The Impact of Assessment Practices in the University Setting upon the Learning Behaviour of Student Physiotherapists

by

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ABSTRACT

Assessment has been shown to direct student learning behaviour by influencing the quality and quantity of effort, the aspects of the course syllabus that will be attended to and the qualitative outcomes of learning. From the late 1960s through to the 1990s a wealth of education research was undertaken to explore student learning behaviour and this shaped the design and delivery of modern day curricula, including the emergence of 'constructive alignment'. With this, distinct efforts to express learning outcomes which link to assessment procedures were made and criteria against which performance standards were to be judged were published. Along with such initiatives the variety of assessment methods also increased, yet little evaluation of the impact of such changes on student learning behaviour has been made. However, a recent report submitted to the Higher Education Academy suggests that the modern teaching and assessment environment is associated with a range of negative learning responses. These include less effort, less coverage of the syllabus and a less deep approach to studying.

This work examined the assessment characteristics of an undergraduate physiotherapy programme situated in a modern university with an educational philosophy of constructive alignment. It considers the relationship between the assessment environment and resultant student learning behaviour. The study showed that students endeavoured to adopt a deep approach to their learning and were engendered with a professional responsibility to commit themselves to a personal stance of understanding and meaning-making. It is suggested that this outcome is due to the vocational nature of the programme and the inherent community of practice that this brings, and the associated affiliation of the profession to the concept of clinical reasoning.

A further finding questions the assumed pedagogic stance surrounding deep and surface approaches to learning. It is suggested that a *deep learning motive – achieving assessment strategy* may well describe many learners and befits a contemporary, mass higher education system.

DECLARATION AND WORD COUNT

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

Word count (exclusive of appendices, references and bibliography, but including footnotes, endnotes, glossary, maps, diagram and tables) is 43,727 words.

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REFLECTIVE STATEMENT

The Journey

According to the EdD Student Handbook:

> "The EdD is a professional doctorate which provides a framework for experienced practitioners to examine and develop their practice through research and engagement with relevant theoretical perspectives and professional and academic literature" (IoEL, 2007, p.88)

Undeniably, the EdD is a journey claiming exactly the above. The taught components of the course and the Institution Focused Study (IFS) paved the way for the final stage of the thesis itself. A major aspect of the programme was the concept of examining and developing practice. True to the ethos of the professional doctorate, I was able to base my studies upon real life work projects and, indeed, they evolved around and contributed to my professional practice. Yet importantly, they also informed my final research. Thus, the thesis is unquestionably a culmination of all that went before.

My work for the first taught component of the course (Foundations of Professionalism in Education) involved a debate as to whether physiotherapy as a discipline deserved the title of a profession. I believe this work provided a conceptual framework which underpinned the thesis. It afforded an opportunity for me to explore the notion of professionalisation, and this enabled me to hypothesise a relationship between the educational process of the professional and the subsequent approach to learning adopted by the student practitioner.

A major factor arising from my thesis was the strong alliance of the learners with a vocation, and the inherent cultural as well as cognitive learning processes associated with a professional education. These, I suggest, are embedded through the process of clinical reasoning and its associated use of

metacognition. In my opinion, espousing such characteristics is attributed to the socialisation process of these learners into the community of practice. Furthermore, I suggest that affiliation to this community was responsible for their commitment to developing a personal understanding of the course material and thus endeavouring to study in a deep manner.

In my work (Foundations of Professionalism in Education) I examined the role of the physiotherapy academic in contributing to the professionalisation of the discipline. The educational philosophy facilitates students to develop a critical and evaluative stance to physiotherapy. Such a position, along with an evidence-based approach, inevitably fosters novel practice and generates the synthesis of knowledge. This can be uniquely claimed by the profession and maintains its professional status. I speculate that this outlook is fundamental to creating the culture into which students are socialised. The foundations of the community of practice lie here.

This situation is not surprising, as plausibly all professions are founded on established traditions of culture. However, it is possible that newer smaller professions are reliant upon the development of the professional for the continued development of the profession. I speculate that this is particularly pertinent to physiotherapy and suggest its increasing body of knowledge and research culture are grounded in the clinical reasoning process.

Clinical reasoning is the thinking and decision-making that links knowledge with practice. It promotes reflection and awareness, which allows practice knowledge to be critiqued and ensures that novel and emerging information is suitably integrated into practice. This is achieved by combining practice knowledge and metacognition, which entails high-level cognitive functioning. In my opinion, the principle of clinical reasoning embedded in the physiotherapy

curriculum is instrumental in promoting students to seek personal meaning and understanding of their course material.

My biggest revelation and probably contribution to knowledge is indeed the significance and power of the clinical reasoning process to create deep learners. On reflection, the link between the foundations of professionalism (explored in my earlier work) and the findings of this thesis is the reoccurring theme of professional identities, communities of practice and the advancing outcome of learning. The consequences of this, I suggest, have remained somewhat tacit. My doctoral experience has enabled me to expose and unite these themes, which I believe to be significant in developing increasingly sophisticated study responses and may have some transferability to non-vocational learners.

Irrefutably, I am able to connect my first and final doctoral work via their content on professionalism. The next two taught modules (Methods of Enquiry One and Two), however, disconnect from this theme and diversify somewhat. Methods of Enquiry One focuses upon interprofessional education in health and social care and Enquiry Two on virtual learning environments. As highlighted above, my EdD studies have integrated into my professional roles, and the establishment and development of the above topics were imperatives at the time. This situation relates directly to the concept of the professional doctorate examining and developing practice. However, it was the process, rather than the content of these subsequent modules that connected my EdD journey and ultimately contributed to my thesis. These modules focused upon methodology, whereby I developed the skills to write a research proposal and a critical appreciation of research design.

My final, elective taught component (Curriculum, Pedagogy and Assessment) inspired my interest in assessment issues and the impact of the learning and

teaching environment upon study behaviour. My IFS related to this topic by examining the usefulness of a criterion referenced marking grid to the assessment process. It explored the views of both students and markers and analysed their thoughts on the value of the grid to guide and offer feedback for future learning, and as a tool to rate and provide commentary on students' performance.

Findings suggested that, for students, the grid lacked both objectivity and clarity. This was attributed to either a limited understanding of the words in the standard descriptors or to an ambiguous interpretation. As such, the perceived value of the marking criterion in helping to plan and write coursework appeared to be limited, as it failed to objectively portray the required attributes and standards of the assessment and offered little guidance on improvement.

Conversely, tutors routinely consulted and aimed to follow the marking criteria. The extent to which this was achieved was dependent upon how closely the criteria were aligned to the assignment brief, in that they incorporated the aims and objectives of the assessment. An interesting finding of this study was how heavily students relied upon module learning outcomes to direct their work; however, tutors made minimal specific reference to them.

As a result, disparity existed between the actions of students and tutors. Students were guided by learning outcomes and tutors focused upon assignment questions and marking criteria. I suggest these findings have implications regarding the transparency and objectivity that criteria-based assessment set out to afford, as stakeholders of assessment may be prioritising and responding to different drivers, thus reducing the potential for the clear transmission of information.

This concept related to the notion of constructive alignment put forward by Biggs (1996, 1999). Constructive alignment has two components: the 'constructive' part, which is concerned with how the learner constructs meaning and the 'alignment' aspect, which refers to the learning environment. The latter involves the setting of learning objectives which express the desired outcome of learning, exposing students to learning tasks likely to encourage the requisite understanding and mapping assessment to this process.

This approach to curriculum design has subsequently been widely adopted by contemporary higher education institutions, including my own. However, there has been limited research upon the impact of this initiative on student learning behaviour. In 2007, Gibbs and Dunbar-Goddet undertook a study to examine the relationship between teaching, learning and assessment environments, and the student learning responses. Their findings suggest that a high level of alignment and explicitness of goals and assessment are associated with negative study behaviours.

Gibbs and Dunbar-Goddet submitted their report to the Higher Education Academy at the time that I was completing my IFS and it was the outcome of their work that provided the impetus for my thesis. This formed an excellent transition from an acknowledgement in my IFS of the partial objectivity conveyed by criteria-based assessment and the finding by Gibbs and Dunbar-Goddet that alignment and explicitness were associated with a reduced coverage of syllabus.

Two issues struck me. Firstly, that although ostensibly learning outcomes are mapped to course content and assessment tasks are readily accessible in module specifications, the information therein may remain tacit to students. Secondly, a concern that efforts to expose the contained content, in order to

entrap students into engaging in appropriate learning activities (Biggs, 1999), resulted in negative study responses.

On returning to the principle of emergent themes on my doctoral journey, this premise conjoins my IFS with my thesis. I have previously alluded to the embedded connections that have become apparent throughout my studies. They may be categorised by content or process; Foundations of Professionalism related to the thesis by content. Indeed, it initiated my elementary thoughts on professional identities and outcomes of learning. Whereas Methods of Enquiry One linked with Two, by process, and provided the methodological background to inform the next stages. In these modules I developed the skills to write a research proposal and a critical appreciation of research design.

The IFS and thesis are united by both content and process; content with reference to objectivity, curriculum alignment and resultant student learning response and process, regarding research design and methodology. The IFS familiarised me with qualitative interviews, the process of transcription, and the encoding of data into and working with NVivo software. This was a sound preparation for the final journey. I was able to review my skills as a researcher and examine my personal reflexivity and biases. During the thesis stage, I felt I gained a greater understanding and respect of my selected epistemology, interpretative phenomenological analysis and its suitability for insider research.

A key developmental area was my advancing proficiency in data analysis, exploring and revealing the richness contained within. I gained some experience of this during my IFS, but acquired further competency and enjoyment of the process through the thesis. Indeed, I was surprised at how satisfying working with the data became. I can equate it to a sculpture, requiring careful handling and working of the medium until it acquires its own

form. I certainly feel that I have obtained a set of skills that can be applied to further develop my professional practice.

Reflection

Returning to the initial statement "The EdD is a professional doctorate..." (IoEL, 2007, p.88). On reflection, I stress the entrenched infrastructure afforded by the doctoral programme to educational practice - indeed, they go hand-in-hand. As previously stated, my studies featured and enlightened my day-to-day practice and conversely my practice guided my research interests. The work projects accomplished alongside and informed by my doctoral studies include the establishment of interprofessional and virtual learning environments for health and social care students, and also the development of a criterion referenced assessment framework for the School of Health and Biosciences within my own university. This initiative has culminated in a funded research project under the auspice of enhancing teaching and learning.

Therefore, I feel my doctoral studies have enhanced my professional development by providing me with sound research skills and a subsequent increased competency to engage in the research process. Along with the theoretical and methodological background imparted, I feel I have acquired a personal perspective; an understanding of how to approach and investigate phenomena. The journey has been an enabling experience, facilitating my contribution to pedagogical development in contemporary higher education practice. This accomplishment is surprisingly both motivational and inspirational. I am motivated to further engage in the research process and am inspired by my skills to investigate and inform practice and contribute to the synthesis of new knowledge.

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CHAPTER ONE: BACKGROUND AND RATIONALE

Assessment has been shown to direct student learning behaviour by influencing the quality and quantity of effort of study, the aspects of the course syllabus that will be attended to and whether a deep or surface approach to learning will be adopted (Black and Wiliam, 1988; Elton and Laurillard, 1979). From the late 1960s through to the 1990s, a wealth of research was undertaken to explore student learning behaviour and this shaped the design and delivery of modern curricula, including the emergence of 'constructive alignment' (Biggs, 1996).

Constructive alignment derives from an integration of constructivist learning theory with the concept of instructional design. Constructivist learning theory acknowledges the centrality of the learner's activities in creating meaning:

> "…that learners arrive at meaning by actively selecting, and cumulatively constructing, their own knowledge, through both individual and social activity. The learner brings an accumulation of assumptions, motives, intentions, and previous knowledge that envelopes every teaching/learning situation and determines the course and quality of the learning that may take place" (Biggs, 1996, p.348).

