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**The Contribution of 'World View' to
Pupils' Attitudes on Enterprise, Entrepreneurship
and Entrepreneurial Learning**

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Abstract

The recent publication of the Howard Davies Review (HM Treasury 2002), backed by government support, has heralded the need to promote entrepreneurial learning in schools as essential for economic growth on a national level. This paper will argue that this principally involves developing pupils' 'world view' to promote entrepreneurship as a viable career option. Our use of the term 'world view' refers to the way an individual interprets the world according to rule-governed practice. Actions, choices and decision making structures are considered to be informed by 'world view' and we specifically relate this notion to the context of students' occupational horizons. Our data comes from the BransEn (Building Regional and National Skills in Entrepreneurship) project which has administered approximately 300 questionnaires to a wide age range of pupils throughout the North West of England. The findings indicate that a large proportion of students do not have notions of enterprise and entrepreneurship embedded in their 'world view'. This means that enterprise education programmes need to focus on promoting change in 'world views' if they are to increase the number of students who view 'business start-up' as a viable career option. Such a focus is not recognised within current provision. The paper concludes that the delivery of a specific body of knowledge which relates to entrepreneurship as opposed to other forms of business and management knowledge or generic skills (e.g. problem solving, communication skills) is essential for providing pupils with an entrepreneurial 'world view'.

Introduction

The recent publication of the Howard Davies Review on 'Enterprise and the Economy in Education' has highlighted that enterprise education or education for enterprise is likely to receive more focused and co-ordinated attention in schools than has previously been the case (HM Treasury 2002). The introduction of Business and Enterprise Specialist College status for schools and the inclusion of the Business and Enterprise unit in the Citizenship Key Stage 4 curriculum has also emphasised this (QCA 2002). Policy directives relating to enterprise education have been incorporated into regional education and training plans at level of the Regional Development Agencies (NWDA, 2000). The project, Building Regional and National Skills in Entrepreneurship, for example, has been operating at Manchester Metropolitan University since the beginning of 2002. The project is concerned with both research and teaching and learning practices in the area of Enterprise, Entrepreneurship and Entrepreneurial Learning. At MMU we are working with eight partner institutions in the North West of England including two primary schools, five secondary schools and one college of Further Education where the site is a Youth Offenders Institution. Our role has been, on the one hand, to develop programmes for enterprise education within institutions by working closely with three teachers nominated as Enterprise Champions within each school or college. On the other hand, we have been developing Continuing Professional Development (CPD) programmes for in-service teachers designed to support them in delivering enterprise education. Research undertaken under the aegis of the project has been with three groups, first students, second teachers and thirdly with entrepreneurs. For the purposes of this paper we are focusing only on the research undertaken with students.

A major aspect of our research with students has been directed at the notion of 'world view'. A more extended exposition of 'world view' is given later in this paper but in brief we mean a personal interpretative framework that prompts activity to occur in particular ways according to particular rules based on the ways an individual understands how the world operates. It represents:

- One's fundamental assumptions and pre-suppositions in perceiving reality

- The way an individual interprets their lives and forms meaning in respect of experience
- The way in which an individual interprets the world derived from social practice

We argue that the significance here is that decisions, choices and the social processes of acting according to rule-governed practice are informed, disciplined by and regulated by an individual's 'world view'.

We also argue that a major concern for policy makers has been to explore how effective efforts have been in providing education for enterprise. We suggest that any form of evaluation or assessment in respect of the problematic notion of 'tracking' has not, so far, been an integral part of any enterprise education process. This is particularly so when the enterprise and business start-up relationship is present as part of a goal structure passed down to inform the planning processes within the regions. This is primarily because any increase in so-called enterprise capability is not likely to make itself known within the boundaries of compulsory and non-compulsory education. We suggest that one method of evaluating the effectiveness of enterprise education is to try to establish whether notions relevant to enterprise and entrepreneurship have become embedded in students 'world view'. This would encompass choices and actions in respect of enterprise activity and decision making structures. We argue that this sort of evaluation may well provide a viable, subjective measure of the effectiveness of enterprise education in schools and colleges. This is because it is accessible at the time of, or shortly after, the enterprise experience has been undertaken. As yet no large-scale research has been done which charts the relationship between enterprise education and students' desire to run their own business as a viable career option. The findings reported in this paper represent the beginnings of such a project. The aim is to start a debate about the effectiveness of different forms of enterprise education in shaping student career aspirations with the intention of informing government policy and generating a greater theoretical insight into the notion of 'world view'.

