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# Developing students' research and inquiry skills from year one: a research informed teaching project from the University of Sunderland

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## Abstract

*Foundation degrees developed and validated by Higher Education, (HE) institutions but delivered in Further Education College (FEC) partnerships often recruit mature students with a broad range of entry qualifications, equivalency and work experience. This article presents a research project from 2009-10, involving students and staff in three FECs on one foundation degree and considers how (HE) students' expectations can be addressed, their potential developed and gaps in their scholarship and research skills closed during early transition from further education (FE) to HE. Research methods included video and audio recording of students' voices, pre and post questionnaires at either side of skills workshops and focus group interviews at the end of the project. The findings indicate a mis-match of students' expectations with the reality of HE study, misunderstandings of the language of academia and lack of awareness, skills and confidence in the use of journal articles and other academic resources to support their inquiries.*

**Key words:** Higher Education (HE), Further Education Colleges (FECs), Research Informed Teaching (RIT), Research Active Curriculum (RAC), Research Skills, Scholarship

## Introduction and Background

In 2009, the University of Sunderland initiated a Research Active Curriculum, (RAC) policy, driven by raised awareness of the challenges of Research Informed Teaching (RIT) (Jenkins and Healey 2005) and influenced by a working relationship and consultations with Jenkins, known for his contribution in this field. This followed QAA Scotland Enhancement Themes conferences which promoted several key themes, of which one was Research –Teaching linkages as being key to the enhancement of undergraduate attributes, Land and Gordon (2008).

At the University of Sunderland this was translated into a RAC policy which would:

*“Engage our learners throughout their programme of study, from first entry, as active participants in enquiry, research and knowledge creation relevant to their discipline(s) and/or professional practice....” and that: “The curriculum will be designed*

*to promote progressive development of graduate research attributes fostered through increasing student engagement in enquiry and understanding of research in a structured way through all levels."*

(University of Sunderland, 2009, p.2).

In order to grasp the complexity of the concept of RIT, discussion booklets provided by the Quality Assurance Agency Scotland (QAA 2006) located critical literature and as a resource, proved to be informative, timely and both applicable and readable. Although on a relatively small scale, a policy change and funding stream for RIT projects became available in 2006/07 from the Higher Education Funding Council's (HEFCE) teaching quality enhancement fund (TQEF). In parallel, at the University of Sunderland two small scale research projects had previously taken place in isolation from one another. Firstly, Stevenson in 2007, a specialist librarian, investigated students' engagement with a broad range of information resources to support their academic work and subsequent compilation of comprehensive bibliographic references. Secondly, O'Keefe, in 2008 had actively provided opportunities for year one students to practice their sourcing, discussion and use of credible academic literature. Collectively these projects had begun to address the introduction and use of refereed academic journals in the first year of higher education studies and provided a practice element embedded within core curriculum that encouraged early scholarship from academic texts, and the development of questioning techniques and critical thinking. These former projects proved to be successful with their target cohorts and the 'hands on' practical approach facilitated active learning, enabling students to participate and make a significant contribution to their own programme of study. These scholarship skills interventions aided and ultimately improved the quality of reading, referencing and the number of citations in written submissions, which positively impacted upon students' summative marks. Such activities helped to move from a reliance on the transmission of knowledge, to an environment which provokes inquiry and acquisition of new knowledge (Brookfield, 1996).

The work of the specialist librarian and academic prompted a joint bid to seek funding for a small scale RIT project with the aim to consider how HE students' expectations could be met, their knowledge potential developed and gaps in their research and enquiry skills addressed during the early transitional stages from FE to HE level study.

The objectives of the project were to enable the sample group to:

- Access flexible learning opportunities
- Participate and engage with materials
- Apply skills of research and critical thinking
- Utilise existing knowledge and experience

The project provided three cohorts of students and staff with research and study skills workshops, supported the use and practice of e-learning resources enabling participation and engagement with largely unfamiliar methods and materials.

There has been a recognition that HE students need to move from merely searching for information to applying research skills and developing the attributes of

questioning and enquiry from the earliest stages of their educational journey. Breen and Lindsay, (1999); Barnett, (2005) and Childs et al. (2007). Addressing these issues on a small scale provided a stimulus for research into the practice of scholarly and research skills.

## Review of Literature

The quality of teaching and learning to respond to student's expectations is not a new issue. Students may have unrealistic expectations of higher education and may underestimate the degree of self-direction, and group learning which is expected of them. As (Gibney et al., 2008, p.1) explained:

*'...the programme of study, their chosen university, teaching styles or time required for study are not usually accurate'.*

It seemed in the light of such findings that it would be not only sensible, but logical that such knowledge of student behaviour, expectation and skills had the potential to be worked with. Suggestions from Krause, Hartley, James and McInnis (2005) set out to improving holistic institutional approaches in the earliest days at university. They draw on what is known of students' initial expectations and focus on increasing student engagement as a critically important approach from the earliest stage to help to reduce the anomalies between expectation and reality of HE study.

In a world of malleable pedagogies and quality assurance systems for teaching, adult students who enter education have encountered various modes of "*transmission*", "*constructive learning*", "*didactic exposure*" and "*early reflection*" (Gipps and MacGilchrist, 1999) cited in (Mortimore, 1999, p. 50). These education systems have a variety of complex structures, conventions and cultures for operation and policies from statutory schooling and into further and higher education.

