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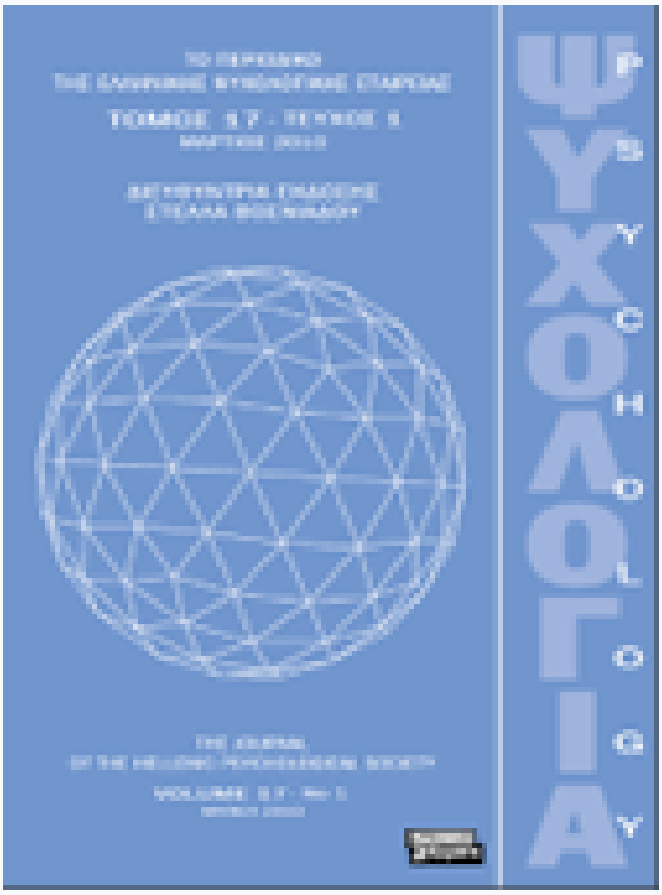

Learner identities and the will to understand: The experiences of undergraduate biosciences students in the UK

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Learner identities and the will to understand: The experiences of undergraduate biosciences students in the UK

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ABSTRACT Understanding depends on applying a particular kind of effort to learning. The research reported in this article investigates what influences students' willingness to engage in the kinds of active learning which would be required for a deep personal understanding of the "ways of thinking and practising" of their subject area. The analysis is based on 19 group interviews with 59 experienced biosciences students from three contrasting types of university in the UK, drawn from a more extensive set of transcripts from a large-scale national project. A rigorous thematic analysis of the data was carried out using HyperRESEARCH, a computer program which has the flexibility to allow thorough and diverse analyses of qualitative data. The findings illustrate the interplay between the will to understand, aspects of students' identities and key dimensions of the contexts within which they were learning. Where interaction between the students and their learning context allowed for more authentic learning experiences, this seemed to have a positive influence on their willingness to engage actively and critically with their studies.

Key words: Identities, Understanding, Higher education, Authentic learning.

1. Introduction

This paper builds on an earlier analysis of final-year biosciences students' experiences of learning (McCune, 2009). The initial analysis mapped a range of influences on students' willingness to engage actively with their studies and achieve personal understanding. Such understanding is achieved through sustained engagement with the "ways of thinking and practising" (WTPs) of academic disciplines (McCune & Hounsell, 2005; Hounsell & Anderson, 2009). The notion of "ways of thinking and practising" in a subject area describes the richness, depth and breadth of what students might learn through engagement with a given subject area in a specific context. This might include aspects which were explicitly taught and assessed, as well as tacit norms and practices (McCune & Hounsell, 2005). The present paper focuses more closely on one aspect of these findings, learner identities, and considers how these identities contribute to students' preparedness to

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engage deeply with the WTPs of their subject area. The students also spoke about particular kinds of learning experiences which they felt were significant for the development of their identities as scientists. They suggested that "authentic" experiences, which mirrored how they imagined science was conducted in the wider world, provoked changes in their identities which supported deeper engagement with their studies. An analysis of the students' accounts of the key dimensions of these authentic experiences is also presented in this paper.