In undertaking this research our view of enterprise education has increasingly come to focus specifically on 'entrepreneurial learning' and 'entrepreneurship' as a

specialist body of knowledge situated in a social and economic context. This represents a shift in understanding from enterprise skills and capabilities conceived of as generic, to their being conceived of as task, process and context specific. The value of this shift in understanding brings a new focus to enterprise education. The focus now moves away from the idea of socialising students (i.e. equipping them with generic, transferable skills) to become adaptable and flexible to meet the needs of the employment market towards promoting entrepreneurial ways of thinking and acting as a specialist set of skills which are required to pursue a specific career option (entrepreneurship). This approach empowers students by offering them the opportunity to take a more innovative role in the context of local, national and global economies. This understanding is supported by research on entrepreneurship, which details the dynamic processes by which entrepreneurs bring about change to the environment and promote new economic activity and growth (Morrison 1998; Rae 1999; Cope 2001).

What is World View?

For the purpose of this study, we have defined ‘world view’ in terms of students’ understanding of their own occupational horizons. It is therefore, seen as something which can be located both within the individual mindset and in the external social world. This two-fold understanding of ‘world view’ has been more widely explored by Hall (1973) in his study of the ways in which photographs are used to relay the news. Although he does not explicitly use the term ‘world view’ he argues that the way in which an individual interprets the world is derived from social practice (a recognised way of doing something tied to a social context). Therefore, in identifying occupations and employment opportunities which they see as appropriate to their future, students are utilising a series of signs (occupational labels) which draw on socially and historically situated understandings about occupational appropriacy derived from social and cultural practices (Barthes 1967 refers to such understandings as ‘myths’). These understandings are constantly reproduced according to certain rules about what counts as reality and how the world fits together (Saunders 1995). In relation to occupational horizons, these are ‘rules of thumb’ about occupational appropriacy – a socially shared ‘myth’ of what is normally and naturally taken to be predictable and right (i.e. suitable/possible careers

for that individual) (Hall 1973). If we ask students to project an image of themselves in the future (as we have done with our questionnaires), it is likely that this image will be directed by these rules of occupational appropriacy. In this sense, it is important that we recognise that the individual's 'world view' which directs interpretation - and therefore action - is not just derived from experience (as noted before) but is derived from experience within social practices. Therefore, in our use of the term 'world view' we are emphasising it as routine ways of seeing and doing and that attempts at change should be seen in terms of students acquiring certain habits or routines of interpretation. This represents 'world view' in terms of ongoing practice rather than episodic bytes of knowledge, exceptional insights or experiences. It is to be seen in terms of discursive practices looking at how individuals have to draw on socially available systems of signification.

'World view' can be unpacked further if we analyse in more detail how such a notion operates both at the level of the individual and how it is related to the social world in which the individual acts.

At the level of the individual, the term 'world view' has been used in a variety of areas of research and as such has received varied definitions. In looking at how an individual's 'world view' influences their understanding of science, Hamrich (1999) states, "a world view is one's *fundamental assumptions and presuppositions concerning perceptions of reality*" (p1). A similar view is adopted by Hoskins (1995) in her analysis of career counselling. She suggests that 'world view' represents *the way someone interprets events in their lives in the pursuit of meaning*. Both of these offer us a two-fold understanding of 'world view' as it is operated at the level of the agent. Firstly, it is something which is deeply entrenched within the individual mindset and therefore, fundamental to the self. As a consequence, the prospect of changing 'world view' provides a substantial challenge to the educator. Secondly, 'world view' is a way of seeing which structures what the individual does in the present and how they will act in the future – it provides the parameters for interpreting the world and in response, those parameters are either re-confirmed or developed. Thus, 'world view' is dynamic in nature since it informs the individual's actions.

‘World view’ can also be identified at a structural level as well as at the level of the individual since it is shaped and originates from experience within cultural practices. This factor is noted by Kerka (1992), in her study of multi-cultural careers education

“...an individual’s world view derives from his/her cultural background as well as the historical, social and economic experience of that cultural group”... (Kerka 1992 p.2)

Looking at the career choices of teenagers, she notes that people do not act in a homogenous way according to structured positioning (such as class, gender and ethnicity) but according to differences in their ‘world view’. That is they are informed by experience in specific social and historical contexts and have to draw on the discursive practices available to them. The kind of jobs the individual has had (if any), experiences of discrimination and what meaning they give to those experiences informs ‘world view’ in addition to structural exposure to the values, ideas and assumptions of a particular social group. Thus, by adding a discursive dimension to ‘world view’ we are led to investigate its origins and to include how cultural practices and experiences lead one to give meaning to the signs associated with occupational horizons.