The structures surrounding the students and staff in this study span multiple domains of work place, home, FEC and HEI. A concept when considering these students who both earn and learn, can usefully be described as a process of undertaking roles by '*...being -in- the -world*' and learning by "*operating in a mode of average everydayness*" (Dall Alba, 2009, p.35). As such, students who remain in their working roles while undertaking study, bring with them a range of skills and attributes gained from their experiential knowledge (Kolb, 1984). This premise provided a useful starting point for the educational intervention workshops as the teaching and learning needed to be carried out tentatively, and most importantly, should consider the possibilities of what the students know, as well as don't know.

Land and Gordon (2008, p.13) suggested that academic staff should consider new ways of working with students in their first years of study, to develop:

*"...creative ways of authentically aligning the research priorities of the disciplines with the needs of undergraduate learning".*

This notion of being authentic with the students requires a flexible approach that recognises them, and their ownership of learning while maintaining integrity for each of their experiences. This can include pedagogical issues and scholarly understanding but should also recognise that information literacy and research and enquiry skills help to orientate students into HE, are transferable and recognised as

essential for their future employability, as outlined in the Leitch review (HM Treasury 2006)

This links to the government agenda of increasing a graduate workforce who leave education equipped for work (HEFCE, 2003) whilst responding to the notions of teaching and learning of generic graduate attributes for the twenty first century (Barrie, 2007). Recently the Higher Education Academy, (HEA), commissioned research (Healey and Jenkins 2009) to examine and report on the relationship between teaching and research in HE. The resulting findings assert that the goal of an RAC is to ensure students pursue their own questions, scenarios and lines of enquiry, so that they are producers and not just consumers of knowledge. In order to achieve this goal, students need to be active participants who undertake research and inquiry from the beginning and throughout their HE journey.

In the vocational domains linked to FD Degree programmes, skills can be based on own working and student practice as well as research based evidence. (Parahoo, 2006).

An advocate of the lifelong learning agenda Claxton, (1999) proposed the idea of being mindful, rather than mindless and warned of the need to develop habits and dispositions of mind. He encouraged:

*"...being reflective means looking inward as well as out, making explicit to ourselves the meanings and implications that may be latent in our originally unreflective know-how" (p.191).*

He further extolled the virtue of learning as being a personal adventure, one that provokes a range of emotions ranging from positive to negative, with the challenges posed, often leaving the learner in a somewhat *"ambiguous position"*. (p.40).

This idea presents the notion that expectations of HE students are rarely met, but they arrive with a range of pre-entry knowledge, attributes and support systems (Tinto, 1993). However, little is understood about the *"tacit understanding"* or *"implicit expectations known to aid in the mastering of an HE student role"*. (Collier and Morgan, 2008, p.245). This illustrates that many undergraduate students discount, misunderstand or fail to grasp the importance of what to include in tasks, how much and what to read, and how to balance the extent of scholarly activity, including submissions of assignments, with the other commitments in their lives. Such a position can be nullified in a safe, supported and interesting space which allows students to realise their learning potential, which in turn activates learning power and resilience (Claxton, 2002). The idea of transition and learning the new dispositions and parameters of a student's role seem to allow for growth made possible by personal commitment and the organisation of those who enable us to become professional (Dall' Alba, 2009). Knowles, (1985), in attempting to develop a theory specifically for adult learning, considered that adults need to be at the centre of their own learning, and introduced the use of the term, *'andragogy'*, emphasising that adults are self-directed and expect to take responsibility for their decisions. A fundamental aspect of andragogy assumes that adults need to learn experientially, approach learning as problem-solving, and learn best when the topic is of immediate value. This theory of adult learning was further developed by the work of (Tight,

1996) who elaborated upon the need for a space to develop own ideas, engage in dialogue and raise awareness of critical thinking. Personal framing of thoughts, using the social, political and economic contexts or lens can begin to enable us to recognise and learn about ourselves, as well as parameters of our thinking processes. Such ideas are reflected in critical thinking as a means to change both your personal and professional life. Paul and Elder, (2002, p.56) encourage the use of reflection, and explain that when:

*"...taking charge of our own thinking we become something more than clay in the hands of others, to become in fact the ruling force in our own lives".*

