition, and so on, then we see the establishment of a socio-cultural system. Clearly, though, the extent to which constructive alignment actually shapes practice will vary from one setting and country to the next.

Such a system has scope to influence the concerns that teachers hold, and also the project and practices that are permissible within the academy. Archer (2003, 135) suggests that the impact of structure on agency is mediated by a three-stage process. Agents first of all find themselves placed in particular structural settings that constrain and enable their actions. They then configure their own concerns in relation to these settings; and, finally, they produce courses of action on the basis of reflexive deliberations. Archer (1996, 183) further identifies the formation of a dense articulation of ideas, and cultural artefacts generally, as an essential feature of a cultural system with scope to influence the concerns and priorities of agents. A cultural system is constituted by a set of things that are that are ‘capable of being grasped, deciphered understood or known by someone’ (Archer, 1996, 104). Archer (1996, 185) specifically argues for the possibility of elaboration of a cultural system on the basis of agency. For instance, a cultural system may develop as new intelligibilia result from research. Douglas (1986) similarly highlights how institutions can influence their members to adopt distinctive modes of thinking and action. This understanding of the way that intelligibila are integrated into a cultural system helped to underpin our selection of the SOLO taxonomy as a focus for our study. What we see here is a manifest example of a specific research study influencing a cultural system.

 As a result one would expect to see a narrowing of focus towards those concerns that are directly aligned to the system, as attention is directed away from alternative representations. With constructively aligned curricula, one would expect to see learning framed around a set of aggregated attainments. Swann (1999, 57) argues that such a narrowing fails to take into account the open-ended nature of human activity, down playing the complexity that a realist approach would seek to acknowledge. Hussey and Smith (2008, 113) similarly contend that learning outcomes are principally useful when considered in relation to specific tasks, and that it is not realistically possible to frame outcomes at an appropriate degree of complexity in relation to programmes. Maton (2009) argues that approaches to curricula that do not fully respect the characteristics of the knowledge entailed mean that students tend to develop more limited forms of understanding. We have seen, though, that the SOLO taxonomy specifically downplays the complexity entailed. While this approach may be suited to the production of employable subjects, the scope for learning to be framed in relation to such considerations as the limitations of knowledge, reflexivity, and the role of social relations is attenuated.

**Illuminating a stratified basis for explanatory critique**

We now consider the three identified papers that were chosen on the basis of the scope provided for explanatory critique on a critical realist basis. After initially providing a brief characterisation of each their methodologies, we consider the studies together as we analyse mechanisms by which they impact on practice.

*An ethnographic-style approach to academic literacies*

The study by Lea and Street (1998) focused on student writing in higher education within the UK, comparing perceptions of staff and undergraduate students around written assignments. The study was conducted on an ethnographic basis, involving observations, interviews and the collation of textual material. Bhaskar (1986), indeed, argues that the reasons and accounts of relevant actors are the best guide to understanding the structures that influence human agency, given that these structures manifest themselves in events and experiences. Their broad focus allowed them to pursue a relatively open research question, something that contrasts with the tighter approach that an unduly technical emphasis on match between research questions and methods might represent. Pabian (2014) further points out the importance of unstructured data within ethnographic studies, allowing scope to address uncertainty in the emerging data through sustained reflexivity. Pole and Morrison (2003) argue that the focus on a given setting, understanding social life from the inside and the generation of theory are all key features of ethnographic research. Close familiarity with one’s research setting is itself a prevalent feature of pedagogic research, with Lea and Street acknowledging their own prior situated knowledge of the institutional settings they were investigating. Their study highlighted the roles played by varied academic practices around reading and writing in a range of disciplines, including those from the natural sciences, social sciences and the humanities. Assumptions about knowledge emerged as a key consideration in relation to academic literacy, as did the authority relationships through which these assumptions are conveyed.

*Research into collaborative enquiry*

Harland (2002) outlines a study of an undergraduate Zoology course at a university in Scotland that was designed around problem-based learning, that is learning which is framed around a problem or issue in order to provide a starting point for an enquiry led by a group of students. Following a period of training, tutors and students worked together to conduct an Environmental Impact Assessment at a national park in Egypt in partnership with a commercial organisation. Alongside this, Harland conducted collaborative action research with both students and colleagues to investigate together their experience of problem-based learning. The choice of a study that involved action research that included both teachers and students was an obvious choice in relation to a critical realist understanding of emancipation.

This study finds it place as part of a densely articulated set of ideas, given the adoption of problem-based learning in many different disciplines, and in varied settings across the world. Over a five-year period, it was clear that a partnership between tutors and students developed through the innovation and the research. Students particularly appreciated the democratic basis for their relationships with tutors and the freedom to take actions forward. By contrast, the exercise of tutor authority was seen to curtail dialogue and student engagement during the early period of the study. It is interesting here that Bhaskar (1986, 198) argues that emancipation entails a shift in the connection between human action and the structural setting. The emphasis on students as partners in pedagogic research represents a growing area of interest, as Healy, Flint and Harrington (2014) argue. Reflexivity was specifically stimulated by the different perspectives that came from the interaction between students and teachers (Harland, 2002, 11), as tutors and students brought with them different conceptions of learning and teaching.