Instructional design, however, recommends that objectives are clearly stated in terms of content specific levels of understanding, that desired outcomes of learning and suitable performances are indicated, teaching and learning activities expose students to contexts that are expected to elicit such performances, and assessment tasks address the same issues. Thus, constructive alignment is a marriage between these two thrusts (Biggs, 1996) and this philosophy has subsequently been widely adopted by contemporary higher education institutions. However, until Gibbs and Dunbar-Goddet undertook their study on the effects of assessment environments on student

learning in 2007, there have been limited follow up studies on the impact of this initiative.

Furthermore, during recent years higher education institutions have been subject to many changes, university places have increased and the student population has become more diverse in line with the government's widening participation agenda, funding per capita has been reduced, student grants have been cut and tuition fees and student loans have been introduced, necessitating that students seek part-time employment. Such factors have altered the higher education experience and it is suggested that a resultant research gap now exists regarding the impact of such changes upon student learning behaviour, and such concern provided the impetus for this study.

Hussey and Smith (2002) suggest that recent developments have initiated simultaneous changes within the educational institutions themselves. Universities and colleges must adopt modern-day management strategies in order to run efficiently and respond to the external pressures of accountability: the Quality Assurance Agency, funding and professional bodies, research assessment exercises, league tables, and the resultant critical press and competition from other establishments. It is suggested that this leads to a new form of managerialism which is believed to have 'commodified' the education process, offering products to its customers. Learning has been "divided into distinct measurable quantities or modules each capable of being 'bought' by prescribed units of assessment" (Hussey and Smith, 2002, p.221).

This consumer market has initiated the practice of scrutiny. Programmes must be capable of being measured via audit and evaluation, necessitating a background of transparency which requires tutors to state clearly what they will teach and holds them accountable for their performance. Hussey and Smith (2002) suggest that modularised courses with their associated academic

credits, specified learning outcomes and assessment criteria are concomitant with the culture of new managerialism.

Watson (2002) suggests that such structure provides a common understanding of expectations and standards to all stakeholders, particularly the potential employers of graduates. It is the role of the professional bodies that ultimately validate professional programmes to agree such principles, but it is the educational institutions that are charged with the responsibility of producing graduates who can fulfil the specific vocational competencies. Watson (2002, p.208) proposes this is achieved through a learning outcomes framework, as "desired learning outcomes are the interpretations of customers' demands". He argues that learning outcomes must be clearly stated, accessible and measurable, and that published assessment criteria should determine the level of attainment required for success in the module. Furthermore, it is advocated that teaching and learning activities and methods of assessment are also matched to the learning objectives and they are mapped throughout the complete programme of study. Thus, a highly aligned curriculum is recommended in acceptance of this:

> "The learning outcomes methodology is seen to provide the instrument for placing the customer at the centre of organizational activities and for enabling an identification of specific customer requirements. This approach is viewed as empowering the host organization with the means to gauge its service provision through the monitoring of learning outcomes attainment. The learning outcomes approach provides a focus for both higher educational provision and customer activity" (Watson, 2002, p.208).

Arguably, it is easy to be drawn to the merits of learning outcomes and see why they may be advocated; teaching can be meticulousnessly linked to assessment; assessment tasks can be derived from learning outcomes and can be designed to appraise student capability. The complete process is overt and explicit and, what is more, lends itself to external review. The procedure

can be audited and performance of both students and tutors can be evaluated. However, Hussey and Smith (2002) raise concerns of this 'new managerial' style of education and argue that:

> "...while learning outcomes have legitimate uses, they have been misappropriated for managerial purposes and that this misuse has led to their distortion to the point that they are presently ill-conceived and incapable of doing what is claimed from them. Learning outcomes, and the ideas related to them, are in danger of becoming little more than spurious devices to facilitate auditing at the expense of the educational process" (2002, p.222).

Indeed it could be worse still; learning outcomes may not even be reliably used for auditing purposes if they do not adequately inform students and tutors of expected standards of achievement and it is argued that learning outcomes and their associated assessment criteria can never be that precise. Hussey and Smith (2002, p.228) suggest that "'precise terms' are only precise if interpreted by means of the background understanding and experience. Without this they are largely vacuous".

It is feasible that students do not have the required expertise and experience and, as such, learning outcomes will be of little use to them. Additionally, Hussey and Smith (2002) make the point that even if students are able to interpret and gain precise meaning from the learning outcomes, they may actually inhibit the subsequent educational outcome by creating strategic learners, whereby students endeavour to gain credit points at the least possible cost. Hussey and Smith (2002, p.228) state that "although this is rational behaviour in the market place it is not a sensible or proper approach to education". What is more, the prominence of planned learning outcomes ignores and possibly prevents opportunities for serendipitous learning and are arguably antithetical to good educational practice (Hussey and Smith, 2002).

Such criticism was borne out in the work by Gibbs and Dunbar-Goddet (2007), who studied the overall impact of programme-wide changes on student learning behaviour and performance. Essentially, they make the point that recent developments have led to strongly aligned curricula, whereby assessment systems are made explicit:

> "Individual learning outcomes are explicitly mapped onto assignments and assessed tasks, and assessed within many individual assignments, spread throughout a programme, rather than the traditional approach of integrated and implicit assessment of weakly defined outcomes on terminal summative assessment, quite separate from the preceding, frequent, formative assessment" (Gibbs and Dunbar-Goddet, 2007, p.6).

Their findings suggest that such assessment environments are associated with a range of negative learning responses, including a reduced quantity and quality of student effort, covering less of the overall syllabus, making less use of feedback and learning less from assessment and generally adopting a more superficial approach to learning.

It is the criticisms of Hussey and Smith (2002) and in particular the conclusions of Gibbs and Dunbar-Goddet's (2007) work that provide the incentive for this thesis. In addition to complying with the 'new managerial' culture of audit and review, many course leaders genuinely believe that an aligned curricula provides sound educational value which enhances student learning. However, the above authors address some important issues which question such commonly held assumptions about the educational advantages of the move towards constructive alignment in the curriculum.

This thesis will continue the theme of Gibbs and Dunbar-Goddet's (2007) work, whereby it appears that further study is required to ascertain the impact of the many recent changes in higher education on learning, as this area has been

little explored thus far. This work will form a case study to explore the assessment characteristics and subsequent student learning behaviour on a B.Sc. programme leading to a professional award in physiotherapy. Similar to the issues put forward by Watson (2002), it is imperative that graduates meet the standards expected by a professional body (in this case the Health Professions Council). However, it would be detrimental to the profession and the public if, by ultimately making such standards explicit, it resulted in producing surface learners who worryingly only attended to a small percentage of the curriculum. Therefore, the remit of this work is to explore firstly the extent of curricula alignment and secondly the student's experience of the assessment environment over their entire degree programme.

In order to gain an understanding of student learning behaviour and the potential impact curriculum and assessment design has on this, this study will utilise theories on approaches and conceptions of learning and intellectual development which will be put forward in Chapter Two.

Background to the Curriculum in this Study

For a long time, physiotherapy education took place in hospital settings. The first attempts to institute a degree in physiotherapy in this country began in 1969. However, further developments of this initiative were thwarted by the then Department of Health and Social Security which saw no justification for physiotherapy degrees. The professional body, the Chartered Society of Physiotherapy, stressed concern regarding this position, arguing that evidence-based practice and the future development of the profession would be inhibited unless physiotherapy education became fully integrated into higher education institutions (CSP, 1997).

Therefore the Chartered Society, supported by physiotherapy educationalists, continued to establish university-based physiotherapy education and, by 1992, all physiotherapy students were affiliated to a university and registered on a degree programme. This work focuses on a B.Sc. programme currently situated in a modern university, which was the first institution in Great Britain to award a physiotherapy degree with honours.

The programme is modular, being based on two semesters of seventeen weeks duration per academic year. Students are required to study six modules (120 credits) at each of the defined levels: one, two and three. The assessment strategy of the programme is intended to provide opportunities for students to demonstrate achievements rather than to accentuate weaknesses. With students entering the programme from wide-ranging backgrounds, the assessment strategy aims to take account of individual difference by offering a broad range of assessment tools. Indeed, seventeen different forms of assessment are utilised throughout the entire programme (see Table 1.1); seven of these take place in practice settings and are examined by practising clinicians.

Table 1.1: Assessment Profile over Entire Programme

Level One

Module	Assessment
Skills for Academic Learning and Patient Centred Practice	Portfolio.
Introduction to Movement Science	Case-based individual practical examination. Case-based written group assignment .
Clinical Physiotherapy Skills I	Demonstration of practical assessment skills. Demonstration of practical treatment skills.
Patient Centred Practice and Professionalism	Essay. Group presentation.
Skilled Movement and Exercise Science	Lab practical report. Written unseen examination.
Clinical Physiotherapy Skills II	Written assessment of clinical documentation and information retrieval skills. Individual practical examination.
Practice Based Learning 1	Formative assessment form completed by clinical educator and award of pass/fail.

Level Two

Module	Assessment
Cardio-Pulmonary Health	Individual practical examination. Essay.
Health Professions in Health and Social Care	Group presentation. Essay.
Management of Neuro-Musculoskeletal Dysfunction	Individual practical examination. Annotated bibliography.
Control of Movement and Neurological Rehabilitation	Individual practical examination assessed by self and peers. Written unseen examination. Formative presentation.
Practice Based Learning 2 a, b, c	Summative assessment form completed by clinical educator and grade awarded. Reflective essay. Employability assignment.

Level Three

Module	Assessment
Research	Essay on learning and working with others. Research paper and supplement (group). Poster presentation (group).
Integrated Physiotherapy Practice	Concept map and essay of patient with complex presentation. Clinical reasoning individual presentation.
Long Term Conditions and Employability	Personal professional development portfolio. Integrative viva.
Practice Based Learning 3 a, b, c	Reflective account of elective placement and award of pass/fail by clinical educator. Summative assessment form completed by clinical educator and grade awarded.

Educational Philosophy From Course Documentation

The course boasts a constructivist, student-centred approach to education. This positions learning as a social pursuit developed through activity and participation rather than occurring in isolation (Sullivan-Palinscar, 1988). As such, the teaching and learning strategies adopted in this course are said to be designed to encourage students to purposefully engage as a collaborative exercise.

The programme values the concept of constructive alignment (Biggs, 1996) and claims assessment of each module is planned to measure the students' achievement of the associated learning outcomes, and that both learning outcomes and criteria by which performance is judged are published. What is more, the conceptual framework of the Structure of the Observed Learning Outcome (SOLO) taxonomy (Biggs and Collis, 1982) is reported to have been combined with the objectives of the various formats of assessments to develop clear marking criteria which identify level-specific outcomes of learning.

Each level is believed to contribute to the sequential development of increasingly complex knowledge and skills. Level one is intended to develop understanding of core concepts and principles associated with the discipline (and relate to uncomplicated practice situations), level two to apply (and relate to one specialist area of practice), and level three to integrate and evaluate theories (and apply to more than one specialist area or complex practice situations).

Based upon a summary of the course documentation for this programme, it is probably fair to say that it meets all the requirements of a strongly aligned curriculum as categorised by Gibbs and Dunbar-Goddet (2007) and, as such,

warrants further investigation as to whether the negative effects observed in their study are founded in this programme.

CHAPTER TWO: PRESENTING AND CRITICISING FRAMEWORKS OF LEARNING

Entwistle (1997a) views research on education as a meticulous endeavour to gain greater insight into the processes involved, with the purpose of increasing its efficacy. It is suggested that in order to assert this outcome, an understanding of how learning takes place and the influences both teaching and assessment have on this process must be achieved. He advocates that an inspection of the aims of higher education is required and that the relationship between what is intended and achieved needs to be explored, as it is his belief that there exists "a profound contradiction between lecturers' intentions and what students achieved" (Entwistle, 1997a, p.6). Such a viewpoint will frame this work and an introduction to conceptions, orientations and approaches to the learning model will be put forward, as such theories provide a background by which to consider and analyse the subsequent findings of this study.