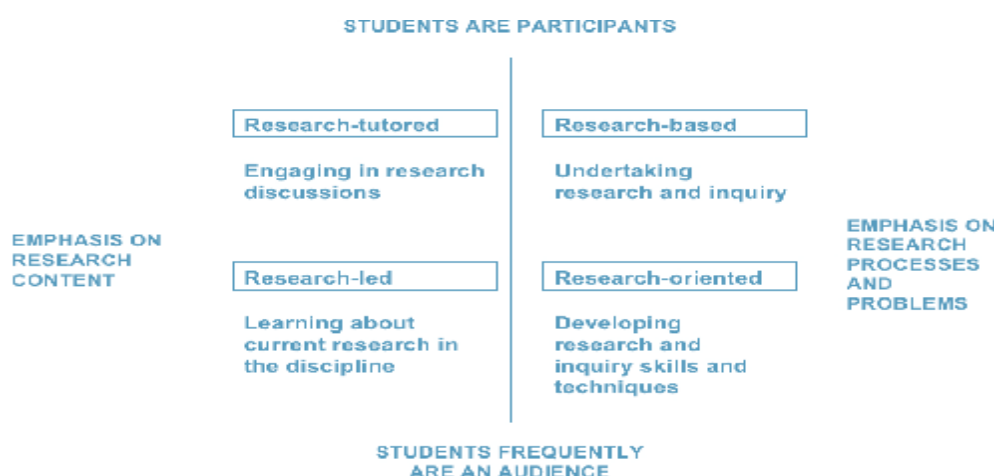
Staying intelligently engaged with learning challenges, despite there been unfamiliar, words, procedures and activities is a challenge for new HE students. In contrast, pedagogical approaches in early childhood education encourage children to internalise and naturalise an ability to keep trying, and have another go, which ultimately builds up their self esteem through positive reaffirmation. Adult students need to develop such skills while learning new skills for reading, writing, deconstructing and reconstructing knowledge. Williams (2009, p.xii) explains the need to:

*"...discriminate, make judgements, set one view against another, and ultimately take responsibility for your own judgements and actions".*

Although academic staff may be conversant with the expectations of study and QAA level descriptors, learning outcomes and marking criteria, they often fail to communicate this explicitly to their students (Collier and Morgan, 2008). There is a need to enable this at an early stage to ensure students are fully informed and better prepared for the rigours of HE study.

Using the approach of becoming active and connected in study (Healy 2005) developed a model of curriculum design and the research-teaching nexus, (see figure 1) and endorses this as an essential element of the curriculum for undergraduate research and enquiry.

Figure 1: Research-Teaching Nexus (Amended from Healey, cited in Healey and Jenkins (2009, p.7))



This model outlines four approaches linking teaching and research, which illustrates the dual roles of students as active participants of research and more commonly occurring, as an audience having research transmitted to them. The educational interventions described in this study addressed the emphasis on research processes and problems and the delivery of the skills workshops aimed to develop enquiry and research skills by introducing participants to the online tools and resources available from the university library. Crucially, these intervention workshops would allow the students to practice these skills within the context of their current studies along with their FEC lecturers and with support from the HE staff.

This work has enabled improvement in early engagement with students and ignited an excitement of learning and *"....a way of enhancing motivation of both academics and students..."* (Brew, 2003, in preface to Jenkins et. al, p.3). This was a shared learning process which could draw on collegiate knowledge and reframe it to adapt *"...to new ways of knowing: new ways of understanding, interpreting and organising knowledge"* (Lea and Street, 1998 p.158) and to also understand the conventions of HE, leading to the understanding or breaking the code of academia (Gibbs, 1994 and Brookfield, 1996).

## **Educational interventions**

In order to locate and contextualise the interventions, we worked alongside college staff to embed skills workshops within a study skills module which was the first module in their programme of study.

The purpose of the interventions was to challenge students' expectations of HE and encourage them to think about their preparation and dispositions for becoming study ready (Boud and Miller, 1996). They were also asked to consider their resilience, resourcefulness, reflectiveness and reciprocity as advocated by Claxton (2000). Opportunities to practise becoming scholarly and developing critical thinking skills of logic, significance, relevance and accuracy (Paul and Elder 2004) were provided by hands-on practical intervention workshops, intended to observe any mismatch between lecturer and student expectations of learning.

The workshops were developed and jointly delivered by the authors with observation and contributions from the programme lecturers in the FECs. The workshops were delivered in three stages and had distinct themes.

## **Workshop 1**

### ***Demystifying Higher Education***

This workshop began by utilising existing knowledge of the students' earlier experiences of study, as this is known to colour educational experience. Specifically we sought to discover and explore how they had prepared for their higher education programme of study. Students were asked to consider the question, *'What is Higher about Higher Education'?* Participants had many questions about the language of university and this session provided an opportunity to interpret unfamiliar terminology and explanations of conventions used. Students were encouraged to

create their own glossary of terms to interpret what we termed 'academic gobbledegook'.

The students were given a written copy of the QAA level descriptors for foundation degrees and this was discussed and interpreted, particularly the notes relating to the need for students to be able to:

*"undertake critical analysis of information, and to propose solutions to problems arising from that analysis" and to, "effectively communicate information, arguments and analysis in a variety of forms."* (QAA 2008)

All participants completed the first Values and Academic Skills questionnaire and a small group of volunteers from each college cohort recorded the first video diaries. The format of this was a conversation with one another about their expectations, aspirations and anxieties about studying HE study. Only the participants were present during the video recording and they were asked to limit their conversation to 20 minutes and use the questionnaire as a prompt for their discussions.

## Workshop 2

### *Getting Critical: Moving from Search to Research*

This session provided practical, innovative and flexible learning opportunities to review and learn new research and information literacy skills by access and interrogation of quality academic resources, beyond those usually accessed by the 'Google Generation' (Rowlands et al, 2008). This workshop took place in a computer lab and a range of online journal resources, academic web gateways and E-Book resources were first demonstrated by lecturer and librarian and then students were able to practice using the resources themselves, accessing, retrieving and downloading useful information materials to support their first written assignment.

