Enhancing the Learning Experience of Post-graduate Students from the Indian Sub-Continent

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Abstract

Enhancing the learning experience of post-graduate students from the Indian Sub-Continent

As the number of post-graduate students from the Indian Sub-Continent continues to increase in Computing, disproportionate to home based students; it presents the tutors with a number of issues concerning expectations and provision. It has become clear that the approaches to teaching and learning in the feeder universities in the Indian Sub-Continent is significantly different from that which is provided in Britain, creating a disparity between expectation and provision.

This study seeks to examine the educational experiences of the students from the Indian Sub-Continent and to understand the kind of problems they encounter on entering the British educational environment as post-graduate students and how to support and enhance their learning experience.

Acknowledgement

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Enhancing the learning experience of post-graduate students from the Indian Sub-Continent

1. Introduction

1.1. How the Proposal Fits the Theme

The problems that the students face on entering the British Education System are vast. They find a very significant difference between the education that they have received in the Indian Sub-Continent and that they are provided with in the British University system. The emphasis on rote learning in the Indian context is in sharp contrast and indeed contradictory to development of independent thinking in the British context.

The globalisation of the Higher Education arena is moving on at an increasing pace. However, British Universities (and indeed those in most of the developed world) appear to be sticking rigidly to their own set of values even though many of their students are now from other cultures. This could result in a culture clash and increased experience of frustration by students and tutors.

1.2. Introduction to the Study

As the number of post-graduate students from the Indian Sub-Continent continues to increase in Computing disproportionately to home based students, he tutors are presented with a number of issues concerning expectations and provision. It has become clear that the approaches to teaching and learning in the feeder universities in the Indian Sub-Continent is significantly different from that which is provided in Britain creating a mismatch between expectation and provision.

The demand for post-graduate education in the Indian Sub-Continent far outstrips supply and potential students are consequently forced to look beyond the Indian Sub-Continent for this education. Since all students have had significant education in the English medium they tend to look towards the English speaking world for this education. The United Kingdom (UK) is one such choice. An added bonus of an overseas education is the benefit of participating in another educational system. The British University provision is considered a good option by those in the Sub-Continent.

According to the UK Council for International Student Affairs (UKCISA, 2008), the number of international students in UK Higher Education (HE) during 2007/2008 was 341,795; of which 229,645 were non-EU students. When figures were analysed by subject area, international students represent 29% of the total number of students reading Business and Administrative Studies and 30% percent of Engineering and Technology. India is the second non-EU sending country (after China) with 25,905 students in UK HE.

Students from the Indian Sub-Continent have certain expectations when they enrol for post-graduate courses in British Universities. The educational environment in which they find themselves is significantly different from what they are used to and causes the students, and indeed their tutors, any difficulties as they adjust to their new environment. Education in the Indian Sub-Continent is often geared towards the examination of learning, where the emphasis on the rendition of facts in exact detail is looked upon with merit and appreciation. This is in stark contrast to the development of independent thinking, on which the post-graduate British Education System prides itself. “The spirit of inquiry is missing in the present [Indian] system. Education that fails to encourage students to raise questions can’t be expected to produce original minds.” (TOI, 2008)

In the last two years the number of cases of plagiarism and collusion at the authors’ university has doubled and the seriousness of the cases being referred to Academic Conduct Panels has increased significantly. The majority of the additional cases come from students from the Indian Sub-Continent. A study by Lancaster University found that even though Indian students might have known that plagiarism was wrong they still plagiarised “because he/she felt that his/her English was not sufficiently proficient to explain the point clearly enough.” (Introna et al., 2003: 8) There is also a problem with the attendance of these students at lectures and tutorials and an increase in applications for coursework extensions.