Conceptions of Learning and Approaches to Study

A major strand of student learning research emerged from the work of Marton and Säljö (1976a, 1976b) in Sweden. They coined the terms 'deep' and 'surface' approaches to learning, and suggested that the method adopted depended upon the learner's distinctive intention. The deep approach is fostered where the goal is to understand ideas for oneself and thus transform knowledge, whereas the aim of the surface approach is to manage the demands of a course and tends to be reproductive. The approach therefore is influenced by the learner's motivation and/or the demand characteristics of a learning task. Learning or reading out of interest can rationally be related to a deep approach, however a surface approach is applied to extrinsically motivated tasks where memorising text is perceived to be required by others.

The studies by Marton and Säljö paralleled work being undertaken in the UK (Ramsden and Entwistle, 1981; Entwistle and Ramsden, 1983) and Australia (Biggs, 1979, 1987a) on student learning, and a third approach was identified; the strategic (Entwistle and Ramsden, 1983) or achieving approach (Entwistle and Ramsden, 1983; Biggs, 1987a). These approaches are associated with the intention to achieve good grades and are characterised by a reflective, organising attitude, effective time and effort management, an awareness of assessment requirements and criteria, and pitching work to the perceived demands of tutors or courses.

With reference to the approaches to learning concepts, Biggs (1987a) formulated the 'congruence hypothesis' (see Table 2.1), which suggests that students who are motivated in a particular way tend to select study strategies that are congruent with their intentions. Generally, most students viewed a surface or reproducing strategy as congruent with an instrumental motivation, a deep strategy as congruent with intrinsic interest, and a strategic strategy as congruent with a desire to obtain the highest possible grades.

Table 2.1: Motives and Strategies in Approaches to Learning and Studying

Approach	Motive	Strategy
Surface	Instrumental: main purpose to meet the requirements minimally; a balance between working too hard and failing.	Reproductive: limit target to bare essentials and reproduce through rote learning.
Deep	Intrinsic: study to actualise interest and competence in particular academic subjects.	Meaningful: read widely, interrelate with previous relevant knowledge.
Achieving	Achieving: based on competition and ego-enhancement; obtain highest grades, whether or not material is interesting.	Organising: organise time and working space; behave as model student.

Source: Biggs (1987a, p.11).

Congruent motive-strategy combinations are suggested to be more efficient than non-congruent ones (Biggs, 1987a) and a qualitatively different outcome of learning will result dependant upon the strategy selected; the surface strategy producing an accurate yet un-integrated recall of detail, the deep generating the greatest structural complexity with meaningful divergent thinking and hypothesis generation, and the achieving leading to the goal of obtaining a high grade. It is recognised, however, that mixed motives may exist, particularly between subject areas and from time to time, and therefore the consequent strategy adopted may alter accordingly.

A criticism of the above is that it supposes a conscious choice on behalf of students and, as such, suggests that they have insight into both their academic intentions and the executive control to deploy a harmonious learning strategy. However, this may not always be the case.

It is also suggested that students hold 'conceptions of learning' (what they believe learning to be or to represent) and this may range from the acquisition and reproduction of information to the process of transforming such material into an individual understanding. It is suggested that such conceptions of learning originate from prior experience of education and have the potential to develop from restricted reproductive terms to an expanding personal engagement with the course material (Entwistle, 1997a).

Furthermore, conceptions of learning are suggested to become increasingly sophisticated as learners progress through a degree programme from the acquisition of facts, to recognising that learning requires the abstraction of meaning and that understanding reality is based upon interpretation (Entwistle, 1990).

Whilst the theories on conceptions of learning and approaches to study offered by the above authors provide a sound framework to describe and begin to understanding student learning, I am uneasy with the inherent simplicity or binary nature of their models. There appears to be an implicit 'correctness' in students espousing a deep approach to their learning and an assumption that all students will or should. This perspective assumes students to be a homogenous mass, to be moulded through the process of higher education. Such a premise may reflect the position of university education in previous decades, but is arguably not the case today in a culture of mass and increasingly commodified higher education.

Indeed, the learning environment may discourage students from adopting an increasingly sophisticated outcome of learning as they progress through their programme of study (Kember and Gow, 1990). Thus, students must be considered as active contributors to the outcome of their educational journey.

Dahlgren (1997) argues that conceptions of knowledge are established both within education and indeed society. Logic suggests that over time society's view of education changes, as does its learners'. In the current climate of lifelong learning and continued professional development, adult learners are likely to expect different outcomes. These may be driven by professional or work-based initiatives or personal interest, which potentially change the emphasis from institute to learner control; that is, a learner may choose to move from deep to strategic approaches to suit their perceived needs. Possibly an important consideration for educators is whether the learner has choice over their approach; have they got the 'know-how' to acquire an increasingly complex outcome of learning, even though it befits their purpose to operate strategically?

Perry (1970) identifies both the deeply held cultural assumption of knowledge and its developmental nature. In his study, upon entering higher education, freshers possess a *dualistic* conception of knowledge, whereby meaning is seen in terms of good or bad or right or wrong and the expectation of higher education is to help to discriminate between them. Such a position assumes that right answers exist for everything and are known to authority, whose role it is to transmit them, as "knowledge and goodness are perceived as quantitative accretions of discreet rightnesses to be collected by hard work and obedience" (Perry, 1970, p.9).

Through the experience of higher education students are found to develop a *relativistic* position, an acceptance that phenomena are described and explained in differing ways and, in order to make sense of this pleural and uncertain world, they must acquire a *commitment* to undertake a personal interpretive stance of the key aspects of their field of study.

Arguably, personal interpretation is achieved via learner autonomy and I question the above authors' preoccupation of valorising a deep approach, as this implies a position of 'rightness' imposed by university education. I suggest a strategic approach may also confer characteristics fundamental to student success.

Presage, Process and Product

Biggs (1987a) provides a model that encapsulates the debate on student learning. It involves three stages: 'presage', 'process' and 'product'. The first stage, 'presage', concerns both *personal* (the factors that the student brings to the learning environment; their prior knowledge, ability, intelligence quotient, personality, home background) and *situational* (which relates to the structure and stipulations of the course, for example elective or compulsory components,

methods of teaching and assessment, the amount of time allocated to and difficulty of learning tasks and the ethos of the classroom or indeed institution). Each has a direct effect upon the student's performance, the motives for undertaking the learning and the strategies adopted in approaching it.

For example, overly pressured or excessively formal assessment systems with limited topic choice arguably foster a surface or achieving approach to study. Indeed, Svensson (1997) makes reference to examinations in which content, form and duration are restricted and as such allow little opportunity for students to expose their level of understanding. It is then in their interest to become selective and focus upon the demand characteristics of the examination, since study success rather than understanding is valued and "it seems unnecessary to understand more that what is demanded in the examination" (Svensson, 1997, p.69).

In being selective, Svensson (1997) highlights two possibilities; to either choose precise aspects of course material and commit them to memory or select within course material and concentrate on overall structure or meaning rather than exact detail. The former mode represents a surface and the latter a deep approach to learning. Achieving the latter entails conscientious arrangement of integrated wholes and could result in failure if the assessment requires the student to memorise a specified range of materials. Svensson (1997, p.71) highlights the existence of a potential paradox that "in most cases academic failure results from problems with understanding, in some cases it may result from a devotion to thorough understanding".

The second stage of Biggs' model is referred to as the 'learning-process complex' and relates to the way the student perceives the academic environment and the decisions they make about how to accomplish their learning, and the consequent effects upon performance. This generates the

third stage, the 'product'. This may be measured in terms of examination marks or structural complexity of response (Biggs and Collis, 1982), or the personal satisfaction of the level of attainment.

The learning-process complex is a factor of learner aspirations combined with the apparent demands of the learning task. Higher education generates a range of expectations and perceived opportunities; to actualise one's interests, to attain a qualification, possibly with minimal effort and involvement, or to formally endorse personal excellence. It would be logical to adopt an approach to learning that befits the desired outcome. Therefore, it would appear that motive-strategy combinations derive from a continuum of intrinsic self-actualisation and autonomy in learning to imposed structure and assessment and are thus governed by the students' intended outcomes of learning with respect to the demand characteristics of their course.

As previously mentioned, to efficiently match intended with actual outcomes of learning, motive-strategy combinations must be congruent and this suggests that in order to be successful students must have an insight into their motives, abilities and the demands of the task. Biggs (1987a) refers to this cognitive awareness as metalearning, whereby the student has a conception of the learning processes which may be used and executive control in deploying them. The notion of metalearning is paramount to this study, in that it is (arguably) responsible for the positive findings, due to the extent to which the process is embedded both overtly and covertly within the curriculum.

The Embedded Nature of Metalearning

The educational philosophy of this course identifies the 'situated' nature of learning (Lave and Wenger, 1991) and the importance of setting learning within the correct context. This notion has particular significance to the development

of practice knowledge, in that the learner is believed to acquire knowledge and skills through participation and engagement in actual processes, rather than acquiring a set of abstract concepts to be applied to later contexts. This approach fosters early integration into a 'community of practice' whereby:

> "...learning is mediated through working alongside experts and participating in their practice... and being absorbed in the appropriate 'culture of practice'" (Potter, 2006, p.23).

The practice-based learning components of this programme provide opportunities for this to occur. In addition, the case-based focus of the university curriculum is constructed to utilise the same approach, whereby students are facilitated to construct a rationalised problem-solving approach to their learning. To advance this development, students are exposed to a theoretical framework of clinical reasoning and the discipline of reflective practice. These are arguably key skills for metacognitive growth.

Learning Orientations

As well as holding a conception of what they view learning to be, it is acknowledged that students enter higher education with a variety of aims and are thus said to possess different orientations to learning which impact upon their study patterns and influence their experience of learning (Beaty *et al.*, 1997). Taylor (1983) identifies four orientations: *academic* where students were concerned with the academic aspects of university, *vocational* which relates to specific job or career prospects, *personal* which involves self-improvement and *social* being a desire to utilise university facilities in pursuit of a good time. The former three are further subdivided into an intrinsic or extrinsic motivation for undertaking study, and it was found that the amount of effort and attention given to any aspect of university life was dependent upon the type of orientation the students held (Taylor, 1983).

Students with an *intrinsically motivated − academic orientation* would concern themselves with an intellectual interest in the discipline and appreciate the freedom to choose topic areas. This compares with the characteristic of an *extrinsically motivated − academic orientation* which is an educational progression and an aim to obtain good grades; such students are bound to following syllabi and appreciate clear assessment criteria.

A student who holds an *intrinsically motivated − vocational orientation* seeks good training and is enthused by aspects of study that show direct relevance to their chosen career. Conversely, a student with an *extrinsically motivated − vocational orientation* is concerned with gaining a qualification as a means to an end (employment). The worth is viewed only in terms of the perception held by employers, a prerequisite for the job. Such learners have an ambition to pass with minimum effort and are not interested in achieving high grades.

Students who possess a *personal orientation* with *intrinsic motivation* seek to broaden and improve themselves as individuals and pursue stimulation and challenge. They are concerned with course content only in terms of its potential to make them more interesting as people and personal growth. Whereas those with a *personal orientation* and *extrinsic motivation* feel challenged to test their own capacity; this is possibly to compensate for their previous lack of higher education experience. These learners focus upon grades and feedback, rather than content of the course.

The *socially orientated* student is by definition driven by extrinsic factors, since their motives to enter higher education lie outside the content of a course. They are primarily in search of a good time. They may hold facets of vocational or academic orientations, however social orientation influences their decisions regarding how they spend their time.

Furthermore, Beaty *et al.* (1997) argue that an inspection of what learners perceive to have gained from university education reflects their orientation type. They use the term 'study contract' to define the internally negotiated process between orientation to learning and the manner by which students undertake their studies. I suggest that Taylor's notion of categorising students into discrete learner identities is again somewhat simplistic and it is acknowledged in the literature that some learners maintain a mixed orientation or may alter over time (Beaty *et al.*, 1997). It is also logical that assessment periods may force this change, compelling learners to become *extrinsically – academic* for example. Such a premise relates to the *strategic* approach to learning, whereby the intention is to achieve the highest possible grades by responding to assessment demands and criteria and targeting work to the perceived proclivities of lecturers (Marton and Säljö, 1997).