Additionally, students were provided with printed information from a range of publications and working in pairs, were given tips to critically evaluate materials, and to question the validity and quality of the information by means of examination of author bias, language use, style of writing, currency of information and type of publication. A large proportion of time in the workshop was given to practicing these new skills and exploring the E-Journals and database services available from the university library website and this was an opportunity to resolve practical issues such as forgotten User Id and passwords and address any confusion around the use of online resources.

## Workshop 3

### *Writing for university*

The third workshop brought all student cohorts to the university and focussed on writing skills for HE assignment work. This final session culminated in a 'Pringle Mingle' social event enabling all three college cohorts and staff to work together,



share experiences, and most significantly informed us as researchers of the merit of the small scale study and activity workshops. This activity took students away from their smaller group size, their own lecturer and their familiar learning spaces and having met students from other college cohorts we asked participants to work with new people and explore the university's learning environments, both physical and virtual. For many participants, this was their first visit to the university campus and a tour of the library and other learning spaces was arranged to help orientate students to this unfamiliar environment.

### Learning Resource pack

The RAC project funding provided the students and staff with a resource pack. While not the primary intention, these could be referred to as 'incentives'. The pack contained a series of learning tools which comprised of a high quality notebook, a memory stick, pens, post-it notes and colour coded book markers as well as the study skills handbook, *Getting Critical*, (Williams, 2009). All resources were branded with the logo, *What is 'Higher' about Higher Education?* The same logo had been used in a poster campaign run by O'Keefe to promote and raise awareness of the higher aspects of education, student and staff expectations of HE study and the programmes offered by strategic partner colleges during 2008 – 2009.

### Research methodology

As the subject of this research was humanistic and in-depth responses were being sought, a qualitative approach was most appropriate. The research would take the form of a case study which would be more suited to questions of a "how" and "why" nature, providing an deep and rich picture of the issues. In investigating the definition of qualitative research, Cresswell, (1994, p.42) asserts:

*...."one undertakes qualitative research in a natural setting where the researcher is the instrument of data collection who gathers words and pictures, analyses then inductively, focuses on the meaning of the participants and describes a process that is expressive and persuasive in language".*

### The sample

The participants identified for this research were a purposive sample. Merriam, (1988, p.52) describes purposive sampling as the method of choice for qualitative case studies and identifies purposive sampling as being:

*..."based on the assumption that one wants to discover, understand, gain insight; therefore one needs to select a sample from which one can learn the most".*

The selected sample comprised three groups of level 1 students at the beginning of an Education and Care foundation degree (FD) programme from three of the university's collaborative FEC partners. A total of forty five students and three lecturers, one from each college, also took part. The students were all studying part-time and the majority were working in Early Years education settings.

The sample was predominately female and ranged in age from 22 to 54 years, with the majority of participants in the 30-45 age group.

## **Data Capture methods**

A multi-method approach was deliberately selected, using video diaries, questionnaires and focus group interviews which were conducted one month after the last of the interventions had taken place. These methods would allow participants opportunities to articulate their thoughts, perceptions and experiences using a range of medium and enabling them to be heard from their earliest days of studying. (Rogers 2006). Students' behaviours, questions and feedback were also continuously assessed and collated during and after each intervention workshop and observations from college lecturers were sought and noted throughout the project.

Initial video diaries were recorded during the first intervention workshop when students were invited to share their learning journeys up to commencement of their foundation degree programme and enabled participants to voice any expectations, anxieties and thoughts about studying for a HE qualification.

The first questionnaire, (Appendix 1), was also distributed at this point and included a series of open questions exploring individual's hopes and anxieties of their HE study; their own ideas about learning which were driven by personal experience; how they viewed knowledge and research; what they considered to be good teaching and learning and to consider the dispositions and attributes of becoming enquirers.

One month after the final workshop and social event, students were asked to complete a post activities questionnaire, (Appendix 2), to review their learning, expectations and experiences so far. Three months after the final workshop session, near the end of their first semester as HE students, small focus group interviews, (Appendix 3), were conducted with participants in each of the three colleges.

The FE staff also completed an end of project questionnaire, (Appendix 4), which explored their personal philosophies, values and expectation of students entering HE within the FEC environment and included open questions asking them to describe their student cohort. We also asked the lecturers to explain and define their own and their students' scholarship skills. The questionnaire also provided an opportunity for staff to comment on the content, timing and relevance of the skills interventions and the embedding of these skills into course content. This was followed up by interviews either in person or by telephone to gain a deeper and richer insight into the issues raised in their questionnaire.

## **Ethical considerations**

In qualitative research, ethical dilemmas are likely to emerge at two points: during the collection of data and in the dissemination of findings. This research was conducted in accordance with the principles outlined in the Ethical Policies, Procedures and Practices for Research (University of Sunderland 2010). A number of other sources were consulted at the proposal stage of the research project including

academic colleagues from the partnership colleges who were approached to take part.

Access to participants was assured as fieldwork has been included and embedded as an integral part of the study skills module which the students were undertaking at the time of educational interventions, thus assuring an ethical and non-coercive approach.