These issues inevitably lead to problems with student progression which is central to all universities' current agendas. Indeed it is widely understood that, from an economic perspective, it is much more cost effective to assist existing students to complete their course rather than recruiting new ones to replace them. It also contributes to a better educated society. (AUA, 2004)
This study seeks to:

- Examine teaching and learning practices experienced by students from the Indian Sub-Continent
- Identify the key stakeholders and understand their expectations and concerns
- Understand the expectations and concerns of the prospective students
- Identify the disparity between expectations and provision
- Identify the key difficulties that Indian students encounter whilst studying in the UK
- Produce a provisional set of recommendations to be piloted in the Department of Computing at Sheffield Hallam University

This exploratory research involves three main stages:

- A background study of the learning environment and educational system employed in the Indian Sub-Continent
- Exploratory interviews of key stakeholders in the Indian Sub-Continent context
- Semi-structured interviews of key stakeholders both within the Indian Sub-Continent and at Sheffield Hallam University

This paper reports on the results obtained so far regarding the first two stages of the research project.

2. India - Summary of Higher Education

In its size and diversity, India has the third largest Higher Education (HE) system in the world, next to China and the United States. The institutional framework consists of:

- Universities established by an Act of Parliament (Central Universities)
- Universities established by an Act of a State Legislature (State Universities)
- Deemed Universities - institutions which have been accorded the status of a university with authority to award their own degrees through central government notification
- Institutes of National Importance - prestigious institutions awarded the said status by Parliament
- Institutions established by State Legislative Act
- Colleges affiliated to the University (both government-aided and unaided)

(World Bank, No date)

According to the figures reported by the World Bank (No date), as on 31st March 2006, there were 367 University level institutions (Table 1). In July 2007, an estimated 13.93 million students were enrolled in HE in India.

HE institutions suffer from large quality variation. It has been argued that not more than 15% of graduates of general education and 25-30% of Technical Education are fit for employment (World Bank, No date).

Since only a small number of Universities and colleges are eligible for funding by the University Grants Commission (UGC) and hence monitoring for quality by the National Assessment and Accreditation Council (NAAC), the vast majority of institutions are under no quality monitoring and control except what is provided under university regulations and occasional university team visits (World Bank, No date).

<table>
<thead>
<tr>
<th>Type of HE institution</th>
<th>Numbers as on 31-3-2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Universities</td>
<td>20</td>
</tr>
<tr>
<td>State Universities</td>
<td>217</td>
</tr>
<tr>
<td>Deemed Universities</td>
<td>104</td>
</tr>
<tr>
<td>Institutes of National Importance</td>
<td>13</td>
</tr>
<tr>
<td>Institutions established under State Legislation</td>
<td>5</td>
</tr>
<tr>
<td>Private Universities</td>
<td>6</td>
</tr>
<tr>
<td>Colleges</td>
<td>18,064</td>
</tr>
</tbody>
</table>

Table 1: HE Institutions in India. Source: World Bank (No date).
3. The Indian Sub-Continent IT Market, Some Implications for HE

As part of our preliminary investigation, the IT market in India has been examined and some implications for those participating in the provision of postgraduate education for this geographical area are now discussed.

The unique nature of the industry is striking. Firstly, where there is intellectual capital from the population it will give rise to national competitive advantage. Secondly, it must be capable of understanding and delivering to its customers a world class product and at a market beating price. Thirdly, it must do this in a sustainable manner. The customers of the outputs of these markets are risk averse and wish to establish long term relationships.

Although there has been significant success, it is important to view the dimensions of the sector against global measures. In fact, the industry accounts for 2% of the total global trade but with the size of the industry smaller than the revenues of IBM or Microsoft.

In addition, the industry shows uneven characteristics such as predominance of exports; dominance of low skilled services; over dependence on the US market; market dominance of a few large firms; and clustering of firms in the Southern regions of the Country (Ilavarasan, 2007).

There is uneven and combined development which must be taken into consideration within the software workforce in India: “Uneven and combined development presents a condition where there are unequal and differential growth rates among institutions, sectors and regions which are also integrated to function as a single system” (Ilavarasan, 2007: 802).

The argument is that the intellectual capital of the indigenous workforce is not enhanced by neo Tayloristic management principles. The dominant characteristics of the workforce are two fold: firstly it is urban, and secondly it is male centric (Ilavarasan, 2007).