Conceptions of Learning, Learning Orientations and Subject Specialism

Returning to Biggs' model of student learning, the conceptions and orientations that students bring to the learning environment represent the personal aspect of the presage stage and will directly influence the qualitative outcome of learning. In addition, the teaching and assessment strategies implemented upon a course characterise the situational element of presage and so too impact upon student study behaviour (Biggs, 1987a). Indeed, Ramsden (1979, 1997) suggests that the very framework of the institution impacts upon this; the student's perception of the learning context is an integral aspect of the learning experience. Ramsden and Entwistle (1981) report that students perceive consistent differences in approaches to learning in contrasting subject areas. They suppose science tasks to be procedural, rule based, structured and hierarchical, whereas arts and social science activities require autonomy, interpretation and generalisation. Individual academic departments appear to

foster these differences by the teaching strategies they adopt (Ramsden, 1979).

The above theories provide insight and formulate a framework by which to explore and gain an understanding of the research question in this study, and initiated the inclusion of questions regarding students' motivations and conceptions of learning. It is proposed that an explanation of the impact of the assessment environment and student learning behaviour is dependent upon an appreciation of learners' expectations; their perception of learning and teaching, and their intended outcomes of studying, as it is suggested that such factors influence the approaches to study that students choose to adopt.

The Hidden Curriculum and Cue Consciousness

The theories put forward so far which impact upon the outcome of learning include students' conceptions and orientations to learning and the motives which underlie their studies. This personal intention, coupled with the academic context and demand characteristics of the course, determines the approach to learning that will be adopted and this in turn dictates the quality. It has been put forward that a match between the intention of leaning and the strategies utilised is necessary for greatest efficiency, and in order to achieve this students must have insight into their motives, abilities and the demands of the task. This then raises the question of how learners gain insight into demand characteristics and arrive at a corresponding approach to their studies.

Ramsden (1979) identified that certain students appear to cope more positively with the demands of their course and academic department than others; they seemingly worked assessment systems to their own ends and were highly successful. Miller and Parlett (1974) explain these observations as being 'cue-consciousness'. Some students are 'perceptive' and 'receptive' to cues issued

by tutors; for example, sensitivity to hints regarding exam topics, awareness of the subject area favoured by individual staff, or concern as to whether they create an agreeable impression in class. These students believe such factors to be influential upon their degree classification.

Yet another group of students appear to possess a further quality, an 'activity component'. In contrast to the former group, they are not satisfied with conjecture; they seek explicit guidance, lobbying tutors regarding exam questions, investigating the interests of their examiners and deliberately endeavouring to create a favourable impression. Miller and Parlett (1974) refer to the *receptive - perceptive* types as 'cue-conscious' and the dynamic interacting behaviour of the latter group as 'cue-seekers'. A third set of students were somewhat harshly labelled 'cue-deaf', in that they possessed neither perceptive nor active components, believing the recipe for success to be hard work.

Cue-consciousness appeared to correlate to exam success. Generally, cue-seekers gained the highest marks, followed by the cue-conscious and cue-deaf respectively. The authors make the point that the level of cue-consciousness is not the only determinant of exam success, or even a causal factor. However, it is evident that different types of students sharing ostensibly the same curriculum face varying 'hidden curricula'. Furthermore, the particular hidden curricula followed tend to lead to disparate amounts of examination success.

Snyder purports that the hidden curriculum encourages 'selective negligence', which involves only engaging with the central themes of the subject matter and intuiting the thought processes the examiner might expect. Respondents in his study report that the examination system incites feelings of guilt for attending to desired tasks rather than assessment demands. He suggests that such a

position restricts learners, whereby academically able students are taking fewer educational risks and exploring less pedagogic options:

> "The hidden curriculum has taught students that the material and immediate rewards go with conforming to the way things are done on a campus or classroom. The 'payoff' in terms of grades/ scholarships has come to the student who avoided rather than took some intellectual risk with the formal curriculum, with the prescribed syllabus" (Snyder, 1973, p.198).

Plausibly then, the assessment environment is commanding students to become surface learners, seeking out cues and learning solely for examination purposes, or may equate to a strategic (Ramsden and Entwistle, 1981) or achieving (Biggs, 1987a) approach to learning. Strategic or achieving approaches differ from deep and surface styles (Marton and Säljö, 1976a, 1976b, 1997) in that the former describes the way in which a student organises the spatial and temporal contexts of the learning activity, whereas the latter illustrates how learners engage with the context of the task itself, that is an intention to seek meaning from or to reproduce study material.

It would follow then that the organisation skills essential to the strategic or achieving approach require a high level of metacognition (Biggs, 1987a). Miller and Parlett's (1974) cue-seekers appear to meet this requirement, where they note that cue-seekers are extremely self-aware and give considerable thought and sophisticated analysis to the assessment process. They do not intend to opt out of work; indeed, they study hard and do not aim to undermine their teachers. They simply feel that the assessment system is not a true test of their academic ability and figure that it demands a response that is, to some extent, artificial, thus they are purely reactionary to the demand characteristics of the course.

Miller and Parlett (1974) perceive Perry's (1970) work as being pertinent to understanding the intellectual development enabling the metacognitive skills demonstrated by the cue-seekers. At the first stage of Perry's developmental plan, the learner has essentially a dualistic conception of knowledge; right-wrong, good-bad, correctness is known to authority whose role it is to impart this to learners. In transit from this stage to the next, the student senses diversity of opinion and recognises the uncertainty that surrounds knowledge.

In the second stage, learners appreciate that difference of opinion is wide-scale and view uncertainty as rightful. They may frame this perspective by believing that 'everybody has the right to their own opinion' or there are two or more standpoints that authority desires them to observe. The transitory point of this stage is reached when all knowledge and values, including those of authority, are viewed as contextual and relativistic.

Progression to Perry's (1970) third and final phase marks the student's acceptance of a relativistic position; that phenomena are described and explained in varying ways. To make sense of this pleural and uncertain world, they must commit to undertake a personal interpretive stance of the key aspects of their field of study. This stage of development is associated with a strong sense of identity and self-worth.

Miller and Parlett (1974) suggest a degree of parallelism between cue-consciousness and Perry's (1970) developmental plan. They speculate that cue-seekers have reached the final stage in their attitudes towards learning and knowledge. They are found to possess a relativistic rather than an 'absolute' view of academic work and of its assessment. They are also committed to gaining the class of degree they want.

One aspect of Perry's (1970) discussion is that students reach differing stages of intellectual development during higher education and not all achieve the final committed stage. Miller and Parlett (1974) postulate whether the cue-deaf and cue-conscious correlate to Perry's (1970) earlier stages of development. The cue-deaf students are suggested to suppose a body of 'correct' knowledge, all of which need learning to be successful. Additionally, there is an expectation that tutors, the figures of authority, will expose them to what is best for them and will give them no indication of examination topics. Questionably, they correspond to Perry's (1970) first developmental stage.

Miller and Parlett (1974) speculate that the cue-conscious appear to represent an intermediate group which arguably match Perry's (1970) second stage. They are less absolute than the cue-deaf. Assessment is approached with a degree of relativism; it requires more than purely knowing correct facts, and techniques are involved. It is acknowledged that authority can be swayed and that the marking process may not be objective. However, although they recognise the inherent uncertainty associated with the assessment system they are unable to draw conclusions from this and formulate a coping strategy.

In summary, congruence of both intention and approach to studying requires insight which is achieved to a greater or lesser degree by individual learners and, arguably, students who have a greater understanding of the nuances of their curriculum are more favourably positioned to decide how they will respond to the assessment demands made of them. Miller and Parlett (1974) suggest that a student's capacity to cope with such requirements is linked to their ability to 'suss out' the assessment environment and imply that such aptitude correlates to intellectual development. This being the case, the introduction of constructive alignment plausibly makes a valuable contribution to exposing the previously hidden curriculum, essentially overtly providing the cues.

Constructive Alignment and the Hidden Curriculum

Biggs (1996; 1999) puts forward the concept of constructive alignment, borne out of student learning research in the 1980s and 1990s and deriving from two main theories: phenomenography coined by Marton (1981) and constructivism from a history of cognitive psychology. Although Biggs acknowledges the commonality between the two positions, he proffers that the constructivist perspective translates easily to practice and thus locates his framework for curriculum alignment in this paradigm. But the cohesion between the two perspectives is evident in that meaning is not imposed or transmitted, but is created by the learner's activity and engagement with the course material.

This level of activity equates to and is summarised by the approaches to learning concepts highlighted earlier, whereby inappropriately low levels of cognitive activity, which yield fragmented outcomes and do not convey meaning of the learning event, relate to a surface approach. Whereas appropriate handling and engagement with the task results in meaning of a higher cognitive order, in that the outcome of learning is no longer disjointed but can be applied in some way. Biggs (1996) describes this as the performance element of leaning, whereby thorough understanding allows the learner to act differently in unfamiliar contexts related to the content of learning. A permanent change of seeing is introduced, whereby students are able to interact thoughtfully with a novel task and apply their learning in some way. This level enables abstraction and generalisation to a new topic or area, or is turned reflexively upon oneself and involves metacognition.

Learning is thus a way of interacting with the world and changes students' conceptions of phenomena whereby the world is perceived differently. Biggs (1996) argues that the acquisition of information in itself does not bring about such a change, but the way students structure the information and think with it

does. Therefore, education is about *conceptual change*, not just the acquisition of information.

Biggs and Collis (1982) classify this conceptual change in a taxonomy entitled the Structure of the Observed Learning Outcome (SOLO). SOLO is a systematic framework which describes the advancing complexity of academic performance, as the students learn the complexity of their learning demonstrate similar stages, in that the structural complexity of their response increases. Two main changes are witnessed: firstly, quantitative, as the amount of detail in their response enlarges; and secondly, qualitative, as such detail becomes integrated into a structural pattern. The SOLO taxonomy distinguishes between five levels of response:

- *Prestructural*, where the task is not approached correctly and the student misunderstands the point.
- *Unistructural*, where one or a few aspects of the task are grasped and used (this may range from simple naming terminology to a more abstract and higher cognitive level), yet remains unistructural in that serious consideration is only given to one aspect of a complex case.
- *Multistructural*, which describes a position whereby several aspects of the task are learned, but are viewed in isolation.
- *Relational*, where separate components are now integrated into a coherent whole, with each part contributing to the overall meaning and relationships between them are appreciated.
- *Extended abstract*, where integrated wholes are reconceptualised at a higher level of abstraction, enabling generalisation to a new topic or area, or self-reflexivity.

Levels of understanding such as these may be used for structuring curriculum objectives hierarchically and Biggs (1999; 2004) argues that constructive

alignment is a framework which facilitates most students to use the higher level cognitive processes that the more 'academic' students use spontaneously. He suggests it is a mechanism for narrowing the gap. If teaching and learning activities and assessment tasks are *aligned* to intended learning outcomes, the learner is in a sense 'ensnared' and finds it hard to escape without learning what was intended.

Constructive alignment has two components: the 'constructive' part which concerns what the learner does and how they construct meaning, and the 'alignment' aspect which refers to what the teacher does in creating the learning environment. Biggs (1999, 2004) views the teacher's role as organising the teaching and learning context, so that all students are more likely to use higher order learning processes. He suggests that this is achieved by setting objectives which express the kind of understanding desired, by exposing students to learning tasks which encourage them to engage in activities likely to develop such understanding. That assessment is mapped to the desired outcomes of learning and students are informed of what is required of them.