One of the ways in which learners' identities can be seen as relevant to the will to understand, is in how identities can frame what is meaningful or relevant for a student. Sfard and Prusak (2005) note that learning is the means by which an individual may close the gap between their understanding of the person they currently are and their views about the person they expect to be. Thus subject content gains meaning and relevance where it is perceived by students as a means of closing this gap. A biosciences student would therefore be expected to have a greater will to understand subject content which they perceived to be relevant to their future self. A related point is made by Wenger (1998) in his work on communities of practice. Communities of practice are described as the activity systems within which knowledge is constituted and situated. While a community of practice may not have clearly defined boundaries, its participants have common histories, practices and perspectives which make meaningful shared action possible (Wenger, 1998; Lave & Wenger, 1999). Wenger contends that an individual's learning trajectory – their sense of where they have been and where they are going in relation to such communities – helps them to decide what matters to them and what does not, what they may incorporate in their developing identities and what will remain marginal for them. This would suggest that the will to understand may be enhanced where a student has a stronger identification with a particular community and a more developed sense of how what they are learning would be relevant to their future role.

Lave and Wenger (1999) argue that meaningful learning occurs through processes of participation in the communities of practice which provide the interpretive context within which knowledge can be understood. Such participation implies active involvement in the day-to-day activities of such communities and building identities in relation to those communities (Wenger, 1998). While university science students in the UK do not generally participate in exactly the same social worlds within which their future careers would take shape, they are typically taught by active researchers and often complete research projects and work placements. There is thus the potential for students to be involved in active collaborative knowledge construction in relation to authentic tasks, which would ressemble the activities of their future work. The value of such authentic experiences is typically emphasised in constructivist and situated cognition perspectives on student learning (Brown, Collins, & Duguid, 1989; Herrington & Herrington 1998; Tenebaum et al., 2001; Tynjälä 1999).

Stein, Issacs and Andrews (2004) define authentic learning opportunities as, "personally meaningful and relevant to students, socially relevant to the field and in harmony with the nature of the discipline" (p. 254). This definition is particularly useful as it goes beyond simply suggesting that useful learning activities for science students should always involve direct participation in research communities, which may often not be practically possible. Rather the emphasis is on the ways in which a given activity might help students to engage meaningfully and realistically with the practices of their subject area. Such authentic learning experiences seem particularly well suited to helping learners to understand how new knowledge is generated, to grasp the value of what they are learning and to have a stronger sense of their future role. Should this be the case, then authentic learning experiences may prove very important for the will to understand.

To summarise, this paper builds on earlier analyses of data from final year biosciences students to address the following questions:

1. What aspects of the students' identities seemed particularly salient for explaining their will to understand the WTPs of their subject.

Table 1
Samples and response rates for the interviews[2]

	1L (2002-03)	1L (2003-04)	2L (2002-03)	3L (2002-03)	3L (2003-04)
no. of students	44	32	25	14	15
group interviews	5	4	4	3	3
students interviewed	13	8	12	13	13

2. What kinds of learning experiences did the students perceive to have positive effects on their identities as scientists and the will to understand.

2. Settings and samples

Three one-semester long modules (1L, 2L and 3L) in the final year of undergraduate programmes of study in the biosciences were selected for study. These modules came from three universities intended to be representative of the range of different types of higher education institutions common in the UK. The teaching in module 1L was quite traditional in the UK context, as it combined large group lectures with tutorials in smaller groups. Module 2L was less usual for UK higher education, as it was taught by a different biosciences researcher each week. In the first part of each session the researcher would give a talk about their current research work. The students were then invited to tackle questions arising from data provided by the guest lecturer, and the students explored these questions in small groups prior to a whole-group discussion. The teaching in unit 3L was led by the students. Each week two students gave a presentation followed by questions and discussion. The topics for the presentations were, however, set by the module leaders. Most of the students on the 3L module had completed a year of placement work in professional research environments. Some of the 2L students had also completed work placements, whereas the students on 1L would not have done work placements at the time the data were collected.

In each module students were asked to volunteer for semi-structured group interviews in the penultimate week of teaching. The interview samples are summarised in Table 1. In the interviews the students were asked about their reasons for taking the module and their plans for the future. The students were also asked to talk about their experiences of the teaching-learning environment of the module. Each group was asked about the extent to which they felt they had learned to think or act like a bioscientist. Finally, the students were asked about the impact of the module on their enthusiasm for the subject.