The researchers communicated with the participants at the outset about the purpose of the research and how the findings would be reported to ensure clarity and understanding about the nature of the agreement they were entering into Bell, (2005). Participants were assured that all responses to questionnaires would be anonymous and available only to the researchers and their college tutors and that video and audio recordings would be destroyed after analysis.

## Analysis of data

As the questionnaires comprised open questions, it was necessary to devise coding for these once all responses were received. Looking for similarities in responses enabled the coding to be reduced to categories then themes. The analysis of qualitative data can be an iterative process (Robson 2002) and to ensure there was no mis-representation, during the third workshop we shared the initial collation of findings from the pre and post workshop questionnaires with all participants. This process identified where further enquiry would be fruitful and formed the basis of structured interview guides. Following collation and coding of all data we were able to identify a number of main categories which were then grouped into two principle themes of learning context and learner identity. From these themes we were able to identify positive and negative categories as shown in the analytical matrix, (see figure 2).

Figure 2: Analytical matrix

	Positive	Negative
Learning context	<u>Known/Familiar</u> Safe and comfortable environments and support networks: (FE college, work place, peers, college tutors, friends.) Directed learning in small classes .	<u>Unknown/Unfamiliar</u> Lack of understanding of HE language, culture and conventions. Lack of familiarity with IT and online learning environments. Self-directed and independent learning
Learner Identity	<u>Aspirations</u> A desire for personal improvement and a recognition of capacity to learn, change and progress career prospects	<u>Anxieties</u> Conflicting expectations of HE study. Concerns about work/study/life balance, intellectual abilities

## Findings

As educational interventions were a central element of the project, it was important to compare the data from pre and post questionnaires and video diaries. This would enable the assessment and possible impact of the skills workshops from both viewpoints of learning context and learner identity as identified in the analytical matrix.

### Pre skills workshop findings

Findings from first video diaries and questionnaires included clear and strident vocalisation of student anxieties around the lack of understanding of HE conventions, culture and learning environment and concerns about the skills and attributes they would need for HE study. Specific anxieties included:

- apprehension of the unknown
- presentation of work
- group work and assignment submission
- requirements of time
- negotiation and balance of work/life/study
- returning to study after a long gap
- technological obstacles and lack of familiarity with IT

For most of the students in all three cohorts, this was their first experience of undergraduate study, the majority of students being the first members of their extended families to undertake degree level studies and after this first session, some had internalised their options and questioned if they were ready for this HE level academic work. Participants' comments included: *'I don't know if I can do this'* and *'I feel a lot of pressure not to let anyone down, work, and family...hope I can cope'*. However, at the beginning of the project when students were still in earliest stages of their HE programme, a number of positives were expressed and students displayed a sense of excitement and anticipation about the journey ahead. Specifically, students voiced:

- a strong motivation to succeed in their studies
- anticipation of improved career prospects
- a sense of belonging and support from their FEC lecturers
- working in a familiar environment – (many had previously studied at the FEC)

A real sense of excitement was expressed during the first video diary recordings: *'I can't wait to get started and do something for me for a change', I love learning new things and I've waited a long time to be able to do this'*

### Post workshop findings

Findings from post project video diaries and focus groups presented more positive student observations and experiences in terms of learning context and learner identity. Specific themes to emerge were:

- increased and wider reading
- greater familiarity and confidence in the use of IT
- a gradual accumulation of skills, specifically - citing and referencing

- feeling less anxious about the course workload
- greater confidence in work situations – (contributing to staff meeting and giving presentations)

When asked if their expectations matched their experiences, almost all students stated that they expected the work to be difficult and this had indeed been their experience. However, a large majority also stated that the experience had been far more enjoyable than they expected. Specifically, finding new friends, meeting challenges and exceeding their own expectations had excited them and energised their learning. Forming critical learning friendships and the use of technology from mobile phones to FaceBook to communicate collegiately was particularly important for those participants in the most rural cohort who found it difficult to meet on a regular basis outside of scheduled class times. Almost all students during focus group interviews stressed that the greatest source of help and support had come from their fellow students, critical friendships and informal study groups which had formed throughout the year. This came though most clearly in the focus group interviews when students told the researchers about how much they had relied on one another for help and support: *I don't know what I'd have done with the other people on the course* and *We've all been there for each other when times were tough*.

Many students were surprised at the amount of reading they were expected to undertake and found this difficult to time manage in their earliest days of study, but were finding strategies that helped them to cope. Comments included, *How am I going to fit all this in?* and *The reading list has 15 books on it and that's just for one module*.

Additionally, a number of students said that their initial anxieties about the level of study and work required increased after the first workshop session, the theme of which was *'Demystifying HE'*. Students stated in the focus group interviews: *"I was more confused than ever after the first visit"* and *"I actually thought of giving up when I realised how much I didn't know"*. This highlighted the idea that the language of academia and its assimilation and usage by students needed to be addressed from an early stage and signposted the importance of quality induction by both university and college.

When asked which skills and knowledge they thought they had most improved upon, almost all students agreed that they were now reading more widely and were accessing a greater range of information resources. In addition, all were now using academic journal articles to support their assignment work. Citing and referencing was also high on their list of new or improved skills and most felt more confident in this area and perceived their written work had improved as a result. One student told us, *'I whizz through my bibliographies now....it used to take me nearly as long as the essay itself'* and another, *'I look back on my first piece of work and what I do now and it's so much better'*.