This last point suggests that ‘world view’ is not purely to be understood in individual terms. Although we have described ‘world view’ as representing the stability of mindset, this can also be reflected at the level of social structures and though these two versions of reality are related they are not identical. Hence, Kerka’s quote recognises the classic sociological problem of steering between structure and agency – she suggests that although ‘world view’ does relate to the experiences a person has had it cannot be simply read directly from a historical account of those experiences; the individual makes a contribution to shaping it also. Therefore, ‘world view’ is a site of individual and social structures and practices – the site in which we see choices and actions regarding occupational horizons being made.

In summary, these definitions offer us an understanding of ‘world view’ as firstly, deeply entrenched within the individual mind set; secondly, dynamic since it forms the basis of action; thirdly, problematically related to the cultural experience and structural exposure of the individual and finally, changeable through augmented

experience. Having established a generic definition of 'world view' we now move on to discuss the term more specifically in terms of how it is to be used in this paper.

World View and Entrepreneurship

Evidence suggests that pupil ideas about suitable career options are formed at an early age and are determined by experience:

“There is .. some evidence that career aspirations are relatively stable and develop according to clear trajectories, shaped by experiences of young people in a range of contexts.” (Furlong and Biggart 1999 p22.)

This indicates that students' life choices and the decisions/actions they take in response to such choices are determined by a specific world view developed through experience which influences their interpretation of the opportunities which appear open to them (Hoskins 1995). Following this line of theory, if the provision of enterprise education, as it currently stands, is to increase the number of students who hold 'entrepreneurial attitudes' then the focus should be on monitoring students' world views and developing their frameworks of interpretation to include the notion of 'starting a business' as a possible career choice. This is based on the assumption that the individual's motivation to start or run a business as a potential career option is fuelled by entrepreneurial attitudes, capabilities and routine ways of thinking (e.g. opportunity spotting) which form part of their world view. Therefore, in examining students' 'world views' in this paper, we focus on the extent to which they perceive 'starting a business' as a realistic career choice at some stage in their future and explore how much this relates to their experience within entrepreneurial contexts.

Method

The paper draws on ongoing research conducted through the BransEn Project (Building Regional and National Skills for Entrepreneurship), which aims to explore how entrepreneurship education might best be delivered in schools. Part of this research has included the distribution of 300 questionnaires to students aged between 11 and 15 in two secondary schools. (The return rate on these questionnaires was 78% giving a total of 233.) Both schools are partner institutions to the BransEn Project and the students who completed the questionnaires were those who would take part in the activities relating to the project during the next school year. The

social make up of each of the schools was varied: one was a single sex girls school which had 43% of pupils entitled to free school meals and 43% who spoke English as an additional language. The other was co-ed and had only 22% entitled to free school meals and less than 1% who spoke English as an additional language.

The aim of the pupil questionnaire was threefold:

- i) To find out how many students would consider 'starting a business' as a possible life choice at some point in their lives and look at where it fits in with their decision making structures about careers (i.e. their world view).
- ii) To explore the relationship between these occupational horizons and their previous experiences looking at the intensity and type of relationship held with someone who runs their own business. This was based on the understanding referred to earlier regarding the role of experience in shaping the student's world view.
- iii) To track the progress and development of students' understanding of entrepreneurship and assess if 'starting a business' becomes incorporated into the student's 'world view' in response to participation in enterprise activities in school. N.b. the questionnaire data reported in this paper forms the first part of this tracking process; another questionnaire will be given to the same students at the end of the project and the results will be compared to provide an evaluation of progress.

In response to these aims the questionnaire was designed in three sections. The first asked a series of 'knowledge' questions about the activities and process of entrepreneurship and also included a business simulation question where students were asked to take on the role of an entrepreneur and make decisions about their business accordingly. The second section focused on the background and previous experience of students asking about people they know who run their own business, whether they help out or not and if so, what kind of activities do they do. This section also allowed us to see how many students had parents who ran their own business. The final section of the questionnaire is of most interest to us for the purposes of this

paper since it looked at students' career options. Here, we asked students the following question:

12. What do you think you will do at the following ages?

17 Years Old (Circle One)

Go to 6 th Form or College	Work in a Job	Start/Own your own Business	Don't Know
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20 Years Old (Circle One)

Go to College or University	Work in a Job	Start/Own your own Business	Don't Know
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25 Years Old (Circle One)

Go to College or University	Work in a Job	Start/Own your own Business	Don't Know
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40 Years Old (Circle One)

Go to College or University	Work in a Job	Start/Own your own Business	Don't Know
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The aim of this question was to gather information regarding how students perceived their future career options and life choices specifically relating to occupational horizons. Students were asked what they thought they would do at different ages in order to examine their decision making structures with reference to their career trajectory as they perceived it would progress over time – i.e. what they thought they would be doing at each point in life and how they viewed the connection between education, employment and starting or owning a business. In this sense, we were not simply looking at students' decision making (e.g. what choice they would make when leaving school) but their decision making structures – the logics they employed in making their choices across all four ages. The options provided in Question 12 can be seen in terms of a series of four signs (e.g. 'work in a job', 'Go to college/university' etc.) and students were required to use these signs to construct a conceptual route map regarding their perceived career trajectory. They were encoding a narrative about how they see themselves in the future and in doing so were drawing on the 'myths' regarding occupational appropriacy referred to earlier.