3. Data analysis

The overall intention was to offer a rigorous analysis of the meanings students attributed to their experiences which could be fully justified in relation to the underlying data. The analysis therefore bears similarities to Charmaz's (2003) constructivist perspective on qualitative data analysis. Charmaz argues for the possibility of

2. In two of the settings, 1L and 3L, data were collected in consecutive years. This repeat sampling procedure was necessary for the overall design of the ETL project but is not relevant to the present paper, except in that it increases the number of interviews available for analysis. The research design of the ETL project is discussed in detail elsewhere (www.etl.tla.ed.ac.uk).

rigorous empirical analyses of perspectives and meanings without assuming that this will generate objective universal truths which are unaffected by the researcher's perspectives.

After the interviews had been transcribed in full, the first step in the data analysis was to select out all of the data which might provide insights into what influenced the students' will to understand. After initial coding, the broad themes which had been identified were refined with the intention of providing a concise but comprehensive overview of the influences identified by the students. The relative importance of parts of the data was assessed by considering how commonly an influence was mentioned across interviews and settings and by noting the strength of expression in the students' comments. The analysis also involved precise specification of what would be included within the meaning of a given them or sub-theme. The themes and sub-themes were then checked back against the entire data set to identify any relevant comments which had been missed earlier in the analysis process. Counter-examples to the main findings were sought and these are reported alongside the themes. The different stages of the analysis were conducted and logged using HyperRESEARCH (version 2.6.1 from Researchware, Inc.).

4. Findings

Developing identities and the will to understand

There were two broad themes in the data which linked learner identities and the will to understand. In the first theme, the connection was made between learners' trajectories – their sense of where they were going in relation to particular communities of practice (Wenger, 1998) – and the quality of their interest in the subject matter. The second theme explores the interplay between the students' current identification with the scientist role, richer understandings of the research process and the will to engage critically with subject matter.

Inbound trajectories and perceptions of relevance

The majority of the students in this sample described "inbound trajectories" (Wenger, 1998). Most intended to pursue further study in the sciences, or to work in scientific research and they were beginning to identify more strongly with the values of the scientific communities they experienced:

> S: And you realise how, you know, how to be, have scientific integrity [...]
>
> **3LC V1**

> [On placement] you become much more independent [...] You actually realise you study because you want to or because you want to learn something, not so much because you've got an exam next week [...] That's one thing that I found actually to do with the placement, it actually made me think what I'm gonna do when I graduate because I've never really thought about it before, like, seriously. [...] [In my placement setting] they're all very career orientated over there which I thought was a good thing [...] so they're always talking about and it made me start to think about it and it scared me a lot also! (Laughs). But at least it got me into thinking a bit before we got back, you know.
>
> **2LP JN1**

> You can't go in to give a presentation completely blind, you need to basically have researched everything, coz if someone asks you a question and you can't answer you're gonna look really unprofessional.
>
> **2LP V1**

The interplay between students' intended trajectories and their willingness to engage deeply with course content could be seen in the comments made in every setting about the importance for them of seeing the future relevance or applicability of their studies:

> Personally I find it easier to motivate myself to learn something if it's got an obvious application in industry or, you know in the working world.
>
> **3LC J1**

S1: I feel more enthusiastic about the subject area, definitely. I think in particular [...] it was the Pathologist.

S2: He put what we would be learning into context. The pathologist came in and said "This is what it looks like if someone has this sort of thing". And he puts what you're actually learning into the context of people actually get cancer and die from this sort of thing [...] So we're not just learning mechanisms and pathways, it actually has a point.

S1: Yeah, I think that's the problem as well, you go through it and you don't really get why you're doing this and why you're studying this and what's gonna be the outcome of it. [...] This has been a quite good module, where we saw pictures of tumours and things like that, and it helps you to realise that this is actually a real life thing, that you are gonna go out and, as she said, people do die from it.

2LP JN2

However, a sense of vocational relevance was not always necessary for students to be willing to engage with course content:

I always liked the enzymology lectures in the past and I like the lecturers [...] it's not, probably not what I'm going to go into, but, it's just something that interests me.

3LC D1

A few students spoke about a stronger identification with a particular aspect of the subject matter, perhaps implying a richer sense of trajectory in relation to a specific field:

If you are very good at one subject then you have a special way of thinking about that subject, [...] so outside that subject you try to link it to this main subject [...] I'll always be thinking from a micro-biological point of view [...] So that it can help me direct my interest.