With reference to the work of Miller and Parlett (1974), constructive alignment theoretically elevates all students to the status of 'cue-seekers' in that they gain greater access to the hidden curriculum. It is noted that 'cue-seekers' are said to possess a relativistic rather than an absolute view of academic work, and Miller and Parlett link such attributes to a higher level of intellectual development, involving metacognition. Plausibly, constructive alignment functions to provide a metacognitive framework for those students who are as yet unable to achieve this spontaneously. Biggs believes 'academic' students will adopt a deep approach to studying, often despite their teaching, while 'non-academic' students are likely to adopt a deep approach only under the most

favourable teaching conditions. He suggests constructive alignment facilitates this:

> "There may well be endogenous limits to what students can do that are beyond any teacher's control, but there are learning-related aspects that are controllable. Capitalising on them is what good teaching is about" (Biggs, 1999, p.58).

Transparency and the Promotion of Instrumentalism

Over recent years, post-compulsory education and training has increasingly implemented the concept of constructive alignment. Criticisms have been raised regarding such practice. It is argued that explicitness in assessment procedures and criteria has instigated the wide-scale use of coaching and formative feedback. This enhances success, but in the process promotes instrumentalism, with efforts to comply to assessment criteria replacing learning (Torrance, 2007). Far from creating autonomous learners, students arguably become more dependent upon their tutors and assessors. Furthermore, Gibbs and Dunbar-Goddet (2007) conclude that such educational practice is also associated with narrowed student effort and coverage of syllabi, and a less deep approach to leaning.

Challenging the Traditions

The theories of conceptions, orientations and approaches to learning put forward in this chapter provide a good basis to frame this study and consider the various factors which influence student learning behaviour; not least because they are so readily referred to in higher education literature, conferring their foundational status (Webb, 1997). Whist it is acknowledged that there has been little contest of these concepts over time, their use in this study allows parallels to be drawn to extant literature.

My major criticism, however, is that they portray a somewhat simplistic or categorical representation of student learning. The model appears to group learners into distinct classifications and, whilst it is highlighted in the literature (Beaty *et al.*, 1997) that no particular inherent trait or quality of the student is assumed and that the outcome of learning is based upon a relationship between the student and the learning environment, the complexity of these factors is often not discussed.

Beaty *et al.* (1997) acknowledge that students may maintain a mixed orientation or approach to learning or it may alter over time. Thomas and Bain (1982; 1984) highlight both stable and situational specific features of an approach. They suggest that students change according to the type and content of assessment, but generally operate within one. I believe further consideration should be given to the significance of these observations and suggest the approach adopted is not dependent upon a student's inherent disposition, but their interaction with the learning environment.

I speculate that the model would be of greater assistance to explain student learning if it represented a continuum, rather than distinct surface or deep categories. Such a binary division makes it easy to ignore the developmental nature of learning. That memorisation may precede, facilitate and enhance understanding, as highlighted by students in Hong Kong and other Asian countries, that were reported to primarily use rote learning, yet were shown to be highly successful in their studies (Kember and Gow, 1990; Kember, 1996).

Marton *et al.* (1993) explain the 'paradox of the Chinese learner' as an intertwined relationship between memorisation and understanding. That memorisation can be associated with perfunctory rote learning, but memorisation through repetition can also be used to deepen and develop understanding. Thus, a surface approach to learning can simultaneously be a

deep one (Webb, 1997), which highlights the problematic nature of such a binary division.

Therefore, I propose that it may be more appropriate to view student learning on a continuous scale and consider the developmental nature of moving along the level. Furthermore, mobility is likely to be influenced by task demand which may encourage regression as learners switch response accordingly. It is thus important to recognise the potential qualitative difference in the outcome of learning from restrictive and reproductive, to an expanding personal engagement. However, it is also necessary to discriminate student learning behaviour by aptitude or choice, to move along a continuum of approaches model. Thus, a student may choose to work in a surface way as the course or its associated assessment may confer no personal interest or meaning to them, or demand them to engage deeply; alternatively, they may not have developed the skills to adopt a deep approach. Such factors influence the resultant outcome of learning, but for different reasons.

Furthermore, students may not necessarily adopt the same approach to learning as they do for assessment. Indeed, they may endeavour to learn in a deep manner but become strategic during assessment periods, and this motive-strategy combination may be highly successful to combine personal interest with organisational goals (the assessment). This may be particularly so in cases where assessment methods are out of alignment with the objectives of the course, or no opportunities for learning are perceived from these events.

Generally the literature appears somewhat judgemental, assuming the only worthwhile approach to studying is a deep one. In agreement with Haggis (2003), who queries the level of abstraction of the conceptions/perceptions/ approaches model from the original focus of reading text, to the variety of learning tasks that students undertake, I speculate the level of generalisation of

the model is of concern. Arguably, it has become a normative paradigm (Haggis, 2003) that has become universally accepted (Richardson, 2000) and powerful, so much so that the surface/deep 'metaphor' (Webb, 1997) has become inseparable from literature concerning teaching and learning.

Webb (1997) criticises the phenomenographic approach underpinning the surface/deep debate put forward by Marton (1981), suggesting that in the quest for positivist generalisation, hermeneutical understanding and openness remains lacking. I would agree, based on the foundational literature (Marton and Säljö, 1976a, 1976b), that the methodology appears to lack reflexivity. It assumes and relies upon participants having access to their metacognitive processes and arguably bases the primary classification of the surface/deep approach upon this.

Furthermore, the dualistic nature of the surface/deep paradigm raises concerns. Although, in a later response to Webb, Entwistle (1997b) acknowledges that the dichotomy represents a response to the perceived demands of a particular task and not a label of student disposition. I suggest the ubiquitous use of the concept in education literature loses sight of this notion and thus portrays an oversimplification. The focus on the binary division (and indeed the valorisation of the deep approach), in my opinion, leads to a disappointing lack of consideration regarding the strategic or achieving approach.

I speculate that assessment tasks will almost always force students into a strategic approach to their studies. Indeed, Svensson (1997) highlights a potential paradox in that the student who seeks to read widely in pursuit of a deep understanding may be penalised in assessment, if the method requires memorisation of a specified subject matter. Or a devotion to thoroughly understand prevents them from targeting their studies to the specific form of

examination, or effective time management. This being the case, I propose that a move from a dualistic to a continuum model of student learning would better encapsulate study behaviour.

I hypothesise that further consideration of the strategic approach is of particular importance in a modern assessment environment, operating a modular structure with tight timeframes. Therefore, I propose that the conceptions/ approaches model needs to be broadened to account for the influences of contemporary teaching and learning environments. It is possible and likely that students may combine a *deep learning motive* with a *strategic or achieving assessment strategy.*

Arguably, this position befits the current culture of adult training and lifelong learning, and relates to a criticism mounted by Haggis (2003) that the surface/deep debate serves to articulate the values of an elite academic culture. This may not be representative of a wide range of learners in a mass higher education system. Students may not desire to relate personally and meaningfully to their subjects, but may be motivated purely by achieving good grades. Thus, the assumption of the model to respect and encourage only deep approaches arguably limits it application to contemporary education practice.

CHAPTER THREE: METHODOLOGY

Research Question: What are the assessment characteristics of the university component of an undergraduate physiotherapy programme and how do these features impact upon student learning behaviour?

The position of the researcher: As a senior lecturer on the programme under study, I had responsibility for both contributing to the design and delivery of learning and teaching activities on the academic course and a role in the pastoral care of students. I had direct involvement with the participants in this project over the three years of their studies and a sound awareness of the students' assessment experiences within the university setting.

Thus, the research question is of particular interest to me to gain an understanding of the influence of assessment practices within the academic setting upon student learning behaviour. It is recognised within the findings of this study that participants possessed a strong vocational orientation, believed to be related to a professional education and the community of practice associated with this; however, this study does not attempt to explore the effect of the clinical assessment environment. It is acknowledged that practice placements and the assessment of such are influential in shaping practice communities.

Theoretical Perspective: Background

The theoretical perspective in this study involves interpretative phenomenological analysis (IPA). The theories underpinning IPA include phenomenology, derived from Husserl's (1970) notion of a philosophical science of consciousness. It is further framed by hermeneutics and is strongly

linked to the interpretative paradigm. It is also influenced by symbolic interactionism, the meanings individuals attribute to events which are obtained through social engagement and interpretation (Smith, 2004).

Husserlian phenomenology (Husserl, 1970) is interested in the world as it is experienced by individuals within a particular context and time, unmediated by past experiences and abstraction. Fade (2004) makes an interesting comment that based upon this premise, analysis cannot be both interpretative and phenomenological, and therefore looks towards advancements in phenomenological and hermeneutic thought, which acknowledge that the world is invariably contextualised through a socio-cultural perspective (Heidegger, 1962) and the concept of symbolic interactionism, which considers the relationship between meaning, language and thought in shaping human behaviour.

Indeed Bernstein (1983) clearly explains a post Husserl / Heidegger perspective put forward by Gadamer (1975), which suggests events are mediated and interpreted through culture and tradition. Thus hermeneutic understanding is not devoid of historic or situational context or without prejudice. Gadamer encapsulates this position as the *forestructure* of the interpreter, and distinguishes between those prejudices which blind us to meaning and truth and those which enable us to understand. What underlies Gadamer's hypothesis here is an awareness of the conflict between strangeness or alienation and familiarity.

The task of hermeneutics is to find the means to enable us to understand those initially alien phenomenons without inflicting blind or distortive prejudices upon them. For Gadamer the process of understanding is infinite as interpretation is dependent upon our initial prejudgements, which are themselves subject to a changing historical perspective, which in turn changes our horizons. In this way

we are experiencing a "fusion of horizons" whereby our own horizons are enlarged and enriched.

IPA is thus phenomenological in that it seeks an individual's lived experiences and interpretative in that it accepts the standpoint of the researcher in gaining access to these (Fade, 2004).

Phenomenology: The Lived Experiences

Phenomenology focuses on the way things appear to us through experiences, how we perceive them through conscious thought and thus the meaning we make of them (Smith and Osborn, 2003; Smith and Eatough, 2006). Phenomenological research endeavours to capture such experiences as closely as possible within the context in which they take place and through its analysis attempts to discern the fundamental nature of such events.

> "Phenomenology seeks the psychological meanings that constitute the phenomenon through investigating and analysing lived examples of the phenomenon within the context of the participants' lives. While persons' awarenesses are concomitant with these lived experiences, they are hardly ever totally coincident to what is being experienced by them" (Giorgi and Giorgi, 2003, p.27).

Thus, Giorgi and Giorgi suggest the ability to experience or react to different situations exceeds the ability to understand exactly what we do or why we do it. Consequently, an analysis of the meanings behind these lived experiences can be highly enlightening.

Hermeneutics: The Theory of Interpretation

Hermeneutic inquiry is concerned with the interpretation of communication or events (Grbich, 2007) and how we make sense of and explain our lifeworld of

experiences (Smith and Eatough, 2006). Interpretative phenomenological analysis is actually described by Smith and Osborn (2003) as double hermeneutic or dual interpretive; that is a situation in which participants are attempting to understand their world and the researcher is endeavouring to make sense of the participants' understanding of their world.

What concerns the IPA researcher is reality as it appears to the participant, yet it is their concomitant role in making sense of that reality that is key to this form of enquiry. With respect to the insights of Giorgi and Giorgi (2003) above, the researcher may be privy to the awareness of an account that the respondent has not gained access to. It is suggested that attention to the dual interpretations of participant and researcher leads to a richer analysis of the participant's lifeworld (Smith and Osborn, 2003; Smith and Eatough, 2006).

Therefore, IPA sits within the interpretivist paradigm, acknowledging that the researcher is part of the reality they are attempting to understand. It seeks to investigate an individual's lifeworld; their experiences and perspectives. It is concerned with a participant's personal account of an object or situation, but does not endeavour to produce an objective report of an item or event (Smith and Osborn, 2003; Smith and Eatough, 2006). IPA recognises that gaining access and exposing a participant's lifeworld relies upon and is influenced by the conceptions held by the researcher, and concedes that such an exploration is associated with the researcher's view of the world.

Dual Epistemologies

IPA therefore combines these two epistemologies through its emphasis on the dynamic role of the researcher in making sense of the participant's account. It aspires to empathise and understand an experience from the individual's perspective, yet assumes some distance to critically question and interpret

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such events (Sim and Wright, 2000; Willig, 2001; Smith and Osborn, 2003; Reid *et al.*, 2005; Smith and Eatough, 2006).