Therefore, the initial point of interest regarding question 12 was where the students saw themselves in relation to these signs and the sequence in which they did so, with the assumption that implicitly underpinning this sequence was a particular ‘world view’.

A World View Measurement Framework

Since the focus of the research is on a learning process then it seems necessary to consider the extent to which ‘starting a business’ is integrated into the students’ ‘world view’¹. For this reason a ‘world view’ measurement framework was developed out of a dialogue between pre-conceived logical possibilities (research questions) and the findings evident in the data. The research questions were as follows:

- i) Does the student consider ‘starting a business’ to be a career option at some stage in their life?
- ii) Does the student appear to have a strong sense of vocation about ‘starting a business’ as a career option?
- iii) Why is ‘starting a business’ either part of or not part of the student’s ‘world view’? In what ways, if any, can it be related to earlier experiences captured in the questionnaire?

In answering these questions the pattern of students’ responses to question 12 (see above) provided the basis of the measurement framework. In total 47% of all pupils questioned circled ‘Start own business’ at some point. However, it was evident that students varied in their level of certainty about including this option in their career trajectory. Data analysis was carried out focusing on what options were circled at each age for each student and this information was then collated. This revealed that pupils could be put into four different categories, each with a particular type of ‘world view’ (decision making structure) regarding ‘starting a business’ as a viable

¹ This is based on the assumption, mentioned earlier, that the individual’s decision to ‘start a business’ as a life choice is closely linked to their possession of entrepreneurial attitudes, capabilities and ways of thinking.

career option. These four types formed a continuum based on how much 'starting a business' was part of 'world view'. The basis of each type is described below:

Type 1 - Vocational

The student sees themselves as starting their own business straight after they have left education or training (i.e. they circle this option at either 20 or 25 years) and continuously maintains it as a career option (i.e. it is circled until and including 40 years). This suggests that the student is focused on starting a business once they have obtained the relevant education/training and perceives this to be a continuous career option through life. The prospect of working for someone else is not considered an option at any stage; they are exclusively committed to and focused on entrepreneurial activity.

Type 2 – Actively Included

The student considers starting a business as a possible option after they have worked in a job at an earlier stage in life (i.e. they circle start own business at 25 or 40 years after circling 'work in job'). Alternatively, they see themselves starting a business at some point but cannot see what they will be doing later on in life (i.e. 'start own business' is circled at 25 years and 'don't know' is circled at 40 years). If we take these responses literally then both patterns indicate a certain type of visible, sequential structure and connectedness to the students' perceptions of their future employment status - they want to gain experience by working in a job first before starting a business and that doing so is something which they perceive to be appropriate to the later end of their career. This indicates less certainty, exclusive commitment to and focus on starting a business than type 1 since they project it to be a possible option taken up further in the future².

Type 3 – Passively Included

Starting a business is considered an option at some stage in life but the student does not view it as the culmination of a sequential career path (i.e. they circle 'start own business' but circle other options afterwards or intermittently). This suggests the

² It is inevitable that in answering this question, students are directed by their understanding of the norms of what people tend to do in life and responding in a way which conforms with those norms. However, if this is the case, it merely suggests that 'starting a business' is part of a normative rather than logical career plan for these students.

student views 'starting a business' as a possibility but the prospect of gaining experience through work, as a pre-requisite, is not considered necessary. They appear less certain about starting a business than the previous two types since they have not included it as part of a visible, planned sequence of events.