1LC JN1

I think the students have a lot more questions to ask because they have their own specific areas of interest now. And before I think, a lot of people have just been sitting there, asking simple questions and now they are really relating it to their actual real life experience, their actual projects [...]

3LC D1

This was quite rare though, it was more common for students to simply express a strong intrinsic interest in the subject matter, which extended for some to accounts of deep fascination:

That I think is fascinating, the fact that something as small as that can mean so much to the whole [...] it's just amazing, its fantastically amazing. [The other lecturer] tells us all the bits and what it then goes on to do, and that is quite fascinating as well cause you think, you know, all these little letters go on to do this, that goes on to do that and there's you, and you're like —wow, that is quite, it's phenomenal, it screws your noodle a bit, but it's brilliant, just to find out all about it.

1LC JN2

While most of the students spoke of having a strong intrinsic interest in their studies, there were a few comments which suggested a more instrumental motivation:

S: [...] that seems to be the main thing this year is giving your own opinions, correctly evaluating the stuff you're getting as opposed to just, this is good because it says so.

I: Is that hard to do?

S: I find it hard —[?] at the end of the year I just want to go and get a job. I don't want to go and change the world and find some new cure for anything, just want to go out and get a job. It's part of the course so you have to do it.

1LP D1

Feeling like a scientist, understanding the research process and the will to understand

Some of the students described an interplay between identifying with the scientist role, having a richer understanding of how scientific research was conducted in "real-life" contexts and feeling more committed and willing to take a critical stance which would support deep understanding of the subject:

> S1: I can actually see the difference between people who did work placements and people who didn't do a work placement [...] the others are still committed, but I don't think they are really that, I don't know how to put it -
>
> S2: - motivated I think. That's what I found as well. I found myself a bit more cynical of things as well. Like, when you hear reports and tabloids and everything, these miracle cures [...] It has definitely taught me to think more like a scientist and it has also given me a lot more confidence working in the labs on experiments and the interpretation of results [...]
>
> S1:. [Without placement] I wouldn't have known anything really about the whole background of science. I'd be like, "Oh, here are the facts that we've been given", but I wouldn't have a clue about how people went around doing it [...] You've gone up a level, you're not a student anymore.
>
> S2: You've been given a problem, so you'll think more about the problem and all the aspects of it. [...]
>
> S1: [If you were writing a lab report in the year before the placement you] would write what you'd found out and stuff, but from [the placement] now I can write "Well this is how I went about trying to research what I was wanting to find out, this is how I researched into what the experiments I would do. These are the experiments and this is what I'd do if I had more time in the future". So you're not just writing "Oh, this is what I've done and the results are this!". [...]
>
> I: And you're sort of saying you're not a student anymore, are you saying you feel kind of different in yourselves?
>
> S1: Definitely!
>
> S2: I feel more like a scientist than a student. [...]
>
> **2LP V1**
>
> S2: So the fact that you know the work you're doing is going to be evaluated this way by anyone else who looks at it, and you know all those people who have slightly different opinions will be looking to pick holes, so you have to learn to be able to defend what you're doing, or if there is something wrong with it you need to accept it, perhaps explain it [...] You learn about theory of it but unless you're in the situation doing it and getting your work pulled apart by someone else.
>
> **3LC V1**

By contrast, in the two extracts given below, the students espouse the identity of "undergraduate student" and make the connection between this role and lack of full critical engagement with research findings:

> S1: It's difficult to question things that you read in journals sometimes I think because we're just undergraduates.
>
> S2: Yeah [...] this will only be a three week piece of a module and these people [who] have composed these journal articles they've spent months, years maybe, doing [it] I often find it difficult to try and question some of these things.
>
> **1LP V1**
>
> S2: Everything's peer review anyway so... (S1: Yeah). If they really didn't catch the fact that it's complete rubbish then all the undergraduates aren't gonna.
>
> **3LP D1**

Authentic learning experiences, identities and the will to understand

Where students felt there had been changes in their identities which enhanced their willingness to engage deeply with the WTPs of the subject area, they tended to describe "authentic" learning experiences. These experiences were depicted as authentic by the students in the sense that they were perceived to be realistic experiences of how scientists work:

> The placements in general give you a scientist's feel for research [...] maybe if you graduate without a placement you wouldn't necessarily appreciate what was actually involved on the day to day basis in a research [setting].
>
> **3LC J1**

It was more common for students to describe such experience in relation to work placements, although some of their university classes were also perceived in this way. Some students described these experiences as having very marked effects on their willingness to engage with their studies, for example:

> I: Do you feel in a sense you're different people because you have the placements? [...]
>
> S1: Possibly less disillusioned I think!
>
> S2: I'd have dropped out by now if I hadn't done a placement! [...]
>
> **3LP D1**

One important dimension of these authentic experiences for the students was that they were integrated into a research community in ways which allowed them to participate in shared scientific reasoning processes:

> S1: [...] I think some scientific sort of nature, has been honed and improved by going on placement [...] there's things that you suddenly question that you wouldn't have before. [...]
>
> I: You said the scientific nature?
>
> S1: Yeah, well basically, before one of the placements, I almost was, reluctant to look too much into something in case I found a hole in it basically, and my wonderful theory fell apart, or somebody else's wonderful theory fell apart, now it's sort of almost like a game, like you're trying to see if there is any data or evidence that this hypothesis doesn't stand up to, and it does make you more inquisitive and [...]
>
> I: Is this something you would have learned about at all during your studies before you went on placement or, that you've learned that you're back, or is it really the placement that makes the difference.
>
> S2: I think it's the placement, I think.
>
> S3: You learn about theory of it but unless you're in the situation doing it and getting your work pulled apart by someone else.
>
> **3LC V1**

This shared reasoning was taking place in relation to open ended research questions and there was a sense of a growing awareness of the possibility of contradictory findings and contestation about how data were interpreted:

> S1: Real science isn't really about learning [...] it's about trial and error, discovery sort of thing. Whereas being at university is about learning, it's not really about trial and error.
>
> S2: [...] Instead of just learning stuff for the sake of learning it and just memorising it, you've got to think of how it works, you've got to understand how it works. And then you've got to start thinking about how you can change that or play with it or develop it.
>
> S1: It could be any other number of things so then you've got to try and identify which one it is. I dunno, it's something you haven't thought of and you learn that from someone who's being doing it all their life. [...]
>
> **3LP D1**

> I remember the first time we did [the problem solving part of the class] there were three problems. And the first one, has to have one conclusion, the second one as well, same conclusion, and then the third one just said that the other two were wrong. So, this makes us think of all the alternative experiments that one should do to really, you know, get an answer from something. So, it's really good. It's not just like do one experiment - ah, yeah, this is our answer. You know, it's all the other experiments that we should do as well to prove that.
>
> **2LP V2**

> S1: Yeah, it's a kind of once you have the experience carrying out the experiments, you know that the results of things could be taken in very different ways, we have people who could look at things with very black and white situation, and other people who can go - oh, but this variable could have affected this one, or something else. [...]
>
> S2: I think [that doing research] improves your confidence, because you are willing, on occasion to say, "what this person says, I don't trust". [...]
>
> **3LC V1**

Overall, it seems that on placement and sometimes in university classes, the students were effectively involved in active participation in communities of practice where they were given independence and responsibility and during which they began to take on the "scientist" identity more strongly in ways which enhanced the will to engage deeply and critically with the subject area:

> S1: [Placement] gives you a lot of confidence [...] [On placement] you have your own projects [...] you plan out your practicals [...] you have some input into where your project goes as well [...]
>
> S2: I've been very lucky with both my placements actually, they've been really good and they've put a lot of trust in me. They have actually given me decent projects, my own projects, to do rather than just treating me like someone who can do your washing up for you. [...]
>
> I: Do you feel as a result of this, you're more committed to Biology, or less, or the same?
>
> S3/4: More.
>
> S1: More.
>
> **3LC D1**

These experiences of legitimate peripheral participation were sometimes contrasted with less favourable experiences of more controlled university laboratory classes:

> S1: [...] now I'm confident enough to go into a job as a scientist, completely. I wouldn't have been like that if I had not done a work placement.
>
> S2: [...] first, second and third year labs were all set up for you, all your buffers were made up, everything was pretty much done for you and you came in and they said to you "Right, there's all your stuff, this is what you have to do, follow the instruction manual". Whereas when you're on work placement, you go in, you discuss your problems with your supervisor and say "Right well, what could we do, how could we do it" and then he says "Right, on you go and see if..". Obviously he would give you help along the way and everything, but it's basically you setting up everything, you making up your own buffers, working out your own. [...] that sort of emphasises the difference between [university labs and work placements] just the difference that makes.
>
> **2LP V1**