Due to the characteristics of Higher Education in the Sub-Continent, there are forces that drive movement of students/employees in the industry. There are three identifiable movements of employees/students (Khadria, 2004):

- Overseas to access education
- Overseas to gain experience in the industry (especially with large organisations such as Microsoft, IBM
- Overseas for migration (permanent move from the Sub-Continent)

This leads to the concept of "PUSH-PULL" factors that are a determinant of student destination choice. PULL factors reside in the UK whilst PUSH factors reside in the Indian Sub-Continent. The perception of these factors is all important since it is the expectation of potential students (and other stakeholders) that the future benefit from an overseas experience would include the accumulation of additional educational qualifications, the gaining of vendor accreditation of products, and participation in the software industry in Europe and/or America.

It could, of course, in accordance with the principle of equifinality be pure happenstance that the students arrived here and not the result of the PUSH-PULL combination of forces described here. This would be the NULL hypothesis.

However, if such PUSH-PULL forces can be identified, then they can in principle at least be managed. This does not imply control. The UK in general and British Universities do not control the nature and capacity of demand, only markets do. But it does mean that resources can be optimised just as a ship’s captain can take advantage of currents and tides without necessarily being in a position to actually change the weather.

Universities should therefore contribute to, and satisfy, this educational demand by developing students who can be productive as soon as possible and have rare, top-end skills. Such an institution would enjoy an enhanced reputation and also attract other students who have a similar potential to succeed.
4. Theoretical Considerations

This project has used exploratory qualitative research to illuminate the characteristics of the students from the Indian Sub-Continent participating in a postgraduate environment. Its objective was to generate knowledge which is meaningful in this context. The data collected was in the form of semi-structured interviews from a sample of students which formed the foundation of subsequent work.

In the context of this research, data was defined as the discernable difference between states (Boisot 1998:20). Knowledge was considered to be a set of expectations that an observer holds with respect to an event. It is a disposition to act in a particular way that has to be inferred from behaviour rather than being observed directly.

There were two main issues common to research initiatives in this type of domain. Firstly, how can we identify authentic characteristics of the students’ experience that are amenable to an educational intervention? Secondly, what aspects of that experience were significant to indicate that such an intervention would make an impact on their educational attainment? (Adapted from Light 2006: 175)

The methodology adopted was ideographic in nature and we recognised that it is not nomothetic. As this is exploratory research we also wished to avoid premature closure (Holloway, 1997; Light, 2006).

In terms of outcome, it is important to identify who might use the output from the research. In this case there are two approaches to truth claims, normative versus positivist. A positivist stance results in a refutable statement that purports to resemble a model of reality. A normative statement is that which ought to exist given the requirements of all the stakeholders. Insofar as this employs the recognition of all the interested parties it will embody the universal principle as defined by Jürgen Habermas (Finlayson, 2005).

Our approach then, is to code up from the data, then produce positivistic statements which in turn would indicate normative approaches to address the identified dysfunction.

Theories are either pre-existing or yet to be discovered (Riechertz, 2007). Since the objective of this research was to generate theory rather than to test existing theory, a suitable logical framework was necessary. In general the alternative approaches of deduction and induction are stressed by research methods textbooks, exempli gratia (Johnson & Gill, 1991, 2002; Byman 2001). Since these approaches are deemed to be held in binary opposition, the research design has a fundamental theoretical basis, that of hypothesis testing or alternatively, hypothesis generation.

Deduction is where a single case in question is subordinated into an already known rule (Riechertz, 2007). Researchers are therefore “moving from the general to the specific, that is they start with a general theory from which a conclusion is deduced” (Holloway, 1997: 46). Deductions are therefore truth conveying. If the rule offered for the application is valid then the case is true.

Induction, which can be quantitative or qualitative, is the opposite of deduction. The inference mechanism here is that the observed case (token) is an instance of a known type (order). Such conclusions are not truth conveying as they are only probably true (Riechertz, 2007). Induction relies heavily on Mill’s rules of induction (See Johnson et al., 2000) to identify the token and case. In addition the work of Bacon (1561-1626) encourages the identification of negative cases to avoid the problem of premature closure (qv) (Holloway, 1997).