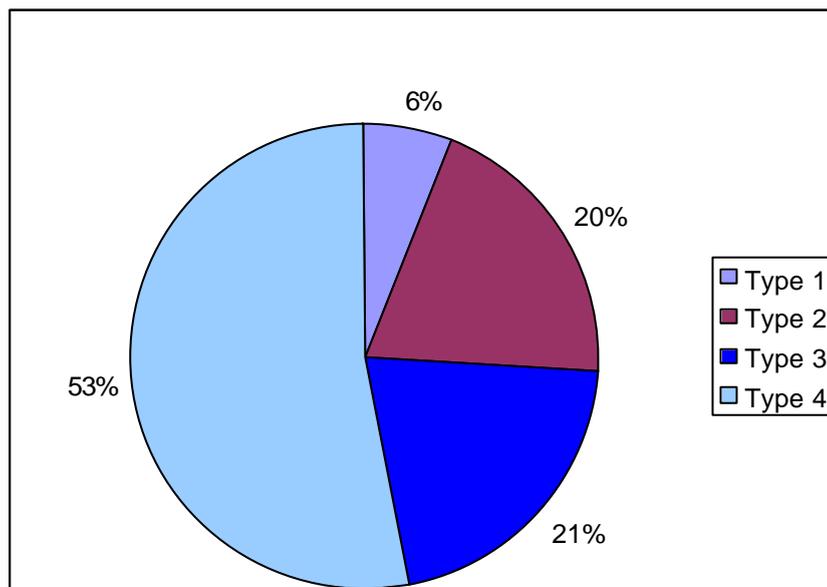
Type 4 – Not included

The student does not consider 'starting a business' as a possible career option at all (i.e. they do not circle 'start own business at any point in question 12). It is not located in their 'world view' regarding their career trajectory.

Results

The numbers of students who were considered to hold each type of 'world view' are displayed in the chart below:

Chart 1 - % of Students Holding Each Type of 'World View'



As is evident in Chart 1, a large percentage of students who completed the questionnaire did not consider 'starting a business' to be part of their career trajectory. It was not part of their world view regarding what they think they will do later in life. The majority of these students selected 'work in a job' as the main focus of their career after completing any education/training they might wish to do. On the other hand, only a very small percentage of students appeared to view 'starting a

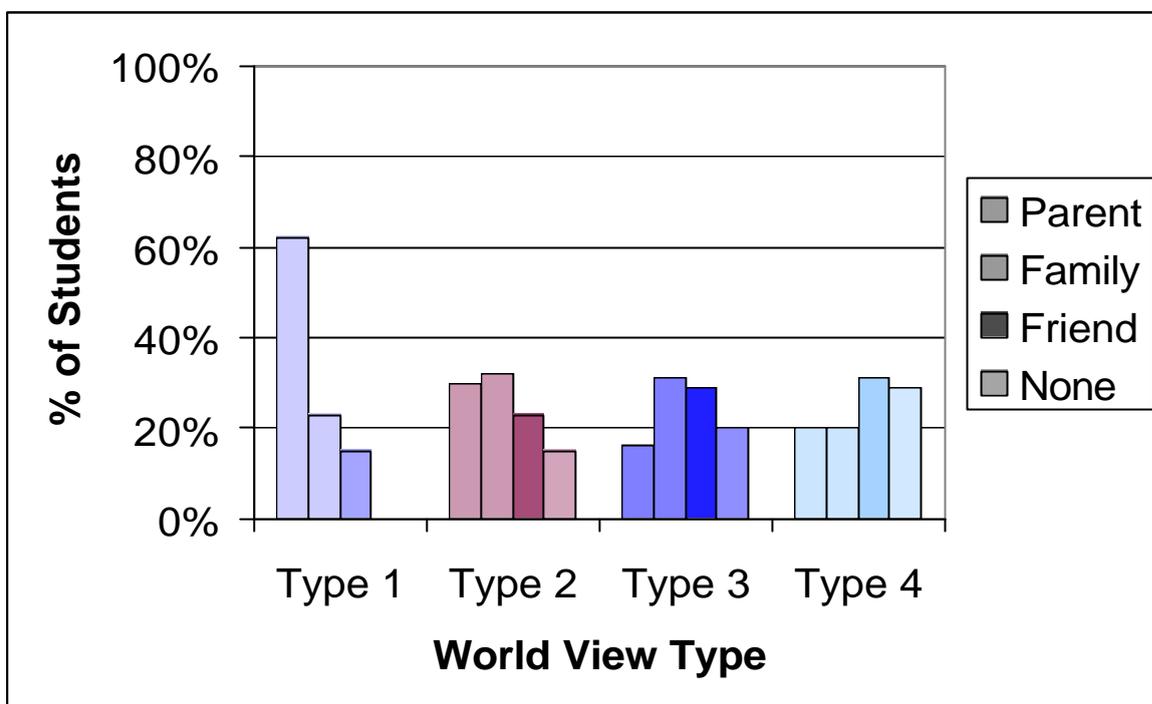
business' as a *vocation*, which would form the basis of their career trajectory. The number of students who were classed as holding '*actively included*' and '*passively included*' 'world views' were relatively equal indicating that a significant proportion of students would consider 'starting a business' as an option but had other career plans also and as such were less convinced about it as a vocation. Overall, less than half of these students included entrepreneurial activity or 'starting a business' in their decision-making structures about the future; as such it was not part of their 'world view'. However, as we describe below, there were other aspects of student responses to the questionnaire which provided further information about each type of 'world view'.