Other comments suggested, however, that it was possible for the students to perceive their university laboratory work as meaningful and as necessary preparation for their placements:

> To me, exams are irrelevant [...] I think we should spend more time in the labs cause generally that is what we are going to be doing. Course works are fine, lab reports, that's what we are going to be doing with the rest of our lives [...]
>
> **1LC JN2**

> You learn the [...] background techniques from the labs and then you get to actually properly put them into practice and learn more skills from placements. But you do, as you said earlier, need the labs at first to be able to learn the basics.
>
> **3LC J1**

It is also important to bear in mind that not all placement experiences were described as enhancing the students' engagement:

> Like, on placement you do come to realise that although science seems really interesting from the outside, when you're working in it it takes such [a long time]. It can take you months to discover one [expletive deleted] protein interaction or whatever. [...] Yeah, the repetition is probably the worst part of it. You've got to keep yourself motivated. If you've done the same thing for three weeks and it hasn't worked, you want to throw everything on the floor. [...]
>
> **3LP D1**

5. Discussion

This analysis points up the importance of the interplay between the biosciences students' identification with their future roles as scientists and the will to understand. The students seemed to be developing a richer understanding of, and identification with, the values and practices of the scientific communities in which they intended to work, which underpinned a growing commitment to engage critically with their studies and shaped their perceptions of the relevance of what they were learning. The students' accounts of participation fit well with Stein's, Isaacs' and Andrews' (2004) perspective on the value of authentic learning experiences, which these authors describe as personally meaningful for students and as situated within social contexts which allow students to engage actively with the practices of the subject area. In the present study the kinds of experiences which particularly supported these shifts in students' learner identities were described by the students as those which allowed them to feel they were engaging actively with the authentic practices of the subject area. Such experiences were most commonly described in relation to work placement but were also possible within university teaching-learning environments (McCune, 2009). It is worth bearing in mind, however, that few of the students interviewed had begun their final year projects, which might be expected to provide opportunities for more authentic research experiences within the university context.

While the sample for this study is relatively small, and only some students within that sample spoke of significant shifts in the will to understand, the findings do provide initial indications of some of the kinds of learning experiences which may be particularly significant for the quality of students' engagement with their subject. A sense of legitimate peripheral participation seemed important, the students spoke of immersion in the day-to-day practices of scientific communities which gave them a much richer understanding of how scientific knowledge was generated. The students also valued being treated as members of these communities in the sense of being given personal responsibility for meaningful tasks. Student accounts of the transformative effects of work placement experiences on their identities and engagement with their academic work have also been described elsewhere (Auburn, 2007). Wenger (1998) discusses the importance of participants in learning communities having some control over the development of meanings within that community. He suggests that when an individual cannot contribute in a manner that is recognised as competence they come to identify themselves as non-participants, which inhibits their ability to learn.

There is a growing consensus that for

graduates to engage effectively with real-world problems they must be well developed across three domains: the epistemological (knowing), the practical (acting) and the ontological (being) (Anderson & Hounsell, 2007; Barnett, 2007; Kreber, 2009). The analyses presented in this paper have focused on the ontological domain, in the form of the will to understand. Other research from the ETL project has used the notion of the *ways of thinking and practising* (WTPs) of a subject area to encompass all three domains (Anderson & Hounsell, 2007). Collectively our work on students' engagement with WTPs in the biosciences describes a gradual process of enculturation into disciplinary practices which takes place not only through the kinds of authentic learning experiences described in the current paper but also through more traditional university teaching-learning environments (McCune, 2009; McCune & Hounsell, 2005); students' experiences of guidance and feedback on their assessed work seem particularly important in this regard (Hounsell et al., 2008).