Symbolic Interactionism: The Role of Language

IPA acknowledges that people are cognitive, linguistic and affective individuals (Smith and Osborn, 2003), and recognises the relationship between participants' thoughts, speech and emotional status, and accepts that such links can be complex. Participants may experience difficulty articulating what they are feeling or thinking, and may not wish to self-disclose. The IPA researcher is thus required to interpret the emotional state of the participant.

Qualitative research makes some distinction between experiential and discursive inquiry; that is the difference between focusing upon, portraying and understanding an individual's lifeworld, or on the way in which language constructs their lifeworld. Arguably, IPA fits into the experiential camp, yet must appreciate the influence of language on how we capture and make sense of our lived experiences.

Language constructs as well as describes experiences, thus IPA is dependant upon a validity that is represented through language (Willig, 2001). The words the participant selects to portray their reality will construct a particular version of events. Thus, the same experience can be described in a multitude of ways and consequently language does not just express accounts, it attaches meaning to them which resides in the words themselves and possibly obscures direct access to another's experience.

For this reason, the participant's description may expose more about the way they talk about an experience within a particular context than about the actual occurrence. Furthermore, language may actually shape an experience by

providing the individual with preceding categories to code it. In Willig's words, "language does not constitute the means by which we express something we think or feel; rather language prescribes what we can think or feel" (2001, p.63).

This discussion challenges the assumption that language is an unambiguous symbolisation of one's internal state, that it is instead productive, constructing an account of social reality with social objectives. An individual's expression of their attitudes and beliefs may not allow access to their cognition. Discourse analysts would argue that people's expressions of their attitudes or beliefs are a purposeful dialogue with social intent. That is, they may orientate to a particular perception of a question asked of them, for example, as a judgement, challenge or opportunity to complain. They may also disclaim undesirable social identities and potential negative attributions, and may even perceive these from the nature or content of the interview itself (Willig, 2001).

Thus, language can be seen to construct social reality and it is anticipated that an individual's expressed attitudes may not be consistent across all social situations. Indeed, varying narratives may be issued by the same speaker within different contexts in the pursuit of different social intentions. Consequently, the action orientation of talk should be acknowledged; that speech informs us on what an individual is doing with their words, for example disclaiming, persuading, justifying, rather than on the cognitive processes that words symbolise (Willig, 2001).

Acknowledging the above, IPA intends to transform the implicit to the explicit, to expose an understanding of the lived experience that may not be fully attended to or articulated by the participant. From such analyses, the researcher endeavours to generalise from the concrete example of the individual's lived experience to something less situation specific, by clarifying what it is an example of. Finally, it aims to account for what took place in a way that

genuinely articulates and renders visible the meanings that underpin the experience. To this end, IPA also owes some recognition to symbolic interactionism (Blumer, 1969; Denzin and Lincoln, 2005) in its attempt to understand how meaning of experience is constructed.

Critique

Although IPA research does not claim to analyse language in the same way as the methodology utilised by the discourse analyst, potential criticism may be targeted at how IPA conceptualises language, in that it may not pay adequate attention to its constitutive role (Willig, 2001). Furthermore, phenomenology endeavours to explore the richness and texture of an experience and IPA aims to seek meanings associated with phenomena. A potential difficulty here is the suitability of participants' accounts for phenomenological analysis; arguably, they may not have the language to express the nuances and intricacies of their lived experiences, which may limit the applicability of this methodology (Willig, 2001).

Willig (2001) also questions whether IPA is genuinely phenomenological, in that it assumes participants possess a set of cognitions (Smith, 1996, 1999). However, phenomenology is concerned with capturing phenomena in an unmediated way, which may be pre-cognitive and inarticulate, thus research should not aim to study cognition but aim to make sense of the individual's experiences.

I suggest this is where IPA looks towards the interpretative paradigm in its endeavours to understand the lifeworld of others, along with its claim to being idiographic (Smith, 2004) and its detailed examination of the individual response prior to cross-case analysis. The approach thus provides a framework by which to capture experiences and unravel the meanings of the

beholder, and portrays something of the nature of the phenomenon under investigation. It must be remembered, however, that its epistemological claim reaches only as far as an experiential structure, not for objective reality (Giorgi and Giorgi, 2003).

Methodological Approach

The majority of IPA studies have utilised face-to-face semi-structured interviews (Brocki and Wearden, 2006; Smith and Eatough, 2006). The question topics used to guide the interview process in this study are based upon those developed by Gibbs and Dunbar-Goddet (2007) for their Assessment Evaluation Questionnaire, recommended for researching and evaluating students' learning responses to different assessment environments, which are pertinent to this study. However, the face-to-face interviews befit the IPA design as they capture a richness of data from a smaller number of participants, allowing novel and unexpected ideas to be pursued. Interviews also facilitate a closeness for the researcher to gain access to and empathise with the participant's experiences, yet permit a questioning approach towards the meaning of the world they portray (Smith and Osborn, 2003).

Themes and prospective questions were trialled by pilot interviews to ascertain whether they yielded appropriate data. The question schedule was amended slightly following the initial pilot to include prompts to generate a more detailed description of student learning behaviour. Purposive sampling tends to be used in IPA with fairly small samples sizes (Brocki and Wearden, 2006). The aim of IPA is to select participants in order to illuminate a particular research question and to develop a full and interesting interpretation of the data.

Third year students who had experienced the complete variety of assessment formats utilised on the B.Sc. programme were invited to participate in the

interviews by a formal verbal explanation of the study. Students who expressed a willingness to participate were then given a preparatory information sheet and consent form (see Appendices Two and Three). Eighteen participants were purposively selected according to their admissions route. Six respondents entered via 'A' levels, six with a prior degree, four following an access course and two with BTec National Diplomas (see Table 3.1 for details of participants).

Table 3.1 Details of Participants

Respondent	Gender	Entry Qualification	Age Group	Previous Full Time Employment
1	Male	'A' Levels	School/College Leaver	No. Observed practice
2	Male	Access Course	Early Mature	Yes, unrelated to course. Plus teacher of martial arts
3	Female	'A' Levels	School/College Leaver	No. Observed practice
4	Female	Previous Degree	Early Mature	Some sports coaching
5	Female	Access Course	Mature	Yes. Unrelated to course
6	Male	Previous Degree	Early Mature	Some sports coaching
7	Female	'A' Levels	Early Mature	Yes, unrelated to course
8	Female	Access Course	Early Mature	Voluntary work, related to course
9	Female	'A' Levels	Early Mature	No. Observed practice
10	Female	BTec National Diploma	School/College Leaver	No. Observed practice
11	Female	BTec National Diploma	School/College Leaver	No. Received physiotherapy treatment
12	Female	'A' Levels	School/College Leaver	No. Observed practice
13	Female	Previous Degree	Mature	Yes. Unrelated to course
14	Male	Access Course	Early Mature	Yes. Related to course. Received physiotherapy treatment
15	Male	'A' Levels	Early Mature	Yes. Unrelated to course, but undertook related courses
16	Male	Previous Degree	Mature	Yes. Related to course
17	Female	Previous Degree	Mature	Yes. Unrelated to course. Observed practice
18	Female	Previous Degree	Mature	Yes. Related to course

- Early mature = 25–30 years, mature = above 30 years of age

The aim was to explore potential relationships between course entry route, motivation, conceptions of learning held and ultimately students' perceived outcomes of learning. Two interviews were undertaken at slightly different points in the respondents' assessment careers; total interview time was approximately one and a half hours. Written consent was gained following an explanation of the nature and purpose of the study, and the right to withdraw was upheld throughout.

Smith (1996, 2004) proffers flexibility in qualitative research design, aiming to not be prescriptive regarding IPA and encouraging originality. A possible limitation of this study may have been to adopt the interview as a lone methodological approach. This may be particularly pertinent to insider research such as this, where participants are known to the researcher and potential power relationships and biases exist which may thus affect the representation of the life world.

Plausibly, interviews could have been triangulated with other approaches to increase the richness of data; this may have included learning diaries, logs or audio recordings. Non-participant observations may have also have been enlightening but arguably unrealistic. The sole use of interviews was a pragmatic choice, as well as recommended for IPA research. Ideally this project would have befitted longitudinal study, capturing the students' assessment experience as they progressed through the three years of the programme. However, such a situation was problematic to synchronise within this doctoral timeframe.

Arguably, such methods may have added little more to the dataset for the duration of this study, as they would have facilitated no further anonymity and would still be reliant upon memorial modes. Furthermore, participants were

heavily laden with assessment demands and were unlikely to be inclined to undertake any further tasks.

It was expected that some of the educational activities or examinations may not be fresh in the minds of the respondents. Although it must be recognised that errors may result from a poor memory of events, the psychological perspective of IPA acknowledges that any account is subjectively dependent, not an objective report. The lasting impression of the learning and assessment tasks may be of greater significance, as it conceivably makes the biggest impact. Therefore, the interest is on how the participant experiences the situation, even if portrayed through memorial modes, because how the situation or experience stands out in the memory is itself revealing.

Interviews were recorded and transcribed verbatim. The first transcript was read carefully and entered into the NVivo software package, whereby annotations were made against interesting or significant comments in relation to the research questions. These initial codes (NVivo free nodes, see Table 4.1) were derived from the content of the interview questions. As the transcript was worked through, similarities and differences in the narrative were noted; that is echoes, amplifications and contradictions in the responses were highlighted.

IPA demands a sustained engagement with the text in order to interpret the mental and social world of the participant. The first transcript was then reviewed again from the beginning and initial annotations were transformed into concise phrases or named to capture the essential essence of what was said in the narrative, yet move the response to a somewhat higher level of abstraction. This stage may evoke more theoretical or psychological terminology, and caution is required not to lose the connection between the participant's account and the researcher's interpretation. This process is aided by bearing in mind

the aim to provide evidence of the respondent's sensemaking (with respect to the research question) and also to expose one's own understanding.

Emergent themes that arose from the above process were then clustered appropriately (NVivo tree nodes, see Chapter Five) and given a descriptive label which conveyed the nature of the concepts therein. Each case was then examined in similar detail before moving on to the next. This allowed the idiographic approach to investigation featured in IPA. Subsequent analysis then incorporated the accounts of each participant in turn based upon the themes identified from the first transcript and identifying repeating patterns, plus discerning the emergence of new issues. The aim was thus to revere convergences and divergences in the data, acknowledging both the similarities and differences in respondent accounts.

By gradually building up respondent accounts, IPA seeks to capture the lifeworld of the individual and yet generalise events. This is where the dynamic role of the researcher becomes apparent via their interpretative engagement with the transcripts. This leads them to ask particular forms of questions in light of their research interests, which direct their subsequent analytic process (Willig, 2001). Thus, the results of such are "a co-construction between participant and analyst in that it emerges from the analyst's engagement with the data in the form of the participant's account" (Osborn and Smith, 1998, p.67). From this, generalisability is achieved in theoretical rather than empirical terms. Links can be made between research findings, professional experiences and assertions in extant literature, and thus shed light within a broader context (Smith and Osborn, 2003).

Furthermore, course documentation was examined to gain a philosophical perspective of the course and facilitate an exploration of the level of curriculum alignment.

Ethical Considerations

Prior to commencement of this investigation, ethical approval was granted by the university's ethics committee. A key consideration of the committee is the protection of participants. By its very nature, qualitative methodologies focus upon the individual and often (compared to many positivist approaches) involve small numbers of participants and thus a greater potential to expose them. Sim and Wright (2000) highlight the requirement to defend the autonomy and independence of participants and to consider their dignity and thus not use them solely as a means to an end or for non-beneficence or malfeasance. Such considerations are paramount in researching one's own organisation, as it is difficult to establish neutrality or anonymity.