In general, analysis of raw text is the act of coding, id est, establishing and allocating text to categories. Coding however, being an act of interpretation is not theory neutral (Johnson et al., 2000). This process is characteristic of Grounded Theory (Glaser & Straus, 1967).

Semi structured interviews were conducted which were recorded and then subsequently transcribed. The resulting document was then considered to be the substrate upon which the subsequent process of interpretation would be based. The documents were then entered into NVivo version 8.
5. **Initial Analysis of Student Interviews**

A number of interviews were carried out with postgraduate students from India. Students were interviewed in pairs using a semi-structured approach.

### 5.1. Participants

Six postgraduate students (5 male and 1 female) from the Department of Computing at Sheffield Hallam University (SHU) have been interviewed as part of this project. The Age of the participants ranged from 22 to 35 years (mean = 26.8 years).

The religion of five of the participants was Hindu, with just one participant from a Sikh family. All of the students interviewed came from families where the father is the main income provider and the mother is homemaker. All participants rated their English ability as good or very good, and the same was true for their IT skills. With just one exception, the students interviewed had at least one year of previous working experience, mainly in the IT sector.

### 5.2. Motivation for Choosing a British University

According to our participants, studying abroad is seen as a life-changing opportunity, full of challenge but highly rewarding. Experiencing a different educational, cultural and social environment, while developing valuable new skills and knowledge gives them international experience and global exposure that enhance their future professional prospects.

All the students interviewed indicated that the quality of the British educational system was world class and thus a decisive factor when choosing an overseas destination to continue their postgraduate studies. Nevertheless, they recognised that the USA is in most cases the preferred destination for Indian students. However, they also acknowledged that visa rules are more restrictive in the USA than in the UK:

"…my first preference was USA… I was accepted in an institute in Florida, but couldn't go because of some (visa) criteria: you are required to demonstrate 16 years of education, and in the Indian system, when you finish your bachelor (degree) you have done only 15 years." (Participant 6)

"…they are trying to limit the number of people coming… If your visa application is refused once, then the next time is even more difficult" (Participant 3)

Other destinations are perceived to direct the content of their programmes on specific sectors of the industry:

"I didn’t consider going to Australia because I have heard that emphasis is on hotel management and hospitality programmes… and I wanted a specialisation in IT. " (Participant 5)

Another important factor for choosing the UK is that most Masters’ programmes last for one year only, compared to two or more years in other countries. The possibility of having a job while doing their studies and afterwards is also seen as an advantage:

"The possibilities of getting a job in Britain are much better compared to America" (Participant 3)

"In other countries, like Australia there is no possibility of getting a job" (Participant 5)

Our interviewees also thought that historically the relationship between India and the UK has been a close one, which favour their preference for Britain over other possible destinations:

"… we have a good relation, you know, historically, we could say that India and UK have been very close" (Participant 4)

In general, living in the UK is perceived as a good experience, good teaching and a pleasant university environment, the people are also friendly and there is a rich cultural life. This perception is influenced by recommendations from friends and family members.

When it comes to selecting a particular university, our participants expressed that they chose SHU because it is a well-known university among family and friends. The reputation and content of the postgraduate programmes sought after by prospective students was also an important factor. In addition, aspects such as the acceptable cost of living, the possibility of going into a placement as well as having the option to enrol in January were also mentioned as significant factors in the decision to choose Sheffield Hallam University.
5.3. University Experience in India

Participants interviewed come from a mixture of private and state universities in India. According to them, class size in the universities where they did their undergraduate studies varies between 40 and 60 students.