*Longitudinal archiving*

Finally, the study by Sword (2008) proposes a novel research methodology termed longitudinal archiving, drawing on traditions from the arts and humanities. Kelly and Brailsford (2013), indeed, argue that research into higher education should be characterised by engagement with a range of disciplinary traditions as an integral element, given the prior disciplinary backgrounds of its researchers. The approach involves collating and indexing a range of documents over an extended period of time. Her initial use of this approach was to create an archive linked to a Postgraduate Certificate in Academic Practice for early-career lecturers and other staff at a university in New Zealand, with the stored artefacts including student assignments, questionnaire responses, reflexive accounts, interview transcripts and so on. Sword (2008) suggests that the archive encourages a reflexive awareness for those contributing and those responsible for the archive. The selection of the paper on the longitudinal archive was made partly on the grounds of the scope it provided to give a voice to teachers, while also taking into account their own role as students on a programme of professional development.

The approach was developed in response to challenges faced in conducting research on educational development and in demonstrating its impact. Law (2004) argues that we need more methods in the social sciences that are directly attuned to the evident complexity, diffuseness and messiness; a perspective that aligns with the argument by Bhaskar (1997) that social science characteristically involves the study of open systems. The approach takes advantage of the trust that can be established over time when a relatively stable group of people work together within a common institutional setting. Sword (2008, 89) indicates that longitudinal archiving ‘slows down the pace of educational research’, something that Law (2004) also holds out for in dealing with the messiness of social science research more widely.

*Methodological commonalities*

If we look at the approach to research taken in these further studies, it is possible to identify a set of methodological commonalities. These commonalities have been identified partly in contrast to the relatively narrow methodological focus evident in the research leading to the SOLO taxonomy, and with a view also to their capacity to illuminate our emancipatory concerns. In broad terms, we contend that these studies have scope to influence practice within the sector through similar mechanisms to those in operation for the study by Collis and Biggs (1976), although in each the extent to which the knowledge emerging from the studies has been integrated into relevant cultural systems and affected the agency of those involved in higher education will vary. Our analysis further enables us to highlight characteristics of research methodology that are particularly suited to the context of higher education. Our contention is not that each commonality is unique to research into higher education or novel in itself, but that an understanding of the way in which methodology and context interact with each other has potential to help develop research approaches that are distinctive.

In the first instance, it is clear that these studies involve research that is closely embedded within given institutional settings. Clegg and Stevenson (2013) highlight an insider dimension to all research into higher education, arguing that such research at least implicitly involves an ethnographic dimension. They suggest that it is important to develop forms of reflexivity that take into account the ‘multiple, lived and contextual sources of knowing’ that we bring to our research (Clegg & Stevenson, 2013, 7). Given a common location and practice, however, it is quite possible that the parties involved will share common presumptions that undercut the extent to which the research can be conducted on a critical standing, thus affecting the scope for emancipation. Haggis (2009) indeed, argues that it is important for researchers into higher education to stand outside of their circumstances and contexts in order to examine the assumptions that shape their research and practice. We may assume that a research study that incorporates such a stance will impact most immediately on those who are directly involved, but one might expect practice that is informed by such research to also be affected. The extent to which this occurs will depend upon the manner in which reflexivity is advanced through the research approach.

In order to illustrate this point, we can consider one specific influence on reflexivity, namely social relations. A focus on rich understanding in ethnography contrasts with the emphasis on change in action research or the trust needed to underpin the ongoing presence of an archive, but each of our further three studies concerned an approach to research that is socially embedded. It is particularly evident that both Harland (2002) and Sword (2008) involved research that was conducted extended periods of time within stable settings, and that this provided a basis for ongoing social relations. Donati (2011), furthermore, argues from a critical realist position that social relations provide a key generative mechanism that frames shared reflexivity, shaping both the agency of the parties involved and the interests that are promoted. A research approach that deliberately seeks to build in social relations across difference, as with staff and students who conduct research together, has particular scope to challenge pre-judgments of all those involved. The hermeneutic tradition in particular testifies to this (Gadamer, 1989). Teaching (and learning) will be closely affected where they are linked to a research project that has incorporated sensitivity to the roles played by social relations and reflexivity. But there is no reason why the reach of the social relations entailed should be limited to the teaching that is the direct focus of the research, and not also influence other teaching or learning undertaken by those engaged in the research. One would also expect a wider influence carrying over into practice to the extent that such perspectives shape the wider cultural system. The value of including difference within a cohort of students, for instance, has indeed developed as a particular feature of the cultural system that is associated with higher education, as Harrison (2015) argues elsewhere in this issue.

The shared reflexivity of a group is, furthermore, an important factor in establishing capacity for corporate agency. Archer (1995, 185) identifies corporate agency as the means by which individuals join together in order to articulate and advance mutual interests. In so far as higher education aspires to emancipation, it is important to find ways to respond to the argument by Bhaskar (1986) that it is agents themselves who must play a central role in determining their own needs and aspirations. We see in Harland (2002) that relations with students influence the reflexivity of the researcher and the direction of the research, but that the inclusion of students also affects capacity for collaboration amongst staff. Kahn, Goodhew, Murphy and Walsh (2013) suggest that collaborative practices associated with teaching and learning remain underdeveloped within higher education. A greater awareness of the importance of corporate agency in approaches to research has potential to help to remedy this underdevelopment in pedagogic practice, whether for those directly involved in the research or for others more widely.