A potential problem in maintaining respect of an individual's autonomy relates to consent to participate. Insider research may create relationship conflicts, an individual may feel obliged to join the study, yet compromised in doing so. In addition, it is difficult to give informed consent to an interview, as the nature of the questioning is not always clear at the outset. It may be necessary to make use of process consenting, which permits the participant to assess consent throughout the study rather than prior to. This was offered to participants in this study, but was not utilised by any. Possibly this was because they were informed of the nature of the research and the topic areas to be covered in writing before agreeing to participate.

Participants were asked to reflect upon their experiences of the assessment environment prior to being interviewed and thus had prepared for the questions asked of them. On completion of each interview, participants were asked if they were satisfied with the process and content, and whether they were in

agreement with their subsequent transcript being used for analysis in the study. All consented to this.

It is acknowledged, however, that students may feel obliged to partake and, having agreed to do so, might find it difficult to withdraw due to the nature of the relationship. In line with this and considering beneficence, it is essential to share findings with others with the sole aim of driving improvement. Non-malfeasance requires that the researcher does no harm; mindful of this yet aiming to disseminate outcomes to facilitate change for the better, the assurance of anonymity remains crucial. Although the identities of individuals were protected at the point of dissemination, this was impossible to achieve during interview, as respondents were known to me, and this highlights the importance of my personal reflexivity and integrity as a researcher.

CHAPTER FOUR: RESULTS

Transcriptions from the eighteen student interviews were entered into the NVivo software package, which allows the attachment of multiple coding to the same or overlapping piece of text. This assists the evolution of themes throughout the process of coding and analysis and, along with the software's search function, facilitates reflexivity as it allows the data to be reclassified and tested in line with emerging findings.

Forty-eight initial codes (NVivo free nodes) were created. These were mainly derived from the content of the interview questions (see Table 4.1 for a full description). Emergent themes that arose from the above initial codes were then linked and clustered into five categories (NVivo tree nodes, see individual cluster categories and tables below) and given a descriptive label which conveyed the nature of the concepts therein, as follows:

1. General
2. Level of Curriculum Alignment
3. Student Conception of Learning/Knowledge
4. Assessment Environment
5. Student Study Behaviour.

Each category was designed to allow consideration to be given to the potential relationships between the students' entry routes to university, their motivation and the conceptions of learning they hold, and ultimately their perceived outcomes of learning and the impact that the specific assessment environment had upon their study behaviour. This approach encompasses Biggs' (1987a) model of student learning (see Table 2.1) and facilitated an exploration of the concepts of *presage, process* and *product.* Such categorisation aids an understanding of the issues surrounding the research question.

Table 4.1: Initial Codes (Free Nodes) Created in NVivo
Derived from Interview Questions

NODE LISTING

Nodes in Set: **All Free Nodes**
Number of Nodes: **48**

1	Action on Assignment Guidance
2	Action to Feedback
3	Assessment that Enhanced Learning
4	Assessment that Stifled Learning
5	Assessment Reflected Learning Outcomes
6	Assessment Required Fact or Understanding
7	Chance to Understand Study Matter
8	Collection of Work
9	Cue Consciousness - General
10	Cue Consciousness - Viva
11	Define Quality Learning
12	Effort to Memorise Fact
13	Effort to Understand Meaning
14	Entry Route
15	Expectations of Learning
16	Feedback - How and Quality
17	Greater Understanding From Assessment
18	Greater Understanding From Long-term Conditions Assessment
19	Guidance on Assignments
20	Ideas to Improve Assessment (Note: not used or included in this study)
21	Information on Learning Outcomes and Marking Criteria
22	Learning New Material Through Assessment
23	Level of Effort Throughout Course
24	Most Satisfying Learning
25	Motivation to Learn
26	New Skills From Viva or Portfolio
27	Opportunity to Practise Assessment Tasks
28	Overall Impression of Viva and Portfolio
29	Peer Assessment
30	Personal Stance to Physiotherapy
31	Personal Stance to Professionalism
32	Physio Career Choice
33	Portfolio and Professional Role Development
34	Portfolio Building
35	Preparation for Viva
36	Professional Integrity and Understanding
37	Requirement to Study Whole Syllabus - Long-term Conditions
38	Requirement to Study Whole Syllabus
39	Scope of Viva to Show Understanding
40	Standard of Work Expected
41	Study Behaviour and Assessment
42	Study Behaviour and Assessment Portfolio
43	Studying for Grade or Understanding
44	Success Just Requires Memory
45	Teaching Reflected Learning Outcomes
46	Value of Learning Outcomes
47	Value of Marking Criteria
48	Variety of Assessment

Data from each of the five categories will now be presented to address the enquiry of this study, to determine the assessment characteristics of an undergraduate physiotherapy programme, and explore how such an assessment environment impacts upon student learning behaviour. Quotations from respondents are shown in italics, with the respondent number shown after [i.e. (R14) = quote from respondent 14].

Data Arising from the Five Clustered Categories

Category 1: General

Cluster Category 1: General Free Nodes Entry Route

This category contains the access route respondents underwent to enter the B.Sc. programme, as shown in Table 4.2.

Table 4.2: Distribution of Entry Qualifications

Entry Qualification	Total Number and Respondent Number
'A' Levels	6. Respondents 1, 3, 7, 9, 12, 15
Previous Degree	6. Respondents 4, 6, 13, 16, 17, 18
Access Course	4. Respondents 2, 5, 8, 14
BTec National Diploma	2. Respondents 10, 11

This data was collected to explore whether entry route bore any relationship to a student's motivation or conception of learning, and ultimately to their perceived outcome of learning. This line of enquiry relates to that of Ecclestone and Pryor (2003), who suggest that throughout education learners develop careers as learners and this includes an assessment strand, an 'assessment career'. This concept is believed to be shaped by the assessment systems that learners are exposed to, in particular formative assessment environments,

which are suggested to impact upon the learning identities and dispositions as children, young adults and adults returning to formal education.

Formative assessment activities such as oral and written feedback on work, target setting and reviewing progress which are increasingly used, may promote strong criteria compliance (Ecclestone and Pryor, 2003). Torrance (2007) suggests the move towards enhanced clarity in assessment procedures has instigated the frequent use of exam coaching, which has led to instrumentalism. Thus, a consideration was to ascertain if there were discernable differences in students' approaches to learning based upon their previous 'assessment careers'.

A detailed investigation of participants' pre-course assessment history was beyond the scope of this project and, although respondents were selected based upon their entry route to university, with the aim of gaining some insight into the impact of previous assessment experience, it was impossible to determine such influences in this study.

There were no obvious differences observed in the way each group approached their learning by their third year of study - this may have been more apparent in their initial stages of training. There was, however, a false perception of this notion; for example, school leavers assumed a previous degree would be advantageous, while mature graduates believed youth and the routine acquired through 'A' level study to be beneficial. Therefore, the notion that approach to learning is influenced by participants identifying with a vocation is based upon their perspective as finalists.

Category 2: Level of Curriculum Alignment

> **Cluster Category 2: Level of Curriculum Alignment**
> **Free Nodes**
> Assessment Reflected Learning Outcomes
> Information on Learning Outcomes and Marking Criteria
> Teaching Reflected Learning Outcomes
> Value of Learning Outcomes
> Value of Marking Criteria
> Guidance on Assignments
> Standard of Work Expected
> Feedback - How and Quality

Curriculum alignment refers to a position whereby teaching and learning activities and assessment tasks are closely linked and specified. That is, indicative content of tuition is explicitly stated along with the resultant outcomes of learning expected from that period of study. Additionally, the mechanisms by which each learning outcome is assessed are defined, as are the criteria by which the standard of achievement is judged. Such factors relate to what Biggs (1987) described as the *situational* aspect of the *presage* stage, which involves the organisational and structural aspects of the course and thus relates here to the teaching and learning activities adopted.

Therefore, in order to measure the extent of curriculum alignment in this study, questions focused upon whether teaching and assessment activities reflected stated learning outcomes, the amount and nature of guidance and information given to students upon assessment tasks, and the learning outcomes and marking criteria related to them.

Ostensibly, learning outcomes are mapped to course content and assessment tasks, and are readily accessible to students in module specifications. However, it is expected that such information is not explicit to the student body, that the language contained befits the validation process, yet remains tacit to students. To ascertain the real level of comprehension conveyed by such

documentation, questions explored the students' perceived value of learning outcomes and marking criteria, and whether they portrayed a clear indication of the standard of work expected of them.

Assignment guidance

Firstly, when asked if they received specific guidance on their assignments, respondents viewed this to be quite variable:

> *"...variable really, the majority do tell you what is expected..."* (R3).

> *"Some people just give you the information sheet and there you go whereas* [one lecturer] *has been very helpful and he has set up the drop-in session where we can go and speak to him, bringing our evidence and getting feedback, so that is very beneficial because you get to understand if it isn't suitable why isn't it and then he will give you an explanation and then you can make your judgement from that"* (R7).

There were some examples of specific and detailed guidance:

> *"When we had our complex patient essay we had really good guidance on that. We had a whole lecture on that, it was kind of nice. We had all examples written out in terms of the flow chart and things like that from the database. That was really nice for me because I had an example and a chance to talk through it and I felt quite confident going into that one"* (R10).

This is believed to have directly impacted upon the grades awarded:

> *"...it has been specified by the tutors. The ones where I have the higher mark are the ones where the teachers explain more about the assignment. Where I can actually picture clearly what they want and I learn more from doing that assignment..."* (R8).

With the exception of two respondents (R4 and R15), such guidance was perceived to be helpful:

> *"...I would say it has been helpful. It has never been unhelpful. Sometimes it has not been particularly clear.."* (R1).

In some cases, guidance given regarding the specific weighting of the assessment did not always aid the student's approach to tackling the task:

> "*Yes you do get some guidance at the beginning, usually to say it is weighted like this please do it as appropriate, but with me I think I find if I have an essay but the weighting of that is only 30% and the other bit is a presentation I would still focus on the essay more, just because I find essays more challenging in the content rather than in the performance...*" (R7).

There were also situations where less formal guidance was available:

> "*Yeah, when sought, there were some aspects that were not vague but you were just given the title, you were given the marking criteria and because of the self-directed nature it's 'go away', but if you were unclear you could go and get support. There is good support here...*" (R14).

> "*You usually receive information at the beginning of the module about the assessment and then information is on-line and sometimes they refer to it in the practicals and seminars or tutorials. Overall I think you can't miss them, you would have to miss an awful lot of contact hours...*" (R17).

> "*...everybody asks and the tutors are usually very good about telling us...*" (R13)

The two respondents who did not positively regard guidance on assignments viewed it as either potentially confusing:

> "*...some people go through it and they confuse you more because they are looking for more or different things to what it says and sometimes you think 'how am I going to fit all that in?'*" (R4).

or as just too much information:

> "*I think assessments are very thoroughly talked through. There is a case to make that they are too thoroughly talked through. Sometimes I get the feeling from some lecturers that they are more interested in you getting a good grade than they are in teaching the course content, which can become a bit uncomfortable*" (R15).

and that this detracted from the educational value of the task:

> "*The material becomes too assessment focused. You tend to lose the point, although that is the fault of the student body as well, as it is a common question to ask 'will this be on the exam?' and asking about it, so inevitably the conversation and lesson goes towards that, which is fair enough and it is fine if the assessment itself is relevant and is reflected in the course content and there is good integration between the two, but sometimes there isn't and that can be a bit frustrating*" (R1).

Such a position relates to assessment coaching, which may facilitate student achievement and progression, but at the same time may be encouraging instrumental learning (Torrance, 2007). Obedience to follow criteria may become an educational goal in its own right (Ecclestone and Pryor, 2003).

Explicitness of learning outcomes

As to whether teaching reflected the stated learning outcomes for each module, half of the respondents affirmed they did so:

> "*…go hand in hand…*" (R6).

> "*…the content is definitely there. It is up to you to self-direct your learning to get that further knowledge. I definitely think so, especially at the beginning of each session where you provide the learning outcomes 'where by the end of this you should be able to do this'. I think that is a very good guide to lesson planning and what you should achieve from the lesson, and that then focuses in later for the whole of the module definitely…*" (R7).