The most common mode of delivery is through lectures, with practical work in computer labs for IT programmes. Lectures were characterised by our interviewees as mostly theoretical in their approach "… going through the book", where the lecturer’s role is to stand in front of the group and impart their lesson, while the student’s role is to take notes throughout "… they lecture, we write". Commonly, a reading list was given to students at the beginning of each module, thus they are expected to consult books and individually revise the content of each lecture:

"…no hand-outs provided… teachers only come and write on the board and explain diagrams. You have to take notes and refer to books and help each other… help is always taken from our seniors" (Participant 5)

"…teachers would tell you what books or other references to consult… then you would go and search on your own" (Participant 6)

According to our participants, students are allowed to ask questions only at the end of the lecture. Asking questions at any other time is seen as most impolite and disrespectful to the lecturer and other students:

"… we are allowed to ask questions at the end of the lecture… we cannot disturb the lecturer before finishing… but that is not too bad, because if 50 to 60 students start asking questions at the same time, how will the teacher complete the lecture?" (Participant 5)

Assignments were characterised not as practical, problem-based tasks or case studies, but as lists of questions to which students found answers, using the reading list previously provided. Other differences discussed by our interviewees include the lecturers' attitude and students’ expected behaviour:

"… back in our country, when a lecture is going on, the lecturer will not say anything, joke or laugh about anything… just lecturing… we have to sit in silence… we are not allowed to talk or to sit in any easy positions… we cannot disturb the lecturer, if we do so, we are sent out…" (Participant 5)

"Everything is very formal… we can't be friendly in the lecture room… we cannot bring mobiles: if they ring we are fined... and sometimes they go around and take them away" (Participant 6)

For each class, all lectures would take place in the same room. If there were a practical session (e.g. a tutorial) students would move to the appropriate lab, but would come back to the same lecture room.

"...for lectures it's the same room and after one hour the lecturer will change and we are supposed to sit there..." (Participant 5)

All students commented that a typical day involved teaching from 9am to 5pm.

5.4. Being a Postgraduate Student in the UK

In general, participants expressed that they enjoy the opportunity of learning in an international environment. However, for most of them, this is the first time they had been away from their families, friends and habitual surroundings. Thus, coming to a new educational, cultural, social and economic environment is a challenge.

According to them, being a postgraduate student in the UK means that they have to do more research work than they have done previously. They also expressed that at postgraduate level students have to be able to develop their own understanding and, more importantly, learn how to implement such knowledge in real-life situations.

Students perceive the need for doing more independent work and becoming more autonomous learners:

"Being a postgraduate student is entirely up to you: you decide what to study, whether you are capable of learning or not… responsibility is on the student" (Participant 2)

"…you need to develop your own ideas… when you do your own research, work really gets embedded in your mind." (Participant 4)
Differences in the expected approach to learning can be a shock for new students. In India:

"...when you enrol in a course, you get a list of books you will be using... and then you are expected to only use these books" (Participant 3)

"...they prefer book-worming, you have to crawl every book, learn everything... at the end of the semester there will be a 3-hour exam and you are expected to fill 30-40 pages" (Participant 6)

They perceive a different teaching approach comprising theoretical as well as practical components, and particularly appreciate the idea of using case studies based on real world experiences:

"We are given our case studies and then we are able to relate (them) to our (own) experience... sometimes you will be wrong but sometimes you will be right" (Participant 2)

Participants expressed that facing practical assignments, case studies or questions for which there are no pre-defined answers is a struggle:

"...we need to read a lot... then think about how to answer... and sometimes you answer and think you have done a good job, but marks do not reflect that" (Participant 5)

They also seem to be aware of differences between their lecturers in the UK and their previous experience of lecturers in India at the undergraduate level:

"... you do your work on your own... nobody is teaching you, everybody is guiding you" (Participant 3)

"In this country lecturers are friendly... they interact with students..." (Participant 5)

Lecture notes, hand-outs and other online learning materials are perceived as important, enhancing their learning experience:

"In our university there are not online or printed materials for the lectures ... we have to write notes and consult books" (Participant 6)

In the same way, marking schemes are seen as novel and helpful:

"...(the) marking approach is also different, in here there are schemes indicating how many marks you would get for different components of your assignments... there is not like that in India" (Participant 5)

Adapting quickly and becoming the independent and reflective learner that British universities expect can be very challenging.

"...people back home usually have been told what to do all the time... come over here and you have to do it yourself. You are on your own... and they need to adapt to this context" (Participant 4)

They generally felt that after a month or so they started to get used to the environment but they had a particular difficulty understanding the ‘beat’ of the language.