Background characteristics and experience of students with each type of 'world view':

Earlier in this paper, we argued that an individual's 'world view' not only structures decisions, life choices and actions in the present but draws on experiences of pre-existing discursive practices. For this reason, we endeavoured to explore some aspects of the background and experience of each of the students to assess the relationship between this and their type of 'world view'. As mentioned previously, the questionnaire had a section on background and experience which asked the students who they knew who owned their own business (options were 'parent', 'family member' or 'friend'), what type of business they owned and had they helped someone who runs their own business.

Previous research has indicated the significant influence of family background on young people's career aspirations (Furlong, Biggart and Cartmel 1996). Chart 2, below, indicates the number of students with each type of 'world view' who knew someone who runs their own business.

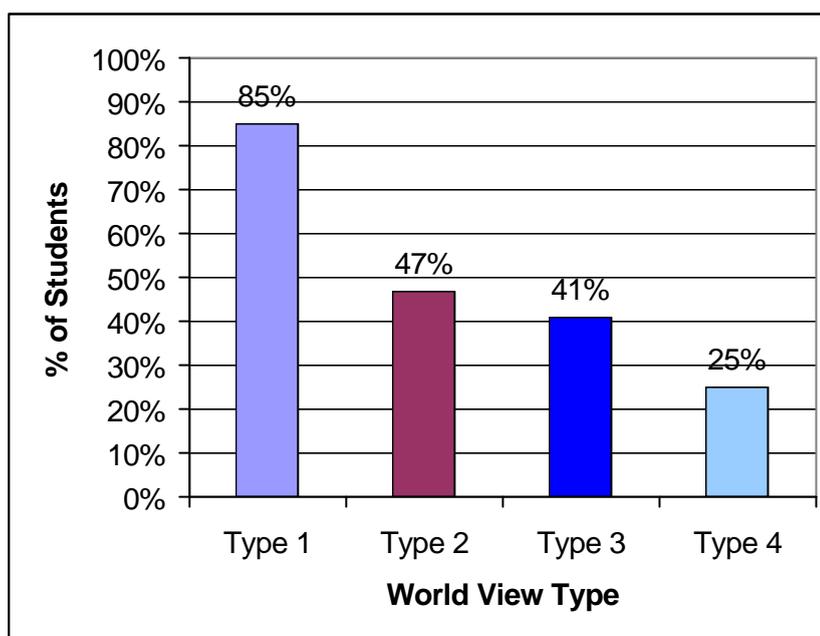
Chart 2 - % of Students who know someone who runs their own business



These results convey a pattern of experience which, to some extent, maps on to the 'world view' continuum we have described thus far. A large proportion of 'vocational' students had a parent who ran their own business suggesting that parental role models may have a part to play in the formation of these students' 'world views'. Those who see their parents running a business for a living recognise such a career option as appropriate to themselves, it becomes incorporated within the parameters of possible life choices. For 'actively included' students, the majority had either a parent or another family member who ran their own business. For 'passively included' the majority knew a family member or friend and for 'not included' the majority knew either a friend or no one at all. If we view the people each student knew as potential role models then the relationship between student background and 'world view' is clear - the closer the potential role model is to the student the more 'starting a business' is perceived as an appropriate or possible life choice. Therefore, the data suggest differences in 'world view' maybe derived from the intensity of relationships the students' have experienced with people they know who run a business.

However, differences in the way ‘starting/owning a business’ featured in the student’s background were not the only aspect of their experience which could be linked to their type of ‘world view’. Chart 3, below, indicates the number of students who had helped someone who runs their own business.

Chart 3 - % of Students who had helped someone run a business



Here we see a marked difference between the four types of ‘world view’ according to students’ experience of helping someone running a business. 85% of ‘*vocational*’ students had such experience in comparison with only 25% of ‘*not included*’ (n.b. a total of 71% of ‘*not included*’ students said they knew someone who ran a business). This suggests that gaining experience in this way may play a greater role in developing students’ occupational horizons than having a parent or family member role model. A potential reason being that the tacit knowledge picked up through such experience has an influence on the development of ‘world view’. There were indications that some students possessed such tacit knowledge in their descriptions of the activities they engaged in when helping out. For example, one ‘*vocational*’ student whose parents owned a newsagents/corner shop stated:

...“*I help the owner of the business in buying items to sell as I shop a lot I know what I find attractive and I know what my friends would buy from a corner shop*”...

Similarly, another student stated:

“I help my dad by advising him on what is fashionable to modern youths”

Both comments indicate the student’s awareness (on an implicit level) that their age group forms a potential market which can be tapped into by their parents’ businesses. They recognise that as individuals who are part of that potential market they have inside information for opportunity spotting and developing strategies to engage with that market. This kind of understanding indicates their ability to perceive economic and social contexts – a skill which entrepreneurs use to sustain and increase the customer base of their business.