When questioned about the process of research, most students were able to link research to the creation of new knowledge and all could judiciously articulate research and enquiry as being an essential element of their HE studies. When speaking freely within the focus groups the students agreed that they had begun to question their own pre-conceptions and the ideas and opinions of others both at home, in the workplace but also within the portrayals of the literature they were

accessing. One comment from a student was particularly encouraging, *'I can't stop asking questions....at work, at home, I can see people thinking, what's got into her...it's brilliant'*

Over the period of research a number of students subsequently talked about developing a range of useful study skills throughout the year, such as summarising, scan reading and noting key themes in texts and described how undertaking the initial study skills module had also helped them to focus and reflect on their learning.

In discussions about the barriers participants had encountered throughout the year, the most repeated complaint was the lack of compatibility between the university and college e-learning portals and difficulty accessing E-resources.

### Findings from staff

Three lecturing staff, one from each college, were given questionnaires and interviewed to discover their perceptions and observations of the students' learning journey thus far and also to reflect on themselves as teachers of HE programmes in FECs.

The main themes to emerge from their observations of the participants were:

- High levels of motivation
- Strong peer support
- Initial anxieties about transition from FE to HE
- Students beginning to display high level skills towards end of the project

Staff were first asked about their expectations of their students as they entered HE and if these had changed across the academic year. All staff commented that as mature non-traditional students, there was an expectation that students would be highly motivated to learn and would bring a range of useful life and work experiences to their studies. However, there was also the belief that the step from level 3 FE study to undergraduate level one work would present a number of challenges, including the ability to study independently, lack of confidence and anxiety about volume and level of work expected and the disparity ICT skills.

One respondent commented, *'There is an expectation that students have a certain level of study and IT skills, but I know that mature students often do not have this pre-requisite when they start the course'*.

Another respondent stated that she had been surprised and encouraged by how students had strived to overcome challenges and worked well as a group to support one another through difficulties and crisis of confidence. When asked how they had observed their students had developed during the year, all three respondents commented on improved skills and knowledge in the areas of higher level reading and writing and listening skills, self and peer assessment, presentation of work, particularly in citation and writing bibliographies.

Two respondents stated that their students were developing critical thinking skills and were becoming adept at evaluating and questioning sources at a much deeper level. All agreed that students' confidence had grown at a rapid rate and also observed that the students' perceptions of themselves had improved within the first

six months of study and a number had applied for and been awarded new positions of employment, some of which were at a higher level.

The lecturers were also questioned about the process of the intervention and in particular the timing and content of the skills workshops. All felt that the content was appropriate to the students needs and enabled a greater understanding of what it meant to be a HE student. However two respondents stated that after the initial session, students' concerns initially intensified and their groups experienced a period of doubt and lack of confidence in their abilities to meet the challenge of HE study.

One lecturer also thought that the three hour sessions were too long and it would be appropriate to have more workshops of shorter duration and reflected that, '*...they were very in-depth and with lot of information in a short time. The content was useful but after the first session, students were somewhat unsettled*'. This aligned with findings from the student cohort, some of whom felt overwhelmed by their lack of understanding of HE in the initial workshop.

All staff agreed that the skills workshops they would most wish to be expanded upon was the exploration of academic literature, in particular from E-Journals and other online academic sources. All agreed that this was a very useful workshop but they would appreciate further support for their students to enable them to practice searching, retrieving and evaluation of literature.

Lecturers were asked about their own perceptions of themselves and their learning experiences throughout the project and all commented that it had been a positive experience for them as well as their students and they had become more aware of E-resources and accessed E-journals and academic websites on a more regular basis. Two respondents stated that they would appreciate further support in this area and would be interested in specific staff development sessions on access to academic literature.

## Discussion and reflection of findings

The research revealed that the motivation of the participants was extremely high and the reasons given by most students for embarking on a course of HE focussed on gradual accumulation of skills and knowledge which would ratify their educational identity, their work place positions, or provide potential for new higher level posts or second chance careers (Reay et al., 2010); (Ibarra 2008).

The main source of anxiety for students concerned the need to balance their studies with work and family life, their level of writing skills and academic ability and the possibility of failure. One student in particular, commented she was "*putting stress on herself*" and that she did not expect to be doing a degree "*after putting it off for so many years*". This aligns with non-traditional, mature students everyday lives and their need to balance multiple commitments and are what Donaldson and Graham (1999, p.25) term

"*multicultural*". The challenges for the students in this study lay not just in developing their own social identity in an HE learning community but more importantly, for them to strike a balance between their academic and external commitments that would enable them engage sufficiently to achieve academic success. This contrasts readily with the encouragement and persuasive message of

Claxton who explains the need for '*Stickability*' or '*...Intelligent engagement with learning challenges despite difficulties and or set-backs...*' (Claxton, 1999, p.55) In terms of their own learning none of the students in any of the three cohorts considered that they would be engaged in scholarship or research during their HE studies. This resonates with the research literature which suggests many students come to university lacking the skills needed to immediately engage in independent academic study, (Reason et al., 2006; Hussey and Smith, 2010).