5.5. Preparing to come to the UK

Information provided by university representatives, alumni, friends and family before coming to the UK is highly valued:

"...that was very important because when we are coming to the UK we don't know the education system." (Participant 4)

However, as expressed by Participant 3, having an induction back in India previous to the beginning of the course would be quite useful, expectations would be more realistic by:

"[b]eing told what students are expected to do in HE in the UK, for example, not copying but interpreting their own findings, how to structure and present an assignment, how to reference resources in assignments and help understanding what is considered plagiarism and other rules and regulations, etc." (Participant 3)
6. Findings

From the coding of the interview data, the following categories of the students’ experience emerged:

- Factors that met the threshold level of experience they expected (Threshold Factors)
- Factors that exceeded the levels of expectation (Exceeding Factors)
- Factors that fell short of their expectation (Short Factors)
- Factors to which the lecturers were sensitised by the group (Impressing Factors)

Tables 2 to 5 summarise the nature of these factors.

As the career aspirations of the students are to progress from development work into project management and senior positions two characteristics have to be acquired. Firstly, a knowledge and understanding of how advanced software products are designed and integrated and secondly, and more importantly, what factors are required by the customers of these products in order to deploy them so that they fulfil their expectations. Such customers do this in order to participate in high margin competitive markets with sustainable core competences. This inherently means for the student a study of such subjects as: strategy; marketing; organisational development; and the role of information and knowledge management. This corresponds to knowledge in possession. (Cook and Brown 1999)

### Threshold Factors

<table>
<thead>
<tr>
<th>Nature</th>
<th>How these affect the experience of the students</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Buildings</td>
<td>Positive, feel good effect.</td>
</tr>
<tr>
<td>Competent Academics</td>
<td>Approachable, friendly, relaxed atmosphere.</td>
</tr>
<tr>
<td>Pleasant City to Live</td>
<td>In general, students referred to the host city as 'the fourth largest in Britain', It was felt to be a major seat of learning.</td>
</tr>
<tr>
<td>Business like Atmosphere</td>
<td>Very important aspect.</td>
</tr>
<tr>
<td>Student Support</td>
<td>This was unexpected but valued as a significant benefit, even by those who did not avail themselves of the service.</td>
</tr>
<tr>
<td>Staff experience of teaching in other countries</td>
<td>This was expected of an institution that recruited internationally. Stories and anecdotes established credibility in this area.</td>
</tr>
</tbody>
</table>

**Table 2**: Threshold Factors explained

### Exceeding Factors

<table>
<thead>
<tr>
<th>Nature</th>
<th>How these affect the experience of the students</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Line resources</td>
<td>Impressive, made life easier, although it demanded significant sophistication to be used effectively.</td>
</tr>
<tr>
<td>Demanding Assignments</td>
<td>Thought they were on a quality masters’ programme</td>
</tr>
<tr>
<td>Experienced Lecturers</td>
<td>Feelings of credibility and satisfaction for the future deployment of the learning</td>
</tr>
<tr>
<td>Range and pace of delivery of sessions</td>
<td>The pace did vary from module to module; this led to feelings of frustration because of lack of consistency.</td>
</tr>
<tr>
<td>Emphasis on process rather than task</td>
<td>Learning was widely applicable; the concepts could have future benefits that are as yet unforeseen. The older, more mature students valued this aspect more than the younger ones.</td>
</tr>
<tr>
<td>Large multicultural student population</td>
<td>This was seen as a benefit, although some questioned why there were so few British students enrolled on these courses.</td>
</tr>
</tbody>
</table>