Not only do these findings indicate that some students have a wealth of experience and tacit knowledge which could potentially be utilised within the classroom but it also points to the importance of providing experiences of entrepreneurial activities in school if we want to expand students’ ‘world views’ to include the idea of running a business as a potential career option. It seems that students who have the idea of ‘starting a business’ within their world view do so because they either have experience of helping someone run a business and therefore, feel equipped to do so in terms of possessing some kind of knowledge/understanding of the process or because they can see it as a realistic life choice for people who are not unlike themselves (i.e. from the same family or community).

Discussion and Implications

The purpose of this paper has been to open up a debate about the effectiveness of enterprise education in shaping student career aspirations. In respect of this, these initial findings have triggered off a number of questions to be addressed in future research:

What is the best way to introduce students to starting a business as a career option?

The evidence reported in this paper indicates that experience of helping someone run a business plays a significant role in shaping students’ world view to include ‘starting a business’ as a viable career option. We have argued that one explanation for this may rest with the tacit knowledge acquired through such experience which changes the way one interprets the world and consequently, shifts the students’ world view

regarding realistic life choices. This suggests that the most effective way to integrate the possibility of 'starting a business' into student occupational horizons is to provide them with the experience of assisting some one else in running a business. However, only 36% of all the students who participated in this study had such experience demonstrating that there is a need for the intervention of a well-structured enterprise education programme which provides this experience. Given that differences in type and intensity of experience seem to matter in our data suggests that school-based activities which are too inauthentic (i.e. not genuinely entrepreneurial), inactive or brief are unlikely to affect 'worldview'.

Is the provision of work/business experience enough to change students 'world views'?

Earlier we suggested that entrepreneurial knowledge acquired through experience of helping someone run a business is tacit in nature and therefore, is not something that students are explicitly conscious of. Evidence suggests that making such tacit knowledge explicit plays a crucial role in shifting the individual's interpretations of the world because they come to understand on a conscious level the practices they engage in (Schön 1991). This applies to all students irrespective of prior experiences. Therefore, we suggest that in addition to providing students with experiences, enterprise programmes, 'educational' in nature, need to make such tacit knowledge into an explicit specialised body of entrepreneurial knowledge (see Table 1) which is situated in the economic and social contexts of new venture creation.

However, we recognise that the tacit-explicit move is not uni-directional and complete because if it is to become part of a changed 'world view' entrepreneurial knowledge has to become routinized once again; through the acquisition of skills explicit forms of knowledge become tacit as they are internalised (Nonaka and Takeuchi 1995) But as all ventures vary, this newly acquired tacit knowledge will not be static because the student will not re-visit the exact same form of knowledge as before. It is the addition of these newly internalised forms of tacit knowledge to the individual mindset which facilitates change in the student's 'world view'.

Like Nonaka and Takeuchi (1995), we view the relationship between tacit and explicit knowledge as interactive and all entrepreneurial learning experiences need to be situated in an educational context to ensure that this is the case. This suggests that educational dialogue between student and expert (e.g. enterprise teacher, entrepreneur role model) is needed at each stage of the learning process to instil in the student the ability to shift between tacit and explicit knowledge as and when required.

To ensure that an effective cycle between tacit and explicit knowledge is created and sustained we need to ensure that enterprise education activities are situated in an entrepreneurial context since this is where entrepreneurial knowledge in its tacit form can be located. We argue that this context is best created in processes of new venture creation since entrepreneurial knowledge is employed most at this stage to create business ideas, ensure the viability of those ideas and to realise them as business opportunities. This suggests that simply providing students with experience in already established businesses is not enough, but rather involving students in the 'start up' process of their own new ventures (e.g. mini enterprises) in conjunction with direct teaching of explicit entrepreneurial knowledge would better engender changes in 'world view' to include an entrepreneurial perspective. (N.B. One of the limitations of our questionnaire is that we were unable to assess if students had helped out in the 'business start-up' process or businesses that were already set up and running).

To summarise, introducing enterprise and entrepreneurship into students' 'world views' through education involves two pedagogic aims: firstly, to foster an automated entrepreneurial way of seeing the world which engenders skills such as 'opportunity spotting' as habit (tacit knowledge). Secondly, to educationalize notions of 'enterprise' and 'entrepreneurship' by creating and delivering an explicit body of specialist knowledge which informs student decision-making and consequently alters their decision making structures (part of 'world view'). Effective enterprise activities might seek to create a dialogue between these two pedagogic aims (tacit and explicit) through the inter-play of experience and the delivery of knowledge.