Barnett (2007) explores a wider range of aspects of university teaching-learning environments which may support the will to understand. He argues that the self belief required to engage critically with real world problems must be developed gradually over time through experiences of persistence and through the student observing his or her growing knowledge and capacity to reason. Barnett describes the contexts which support such development as incorporating: lasting relationships with teachers who make apparent their enthusiasm for the subject area and their care for students as learners; teachers who open up possibilities for students' development without constraining their identities; a "spirit of research" (p. 126) which supports the critical awareness required for ontological development; support for learning interactions between students; and epistemological and ontological space in the curriculum to allow students to develop their own ways of being.

In the UK context, considerable emphasis has been placed on the role of work experience as a means of enhancing learning in higher education in ways which contribute to employability and make a positive contribution to the economy (Blackwell et al., 2001). The present paper offers a positive view of students' experiences of work placements and other "authentic" activities which supports these arguments. Other research, however, suggests that placements are not always so successful. Blackwell et al. (2001) note that there can be considerable variability in the quality of students' experiences of work placements. In his analysis of psychology students accounts of their experiences of making the transition back into university from work placement, Auburn (2007) suggests that students may experience alienation as they return to a context in which unequal power relationships with academic staff limited their capacity to express what they have learned on placement.

6. Conclusions and implications

Taking the findings from the present study in the context of the wider literature, it seems that an important task for future research in this area would be to investigate how students can be engaged effectively in the kinds of learning experiences likely to support shifts in their identities which may contribute to an enhanced will to understand. At present there are relatively few empirical studies which shed light on the kinds of experiences which would support diverse groups of students to see themselves as the kinds of people who can legitimately develop personal understandings and critical perspectives on the subjects which they study. Given that most university teaching-learning environments involve students interacting with active practitioners of the discipline there are many possibilities in this regard, which are discussed in more detail elsewhere (McCune, 2009). While it is clear that meaningful experiences of participation in the activities of relevant communities of practice can have a beneficial effect, it may be better to consider the *extent* to which a given learning environment could provide such opportunities rather than expecting that it will often be possible or desirable for students to engage fully with communities of practice beyond the university setting.

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Ταυτότητες μαθητευομένων και η βούληση για κατανόηση: οι εμπειρίες φοιτητών βιοεπιστημών, στο Ηνωμένο Βασίλειο

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Περίληψη

Η κατανόηση εξαρτάται από τη συγκεκριμένη προσπάθεια που καταβάλει κανείς κατά τη μάθηση. Η έρευνα που παρουσιάζεται στο παρόν άρθρο εξετάζει τι επηρεάζει την προθυμία των φοιτητών να εμπλακούν σε εκείνα τα είδη της ενεργητικής μάθησης που απαιτούνται για τη σε βάθος προσωπική κατανόηση των «τρόπων σκέψης και πρακτικής» στην επιστήμη που σπουδάζουν. Η ανάλυση βασίζεται σε δεκαεννέα ομαδικές συνεντεύξεις με πενήντα εννέα τελειόφοιτους φοιτητές από τρεις διαφορετικούς τύπους Πανεπιστημίων στο Η.Β. Τα δεδομένα που παρουσιάζονται στην έρευνα προέρχονται από ένα μεγαλύτερο σύνολο απομαγνητοφωνημένων συνεντεύξεων οι οποίες είχαν διεξαχθεί στο πλαίσιο ενός, μεγάλης κλίμακας, εθνικού ερευνητικού προγράμματος. Για τη διεξαγωγή μιας αυστηρής θεματικής ανάλυσης των δεδομένων χρησιμοποιήθηκε το πρόγραμμα HyperRESEARCH, το οποίο έχει τη δυνατότητα να επιτρέπει λεπτομερειακές και ποικίλες αναλύσεις ποιοτικών δεδομένων. Τα ευρήματα της έρευνας καταδεικνύουν την αλληλεπίδραση της βούλησης να κατανοήσει κανείς με πλευρές των ταυτοτήτων των φοιτητών και με διαστάσεις-κλειδιά των πλαισίων εντός των οποίων διεξαγόταν η μάθηση. Όπου η αλληλεπίδραση μεταξύ των φοιτητών και του μαθησιακού περιβάλλοντος επέτρεπε περισσότερες αυθεντικές μαθησιακές εμπειρίες, επηρέασε θετικά την επιθυμία τους για ενεργητική και κριτική συμμετοχή στις σπουδές τους.

Λέξεις-κλειδιά: Ταυτότητες, Κατανόηση, Ανώτατη εκπαίδευση, Αυθεντική μάθηση.

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