**Table 3**: Exceeding Factors explained
### Short Factors

<table>
<thead>
<tr>
<th>Nature</th>
<th>How these affect the experience of the students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Existent Internships in Software Companies</td>
<td>Disappointment, feelings of being misled and cheated.</td>
</tr>
<tr>
<td>Dearth of Industry Speakers</td>
<td>Feelings of disappointment, that the course was not recognised by the industry itself.</td>
</tr>
<tr>
<td>Software e.g. Microsoft Dynamics was not used in Modules</td>
<td>Feelings that they were being given only a standard product: this led to feelings of demotivation. Subject development to incorporate this aspect had not been undertaken.</td>
</tr>
<tr>
<td>Claims that the qualification would lead directly to an entry into a Eurocentric work environment did not materialise.</td>
<td>Disappointment and disillusionment were experienced.</td>
</tr>
<tr>
<td>MBA Students only - a failure to understand why two faculties are delivering the MBA at different prices</td>
<td>A feeling of tension and lack of cooperation within the University. Not what they would expect in a coherent environment</td>
</tr>
</tbody>
</table>

**Table 4: Short Factors explained**

### Impressing Factors

<table>
<thead>
<tr>
<th>Nature</th>
<th>How these affect the experience of the students</th>
</tr>
</thead>
<tbody>
<tr>
<td>The nature of the Software/Hardware divide.</td>
<td>The students liked sensitising the academic staff to the subtleties of the local economic conditions.</td>
</tr>
<tr>
<td>The level of technical engineering skill they possess.</td>
<td>This gave the students confidence that they were valued by the staff, as engineering and scientific metaphors could be used in the dialogic teaching.</td>
</tr>
<tr>
<td>Demonstration of the significant zone of proximal development that they possess.</td>
<td>The students liked to impress the lecturers with their achievements. They responded well to praise</td>
</tr>
</tbody>
</table>

**Table 5: Impressing Factors explained**

It is the interaction of the two elements, “Knowledge in action” and “Knowledge in possession”, called the generative dance, that the students perceive gives them competitive advantage in their own job market. (Cook & Brown 1999) One of the main pull factors was the opportunity to work and participate in the Western software development companies. (Mazzarol & Soutar 2002:82) Due to the ‘Tayloristc’ approach (Ilavarsan 2007:804) the ‘components’ of software are produced in the Indian Sub-Continent, but the design, integration and installation processes are undertaken in Europe. This is consonant with the paradox of information system development and low status (Avson et al 1999: 420 et seq). As detailed in the paper this division exists in the West, but is less pronounced than in the Sub-Continent. This latter observation was an example of an impressing factor in our findings, which was supported by a post hoc literature review.

The consequence is that the students regard their postgraduate education NOT as a threshold characteristic to enter the job market but as a competitive characteristic to mark them out from other candidates for a job on their return to India. They are therefore willing not only to spend time, money and inconvenience to attend a British University, they are also prepared to trust the institution to deliver both aspects of the generative dance. They therefore defer judgement on the entire programme and ‘go along with it’ believing that their best interests are being catered for.

Disappointment can set in gradually as they realise that their perceptions are incorrect. This severely affects the student experience, although this is a factor outside the control of the University; any University in fact, because the job market in the software industry continues to decline.

Universities therefore have to make clear, via their agents, that actually is being delivered and most importantly what is not being delivered.
In terms of teaching, the approach in SHU is very different from the Sub-Continent. The cultural web was used which indicate two very different paradigms. One was that of direct authority of a corpus of knowledge and the second, a critical synthesis of diverse epistemological elements. All the components of the web were distinct.

Other differences discussed by our interviewees include the lecturers’ attitude and students’ expected behaviour. The British experience is in direct contrast to their previous experience. In Britain they encountered integrated assignments, the use of presentations, significant group work, extended seminar classes and a large amount of independent study. The stress, shock and surprise are clearly seen in the students as they begin to come to terms with the demands being placed on them.

This would seem to imply that one of the key achievements was involvement of the class in its dialogic learning. The dialogical zone of proximal development is very significant in developing an understanding of the knowledge delivered in the formal sessions. This is because of the difference between knowledge in possession and knowledge in action known as the generative dance (Cook and Brown 1999). Hence the truth claims are questioned and subject to critical scrutiny.