Finally, the disciplinary dimension also emerges strongly in each of these studies, again in contrast to the approach taken by Collis and Biggs (1976). Sensitivity to the distinctive constraints of knowledge in different settings is closely integrated into each of the research approaches represented in three three studies. It is important that methodology in pedagogic research takes into account variance in knowledge structures. The selected studies all recognized the provisionality of the understanding that is developed through pedagogic research. It is interesting that there is scope for social relations to affect recognition of provisionality in the pedagogic knowledge. Provisionality stems in part from the ways in which different perspectives or voices are fostered by research methodology. If the pedagogic knowledge developed through such an approach to research is then embedded in practice, then there are implications for emancipation. It becomes more realistic to perceive a discipline and to frame needs and aspirations in different ways. It is interesting that the capacity to deal with uncertainty forms an important aspect of various models of intellectual and moral development, as with Perry (1999) and Kohlberg (1981). Learning to appreciate the uncertainties inherent in knowledge thus has an emancipatory dimension more widely, helping one to recognise the presence of a range of possibilities in any situation.

**Conclusions**

This study has sought to bring teaching and approaches to pedagogic research into a closer relationship with each other. We contend that there is a close connection between methodologies employed in higher education research and the nature of the student experience of higher education. In this, we have explored generative mechanisms by which methodologies in higher education research may be seen to affect the emancipatory potential of higher education teaching. As research itself is conducted, and as knowledge developed through pedagogic research is integrated into the wider socio-cultural system of higher education, the attitudes and activity of practitioners are affected.

We have argued that both the SOLO taxonomy and constructive alignment downplay the distinctive characteristics of different forms of knowledge. Learning conceived according to such a model can easily become co-opted into the production of employable subjects. Our analysis suggests that significant gaps remain in the basis for one of the most widely adopted perspectives on learning and teaching in use today. At the same time, our analysis enabled us to offer a revised version of the taxonomy that is more sensitive to horizontal knowledge structures.

We also examined a selective group of research studies that were sensitive to variation in knowledge across disciplines, reflexivity and to social relations, as well as to the conditions that make these sensitivities possible. It is important to consider the implications that stem from co-location and common purposes of researchers and stakeholders over extended periods. In this, the reflexive basis for pedagogic research and for higher education emerged strongly, whether pertaining to the role of the pedagogic researcher as an insider or in considering a relational basis for reflexivity. Archer (2007) highlights the increasing importance of meta-reflexivity in modernity, by which an individual deliberates on his or her own reflexivity as an integral feature of that reflexivity, as a means to prioritise social ideals. However, we would highlight the relational basis for any prioritisation of social ideals, whether in highlighting the provisional dimension to knowledge or in establishing a basis for the corporate dimensions to emancipation.

We hope that our analysis will assist in developing approaches to research that are distinctive to research into higher education. We agree with Kelly and Brailsford (2013), who suggest that developments in research methodology within the field of pedagogic research may well find their sources in the humanities at large, as much as in more closely related disciplines of psychology, sociology and philosophy. This, after all, provides one means to take into account the varied forms of knowledge that are present within the academy, and which partly shape the focus of pedagogic research. At the same time, though, we would suggest that new approaches should reflect the unique context of pedagogic research and teaching in higher education, and incorporate features that promote emancipation. The value of drawing on critical realism to underpin our argument is further apparent, here, given the resources that it offers to attend to emancipation.

Policy implications also stem from our research. The influence of the knowledge that emerges from pedagogic research is closely related to its integration in the socio-cultural system that constitutes higher education. There is scope to adjust the basis on which learning is currently planned within higher education, in developing a counter discourse to dominant trends linked toward the marketization of higher education. Along with Hussey and Smith (2008), we would argue that a more restricted usage of intended learning outcomes would be appropriate within curriculum planning and quality assurance systems. It will be important to develop new planning processes that reflect the relevance to teaching of both stable social relations and disciplinary variation. The trend that Ryan (2013) identifies, at least in the context of Australia, towards a casualisation of the work force within higher education is thus a matter of concern, as this affects longer-term scope for social relations to form. Our analysis, for instance, suggests that relations between teachers and students, and others, should acquire a higher priority than is manifestly the case at present.

We are aware that critique alone provides a relatively weak basis on which to ground educational change, as Elliott (2005) argues in relation to action research. However, the emancipation of students and others will be enhanced if pedagogic researchers develop a greater awareness of the influence of their methodologies. The aims and scope of the journal *Teaching in Higher Education* focus on criticality and on how to bring research and teaching into a closer relationship. The journal itself represents one important means to advance an emancipatory discourse within higher education. As such an advance occurs, there is scope for pedagogic research to influence thinking and practice within higher education in ways that promote an emancipatory agenda.

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