When asked about the intertwining of learning and research all students were confused by this question and were not able to articulate what was meant by research and/or critical thinking. Most believed that research was '*what other people do,*' or may be something which builds upon what you already know, but as an individuals were personally removed from this process. The students also felt uncomfortable questioning the value and the merit of others work and when tasked with critically analysing texts and found it difficult to be judicious and critical of others, whom they perceived to be experts in their field. Many of the students felt research for them was about finding answers and solutions rather than areas for further investigation. Their responses appeared to be very dogmatic and were limited to a narrow or singular way of responding.

Throughout the project there was a repeated emphasis on learners being '*active*', and providing learner engagement which was tangible, dialogic, moving, iterative and changing, thereby providing an identity of a living curriculum (Knowles, 1985 and Tight, 1996). The collaborative work of librarian, university and college lecturers led to a sense of "connectedness" and activating ideas across service and faculties inside and outside of the university as illustrated by Krause, (2007). This connectedness had helped to enable students to make their own intellectual links between the content of the subject they were studying and the skills they would need to acquire to be successful learners. This idea reflects the work of Entwistle (2009) to encourage adults to foster their own learning, to undertake challenging work and become learners who are masters of their own orientation.

Viewing the questionnaires, the question students found most difficulty with and more than 50% of students did not record a response, was one which asked them to state the attributes of good learners: 'When explored during the focus groups, students were still unsure of what was meant by being an '*inquiring learner*'. Despite this difficulty in expressing the ideas of inquiry, students were explicitly demonstrating higher order thinking and inquiry skills when compared to the beginning of term and were able to describe how they were becoming more critical and questioning in terms of their learning and interpretation of academic texts. This reinforced the notion that the language of academia was an obstacle to understanding for many new students and further discussion in this area would be beneficial. In developing a RAC it would be useful to be mindful of how we can build inquiry based learning activities into teaching and learning activities in order to promote the development of higher order intellectual and academic skills through student-driven and lecturer-guided investigations and student generated questions, (Hudspith and Jenkins 2001; Justice et al. 2007).

Throughout the project there was a clear polarisation of IT confidence and competence within the student cohorts but the majority of students were what Prenskey terms 'digital immigrants'.



*'Those of us who were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology are, and always will be compared to them who were not born into this digital world.'*  
(2001, p.2)

This issue was exacerbated by the lack of compatibility between the university and college e-learning portals and the perceived complexity with accessing E-resources, a commonly repeated complaint from participants. As students are registered on both college and university registry systems, they are issued with two separate User ID numbers and passwords, two different email accounts and have access to two separate Virtual Learning Environments. As a result, there is a great deal of confusion as to which system and password should be used when searching for online resources such as E-Journals and E-books. The outcomes of the intervention and hands on workshops, particularly the importance and criticality of the relationship between research skills and student learning, had previously stood alone, and relied on the colleges to inform students of the importance of developing scholarship skills. Yet, colleges and staff teaching HE in FECs paradoxically are criticised as not participating in such activities themselves, and is not appreciated by college leadership as critical (HEFCE, 2003) leading some FE staff to have an "... *unwarranted sense of inferiority*" (Young, 2002, p.282).

The idea of making connections between FEC staff and students and those in the university, using the process of activating research and teaching as a catalyst, has the potential to be developed, raising levels of confidence and competence and the notion of a "*shared endeavour*" (Satchwell and Smith, 2009). Following on from the project, one of the colleges engaged in the original research has developed its own Research Active Group (RAG) in partnership with staff from the university. University academic staff, who are active in research, are mentoring RAG members engaged in small scale research projects across a range of subject disciplines with support from university subject librarians. After dissemination of the findings from this project within the university library, another member of library staff has been engaged in a Joint Information Systems Committee (JISC) funded research project investigating distributed learning models for HE students studying in FECs, with a particular focus on access and use of E-Resources. Early unpublished findings from this project suggest that 50% of staff in one collaborative college do not recommend the HEI subscribed academic e resources to their students. As a result of these findings a formal programme of FEC staff development, with a particular focus on access to E-Journals and other online university subscribed academic resources, delivered by university librarians, is now underway and has been well received by college academic staff. Also parallel to this project, colleagues in the university library have conducted further research in the areas of information literacy and critical thinking skills of 16-18 year students in preparation for HE.

## Conclusion

The university's RAC policy provided for the first time a university wide, institutional strategic approach enabling a unifying and more collegiate direction, which sought to highlight what was either informing or activating the curriculum. The four core strands of the policy has provided a driver for a more strategic focus on students'

engagement with their curriculum in a mode of research and enquiry. The ethos of teaching and learning through pedagogical research and enabling enquiry based learning has permeated through to programmes being delivered in the university's collaborative partner FECs and although still on a small scale, has had a ripple effect and demonstrates the potential to widen participation and engagement.

There has been a great deal of merit from the meeting of minds for both service and faculty and collaboration of this nature has improved the learning experiences for the student participants, and the HE teaching experience for FE colleagues teaching HE. This has also engendered a greater sense of participants identifying themselves as HE students and a feeling of belonging to the university community which was previously lacking.