Table 1 – A curriculum framework for Entrepreneurship and the Entrepreneurial Process

<i>Entrepreneurial Functions:</i>	<i>Context of Entrepreneurship:</i>
<i>Assuming the risk associated with uncertainty</i>	<i>Perceiving social contexts</i>
<i>Supplying financial capital</i>	<i>Perceiving economic contexts</i>
<i>Entrepreneurial innovation</i>	<i>Perception of markets and opportunity spotting within those contexts</i>
<i>Entrepreneurial decision making</i>	<i>Entrepreneurial alertness</i>
<i>Industrial leadership</i>	<i>Processes of New Venture Creation:</i>
<i>Managing or Superintending an enterprise or new venture</i>	<i>Analysing economic and social contexts</i>
<i>Organising and co-ordinating economic resources</i>	<i>Understanding new ventures in market terms</i>
<i>Owning an enterprise</i>	<i>Realising opportunities in the form of new venture creation</i>
<i>Employing factors of production</i>	<i>Managing and Evaluation Risk:</i>
<i>Brokering a deal</i>	<i>Relationship between opportunity, risk, effort and reward</i>
<i>Arbitrage</i>	
<i>Allocating resources among alternative uses</i>	

Why entrepreneurial skills for all if not everyone is going to become an entrepreneur?

An ‘inclusive’ principle which holds that ‘enterprise’ and ‘entrepreneurship’ is relevant to all students and not merely a select few has underpinned both the research reported here and the project as a whole. This principle is based on the assumption that the acquisition of entrepreneurial knowledge and skills (which initiates a shift in ‘world view’) is of value to all students even those who do not become entrepreneurs or self employed. Such benefits can be described as follows:

- Intrapreneurship – students may, in the future, need to or benefit from engaging in entrepreneurial behaviour whilst working for somebody else.
- Flexibility – students need to be prepared for the realities of the future job market and be active players in them. This may require movement between

different economic circumstances (employment, self employment) more than ever.

- Perception of economic and social contexts is a key aspect of the curriculum framework described in Table 1. Knowledge such as this provides students with a critical understanding of the job market and their position within it enabling informed judgements.

How do we support teachers to change students' 'world views'?

Though no systematic data was collected, it was noticeable that teachers who had taken part in the Continuing Professional Development programme attached to the project had experienced a shift in view regarding the nature of enterprise education. Though they were all volunteers and committed to the project, they were not sure about the extent to which entrepreneurship could be taught, nor sure in their knowledge of what that might involve. But the 'world view' of teachers is relevant: in accessing and designing entrepreneurial activities on behalf of their students they will be, after all, 'brokers' of pedagogic applications of CPD knowledge about entrepreneurship. The significance of the relevance of this extension of 'worldview', though embodied in the design of our programme, increasingly impressed itself on us as the project developed. This led us to consider how much this shift would be passed on to the students involved in enterprise activities associated with the project. Should we be trying to change teacher's 'world view' as a pre-requisite to changing that of students? Future research might endeavour to explore the relationship between the tracking of the teacher's 'world view' and the tracking of students. This would enable us to examine the impact of the CPD programme for both teachers and students.

How do we research 'world view'?

Although, the research reported in this paper is based on questionnaire data (for purposes of 'tracking') we have found that this method of data collection to be limited when viewed on its own. In brief, the questionnaires have provided us with a generic picture of students' differing 'world views' with regards to occupational horizons but they have provided us with theoretical insights into the varied decision making structures of students, the intensity of students' relationships with

entrepreneurs and how actively they participated in related activities. Future developments for this research involve obtaining case study data (and other data collection techniques) in classrooms where enterprise activities are taking place and monitoring the long-term impact of those activities by acquiring longitudinal data.

To summarise, we are arguing for a new basis to enterprise education which focuses on a specialist body of entrepreneurial knowledge rather than generic skills which are assumed to automatically transfer to the employment market (an assumption so often made in policy rhetoric which emphasises the transferability of generic skills – Blackmore 1990). Such an approach suggests that it is students’ understanding and acquisition of this specialist entrepreneurial knowledge which is the primary pedagogic concern for enterprise education programmes. ‘World views’ are more likely to change when students become equipped with the skills and knowledge which allow them to recognise the potential or the market value of their ideas³. This argument is supported by research conducted for the Davies Review which illustrated how students were interested in running a business as a career option but did not feel they had the skills to do so (HM Treasury 2002). As part of ‘world view’, entrepreneurial skills and knowledge needs to become, to some extent, implicitly embedded and routinised as part of taken-for granted, ‘occupational horizons’; but as the outcome of educational activities, it is also more likely to become available as explicit knowledge and skill for students themselves.

³ 35% of students wrote in their own business ideas in the questionnaire.

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