But there is a pedagogical issue, and that is how to re-orientate the students from one paradigm of learning to another. To provide an insight into this we borrow a concept from chemistry. The mere observation that molecules of a particular types are present and in equilibrium and could react, does not mean that this will actually occur. In order for this to happen the energy levels of the molecules has to be increased. This increase in energy is termed the activation energy, given the term ΔF‡ (Hendrickson et al 1970 :356). Without ΔF‡, the reaction will not proceed and the new equilibrium will not be reached.

To follow the metaphor through, once the dialogic interaction has occurred, the new equilibrium position within the proximal zone of development will be achieved.

This “activation energy” is achieved by interpersonal interaction between the academic staff and the students with the students gradually taking over the role of questioning and probing following the example of the academic staff.

These sessions have to be chaired effectively so that all the students have a chance to participate. However, even being present in this environment is enriching for all students. Of course, other dynamics in the class affect the process such as social class, religion, caste, and previous educational experience. The lecturers acting as facilitators need to be aware of this, but it is not necessarily crucial to understand the issues at play.

7. Learning about Learning

In general, all the respondents found that postgraduate teaching and assessment was something that had to be learned. There was the notion of learning about the learning. There was the view that, no matter what the subject was, there was the concept of approaching the assessed work in a way that should be pleasing to the lecturers.

In the past, the key to success was the attainment of high marks which was the clear articulation of domain specific knowledge. This approach to educational success maps onto single loop learning (Argeris 1984 :46)

There was also a belief in direct realism when applied to academic study. This relates to domains such as chemistry, physics, geometry and other subjects studied at school and the undergraduate curriculum where knowledge is separate and distinct from the knower. It has the characteristics of being positivistic, replicable and in agreement with the Newtonian Cartesian Synthesis (Darwin et al 2002:12).

In postgraduate study however, particularly in knowledge generating subjects such as Knowledge Management (Epistemology), Strategy, and Organisational Development the knowledge is not separate from the knower because it is socially constructed. This is consonant with their own understanding of the economic systems, social organisation and the educational establishment which has a high tacit content. (Polyani 1967). Overall, the learning corresponds to double loop learning (Argeris 1984 :48). This is a significant epistemological leap, and will be the focus of our subsequent publications in this field.
8. Discussion of Results

There are many factors that affect the experience of students that are not connected to the classroom, but have an impact on them and on their lives.

In the University, the change in approach is significant, principally from a monologic to a dialogic approach of the learning process. Learning to learn has a major impact on the students, especially those who find it hard to adapt at first.

Enabling the students to engage in the higher level cognitive skills requires an educational initiative that is consonant with the concepts of activation energy.

Since students wish to move away from, or avoid, low status programming (coding) jobs they are prepared to exhibit delayed gratification in order to gain higher order skill. Lack of internships and employment opportunities have a major negative impact on students.

9. Further Research

The next stage is a series of data collections from the academic staff actually teaching the students from the Indian Sub-Continent. As in all universities, the resources available will not increase, so optimising strategies have to be devised to incorporate the findings of this research with the outputs so generated.

A richer understanding of the domain of cross cultural education must entail a deeper understanding and formalisation of the factors involved. This will include, but not be, limited to: Stakeholder salience of participating groups, a process analysis of the provisioning mechanism, and a deeper exploration of the cultural nexus of both the students and the providers of the education.

This work is underway, and we hope to publish our findings in the next few months. Obviously, any comment on this paper would be most welcome as such comments will contribute to the research process itself.

10. Implications for Others

The outcome of this study is a set of recommendations for implementation in the Computing Department of the authors’ university. Since the research is based firmly within this department these recommendations will be principally valid within this domain. However there is nothing to suppose that the finding of the study could not be generalised to a wider audience. Indeed there are plans to broaden the scope of the study involving other departments and faculties within the university and also other universities within the United Kingdom.

In conclusion, it is anticipated that this study will confirm those issues established in previous work and attempt to explain why plagiarism, collusion, poor class attendance and late submissions of work are so prevalent among students from the Indian Sub-Continent.

However, the study is not just about discovering these issues. The set of recommendations of how to improve the situation is vital to the success of the post-graduate provision at the authors’ university. The failure to redress the issues in the recent past has resulted in an unacceptable number of students failing and/or retaking modules.
References