Engaging level one students with the notion of scholarship and research from very early stages of HE study has been a positive experience and has enabled its participants to become more critical and inquiring learners for whom research is not *'what other people do'*. Indeed, in the present and foreseeable global economic future where students face an uncertain employment market, it is more important than ever to support them in the development of the graduate skills of inquiry, critical thinking and interpretation of the world around them and from a wider societal sense:

*.....'helping students to understand uncertainty, ambiguity, complexity and change is not just valuable to their development at university and after graduation it may also be central to the future of humanity.'* Healey and Jenkins (2009, p.124)

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## **Appendix 1 – Pre Workshop Questionnaire**

### **Thinking, Learning and Enquiring**

#### **1. Hopes and anxieties**

What do you hope to get out of this next year?

What do you want to become able to do?

What skills are you hoping to develop?

What anxieties, if any, do you have?

#### **2. Ideas about learning**

What inhibits learning? What enhances learning?

#### **3. Learning and Research**

To what extent, if at all do you think learning and research are related? How do you see yourself: a learner, a scholar or neither? Why?

#### **4. Teaching and Learning**

What for you makes a good teacher?

Does good teaching always mean good learning?

**5. Attributes of good enquirers:**

Write down as many statements you can beginning with the words:  
'Inquiring learners need/should have.....'

**6. Developing a taste for inquiry:**

From you own experience in your field of education or training, continue the list of statements using all of the beginnings below:

I have been shocked to find that.....

I am disappointed when.....

I did not expect.....

I would really like to know why.....

It seems wrong that.....

I am concerned about.....

**Appendix 2 –End of project questionnaire**

**Thinking Learning and Inquiring**

**1. Reviewing my Learning**

Have my expectations matched my experiences?

How am I doing? Were my assignments and other tasks manageable?

Do I take notes/Read when asked/Plan my time well?

**2. Learning and Research**

What has inhibited my learning?

What has enhanced my learning?

To what extent, if at all do I think learning and research are related

How do I see myself: a learner, a scholar, neither? Why?

**3. Knowledge and Research**

How does research lead to new knowledge?

How does preparing an argument lead to new understanding?

What skills, knowledge and personal qualities have I improved upon?



#### 4. Attributes of good enquirers:

Write down as many statements you can beginning with the words:  
'Inquiring learners need/should have.....'

#### 5. Developing a taste for inquiry:

From you own experience in your field of education or training, continue the list of statements using all of the beginnings below:

I have been shocked to find that.....

I am disappointed when.....

I did not expect.....

I would really like to know why.....

It seems wrong that.....

I am concerned about.....

### Appendix 3: - Student Interview Guide

Thank you very much for agreeing to be interviewed today. I would like to find out your experiences and views on the the skills training you have received. I will be taking some notes to help me later when I review the tape, so I may pause now again to write up the notes. Your responses will be anomised and you will not be identified in any report.

1. Can you tell me someting of your experiences of entering Higher Education? Were these what you expected?
2. How would you describe yourself – (learner/student/scholar) – (traditional/non-traditional) Why?
3. How do you feel you have developed over this past year? – Confidence/Skills/Knowledge
4. What gaps did you identify in your knowledge and skills? and how have you addressed any shortfalls
5. Can you explain the following terms and highlight the difference in terms of scholarship skills?
  - Searcher
  - Researcher
6. Looking back, do you feel the content of the skills sessions were appropriate to your needs at the time?

7. Were there any elements of the skills sessions you would have like expanded / have the opportunity to spend more time on?
8. What about the timing of the training sessions – do you feel it would be better to have done the skills training pre-arrival, eg summer taster session, when you first arrived on campus, or later in the year?
9. How confident are you using E-Resources - How often do you access them? What resources are you using for your assignment work which you did not use before?
10. Do you think you would benefit from further practice? In which areas?
11. Do you feel the quality of your assignments has improved since the skills training? In what respect?
12. How do you select, evaluate and appraise literature resources for your study?
13. You were provided with a study pack – What have you used most and why?
14. Have you been able to apply the scholarship and research skills you have learned in other areas of your life – e.g. further study/work/home and leisure activities?

#### Appendix 4 End of project questionnaire - Staff

1. Can you tell me something of your expectations of your students entering Higher Education? Have these changed across this semester?
2. How do you feel your students potential has developed over this past year?
3. Were there gaps in their knowledge and skills: how were these shortfall addressed?
4. Can you explain the following terms and highlight the difference in terms of scholarship skills?
  - Searcher
  - Researcher
5. Looking back, do you feel the content of the skills sessions were appropriate to your students needs at the time?
6. Were there any elements of the skills sessions you would have like expanded?
7. What about the timing of the training sessions – do you feel it would be better to have done the skills training pre-arrival, eg summer taster session, when students first arrived on campus, or later in the year?
8. Have you given students the opportunity to practice these skills in subsequent modules and do you have any plans to develop scholarship skills for level 5 study?

9. How conversent are you using E-Resources - How often do you access them? - Do you recommend E-Resources to your cohort?
10. Do you think you would benefit from further practice? In which areas?
11. Do you feel the quality of teaching and learning has improved due to skills training? In what respect?
12. You were provided with a study pack – What have you used most and why?
13. Have you been able to embed and observe critical thinking and research skills in your students?