The other half were fairly equally divided between viewing this to vary between lecturers or that learning outcomes were too vague to appreciate whether they had indeed been covered or not:

> "*…it has been variable. The tutors that have had a set agenda that have been organised and professional have done very well at meeting these requirements and meeting the learning outcomes, but it varies…*" (R15).

> *"...they do to an extent the main points of the learning outcomes. You can see key words that you have been taught about, however they are too vague to say yes they have taught me that exactly..."* (R8).

and not being in a position to make a judgement:

> *"...I haven't really looked closely at the learning outcomes, so I don't know what I am judging it by..."* (R16).

A final point on this topic is that maybe the link between the proposed learning outcomes and the taught content of a module is only obvious retrospectively on reflection of the learning event:

> "[Teaching reflects learning outcomes] *when you get to the assessment time it is really when I look back at them. As you perform the assessment, or as you are learning ready for the assessment, you can see I know that. It is only at that time that I pay a lot of attention to it, but you can see that as you work through you look at one learning objective and it might be 'to understand the physiological aspects' and then you think 'this, that' and 'that is that' you see that it does relate to teaching, but generally you don't tend to think about it throughout the module or as you are doing the module or as you are doing the learning..."* (R14).

Responses to the question to ascertain if assessment tasks had, on the whole, incorporated learning outcomes indicated that there was an implicit link between the assessment demands and demonstration of the expected outcomes:

> *"I don't know I would say they incorporate the learning outcomes. I would say they more let you express the learning outcomes. I think they are not teaching you any of them, but they are allowing you to show, whether it be to write it down, to do the practical bit or to talk about it, they show because you go through the learning outcomes it shows that you know it. I think the only way they contribute* [is] *they show you that you have learnt them..."* (R14).

> *"I know from an intellectual point of view they are based around them and that's been stressed to me. I think that I can see* [learning outcome] *two, three whatever, next to the things that you are being*

asked in the assignment brief, so they generally relate, but it's enough for me to see in the assignment brief that it's related to outcome three for me not to worry about what outcome three is..." (R16).

Furthermore, there was a general consensus of opinion that individual assignments did not always offer the scope or indeed time to allow all prescribed learning outcomes to be covered:

"There have been times when the question does not give you the scope to get the learning outcomes in. It is more like practical exams, when you are short for time you know what you are meant to be trying to do or say and there is not enough time for you to talk about it. Like the first year anatomy exam, you had questions that guided but the questions I got I didn't feel I had enough time to stand there and explain everything I had to get through, so there is a time issue..." (R9).

"...it's hard to cover all of those learning outcomes in one specific question. Generally you need a couple of different ways to show them, otherwise I feel the only way you can show all those learning outcomes is if you did bullet points, which then is not effective as a writing tool..." (R14).

Additionally, it was sometimes difficult to comprehend the relative significance or importance of each learning outcome:

"I think some learning outcomes didn't seem as important. You could mention them but it didn't matter, but then some of them if you hadn't mentioned them they did matter in a big way..." (R2).

The main dissemination of learning outcomes and marking criteria was via the university's virtual learning environment (blackboard) and PowerPoint presentations at the beginning of lectures and seminars:

"You tend to get in a routine of just looking at them initially just because it is always the first slide that goes up in a lecture or when you print off your seminar stuff it has got the learning outcomes there. I couldn't tell you if they are specifically talked about because it is something you hear it and read it and discard it and then you think right now we are into, so I am more worried about the nitty-gritty as opposed to what I should be getting out of it. It is just a

case that I am really listening to the information that is being given not so much what I should be getting from the information..." (R14).

One respondent commented that they were fairly consistently highlighted in their first year:

"...in the first year you could see with every lecture you had learning outcomes at the beginning of them..." (R2).

And this practice also potentially undermined the educational experience:

"A lecturer would say this is what we are looking for; this is what you should be aiming for. Basically, I felt like they were suggesting that this was the guidance for this piece of work, which is what you need to achieve and so therefore it became very important because however much knowledge you may have in other areas that's how you are judged and that's how you will pass the module..." (R2).

However, another felt they were not given adequate attention as to have any impact:

"...learning outcomes are introduced invariably at the beginning of modules and at the beginning of lectures. Quite often they are skipped over by lecturers. Some lecturers don't stress the importance of them..." (R16).

Throughout the course there appeared to be four occasions whereby learning outcomes or marking criteria were specifically addressed and exemplars were given:

"[The lecturer] *went through an essay and got us to mark it and then we came back and we shared our points of views and then actually saw the mark given. I think that was actually quite beneficial..."* (R7).

Such exercises plausibly aided comprehension of the assessment process:

"...learning outcomes have become easier to understand as you go through the years. Well, not understand but you kind of know how to include them and utilise them as such... mainly through feedback

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and practise, say you get feedback on your marked pieces and sometimes you can say 'yeah you can see I haven't looked at that'. So I should have paid more attention to that aspect. So it is practice..." (R1).

But to gain such insight may take persistence, as this revelation was not accomplished until this respondent's final semester:

"*When they put up what they want to assess they put up the learning outcomes at the end and I thought 'what is that then at the start?', just the fact that they were written underneath but we were not specifically told, not until* [a named third year module leader] *specifically said this is pertaining to these learning outcomes, so I sort of understood why they were there..."* (R12).

Other less formal ways of promulgating information regarding learning outcomes and marking criteria involved conversations with personal tutors and the grapevine between peers. Such findings relate to those of Sadler (2005), suggesting there is a lack of commonality regarding criteria-based assessment systems generally. The concepts of criteria and standard descriptors are often confused and the judgment of student work thus remains fundamentally subjective and tacit from students.

Value of learning outcomes and marking criteria

Having obtained information on the existence of learning outcomes, students were asked how valuable they were to guide their study and direct their learning. By the third year all students endeavoured to use them; however, for many this was not common practice in the early years. They were referred to by all students for assessment purposes, particularly for written assignments, but were believed to be too vague, generic or unhelpful in language to offer complete guidance. This echoes Hussey and Smith's (2002) objection of learning outcomes, in that the clarity afforded by them is spurious. Precision is only obtained when interpreted from a position of understanding. Thus, explicitness relies upon the very knowledge and understanding that learning

outcomes are aiming to explicate. In this study they mostly offered a check-list for the factors that may need to be included:

> "…learning outcomes can be written in sort of education speak and translating those into, basically it's a bit obvious what you need to go away with. You either assess people or treat people not 'know the wider context in which you are working', 'links with the MDT' and those sorts of things…" (R16).

> "… they are an indication, they are a tick-list of what you need to do to pass your assessment, the same way as the marking criteria, you look at your learning outcomes, your marking criteria and to pass this assessment I need to make sure I tick all those boxes…" (R14).

> "I find them too vague to use them. I very rarely feel I can apply them to my essay or whatever and show that I have accomplished them. I feel they need to be more specific…" (R12).

Possibly then, learning outcomes helped students cope with perceived assessment demands, although it is debatable to what extent as most respondents echoed Sadler's (2005) view regarding subjectivity around fulfilling learning outcomes. Their educational value, in terms of guiding students in their learning activities, appears minimal. Only three students considered them as a possible tool to plan their studies. Two of those were unfortunately unsuccessful at achieving this:

> "I tried to base my learning on them earlier on. These are my learning objectives, therefore I'm going to plan my study around these learning objectives. I tried to do that but it didn't work" (R16).

One respondent did indeed manage to gain some positive educational value from reviewing learning outcomes:

> "I do go back to them [learning outcomes] and see if I think I have met them or not, and also at the end is where I do a bit of reflection. I can then look back and say 'have I actually done this or not?' and then say 'why didn't I?'. So why, was it that I missed a load of sessions because I was ill? So I didn't get that specific teaching or was it just because I didn't quite understand it? And if I did not understand it I would go back and say 'okay, this is the learning

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outcome, I think I should be getting this, that and the other out of that' and maybe going back and trying to re-read some of the presentations or lectures that had been provided and then see if I understand it a bit fuller..." (R7).

Following on from the educational value of learning outcomes, students were then asked if marking criteria played a role in directing their studies. All students had used them and generally implied they provided some assistance in managing the assessment task:

"...*they are much more useful than learning outcomes because you can see the progression on the marking criteria... you can see 'I need to accomplish this', so it is much more progressive and you can work along it..."* (R12).

However, like Sadler (2005), most students felt they were too subjective to definitively work from:

"[Marking criteria] *are very subjective. The structure and content is incredibly ambiguous. I don't think the types of phrases used are objective. It is very subjective and you are commenting on areas of the examination or assessment which are very subjective in themselves, which are inherently subjective, when you talk about depth, relevance, that type of thing, it is all very subjective, then you have got descriptors which don't really help..."* (R15).

And the subjectivity also included discerning the difference between the standards descriptors within the marking criteria and the ability to rate one's own performance:

"*It* [marking criteria] *doesn't help me personally really. I know you have got to start from the bottom, make sure you are in the pass bracket before you go up. I can't really tell the difference. I can't judge myself..."* (R11).

Notably, this cohort of students tended to engage more with marking criteria in their final year. This corresponded to the introduction of a new, school-wide scheme, whereby criteria indicated a rating of the relative importance of each within a particular assessment:

"...very good they are weighted on stars, especially in third year, you may be very preoccupied with references but they might only be one star, so you know where you have got to put more emphasis. In the past, when I have got back the written work I didn't see the whole star thing, you know the weighting, so why have I got so low, then I realised I should have put more effort into that..." (R3).

"...the marking criteria gives me a rating as to which aspects are more valuable, they may get one star or maybe get three stars, I kind of have that at the back of my mind... I find it helpful, but as I said I use it in conjunction with the learning outcomes and the questions and the requirements... Yeah, having the modified marking criteria are much more useful than those we had in year one, so there has been an improvement..." (R17).

This initiative may have gone some way to creating enhanced clarity and feedback for future development. Additionally, it may provide a potential vehicle to expose and foster the link between learning and assessment. Plausibly, marking criteria facilitated respondent 2 below to balance personal learning needs with assessment demands:

"[The marking criteria] *have been very good, that is usually what I have worked off. I have looked at the marking criteria and gone, 'ok what's required for this specific piece of work?' and worked from that... It is not ignoring something completely; it's kind of looking at what needs to be achieved here. That's what I should have learnt, but what's being looked for is this and this. So the marking criteria directs you to the area that you are going to look at, how you are going to study for it, how much work, how much time you will put in. This course is very intense and you don't necessarily have enough time to do it all..."* (R2).

This section regarding curriculum alignment has endeavoured to explore and depict the framework which underpins student learning and development, the mechanisms by which students orient themselves to academic life. The penultimate question here focuses on the type and quality of feedback offered to students.

Feedback on student performance

Respondents reported that the majority of feedback was given after summative assessment via written feedback sheets, mainly on written assignments, and that very little advice was issued following practical exams:

> "...in terms of written essays [feedback] has been very good as you have got the sheet, but for presentations, when we did the community presentation, the group one, I got no feedback from that. My first practical in year 1, the anatomy and PI, I didn't get any feedback and I failed those so I had no feedback in order to try and guide my re-sits. Practicals are kind of odd sentences in terms of feedback, so it is kind of a mixed bag. Whether that is down to the examiner I don't know..." (R10).

However, it appeared that further counselling was accessible if sought out from the examiner or personal tutor:

> "...it is very much personal, some people in the course will have a direct line to people and get loads of feedback, depends on your personality..." (R3).

> "The only time I have had verbal feedback is having received some feedback in writing and I've gone to them to discuss it further and prompted them to do it and then I have had some more feedback verbally in more depth, which is really useful because you have always got questions and they answer them, so I think verbal feedback should be given more frequently than on paper..." (R10).

> "I get a lot of verbal feedback from my tutor. He is very good, he says I think you should do this, should expand on this..." (R12).

Additionally, there were some incidences of formative assessment built into teaching and learning activities:

> "...we had a presentation and we had the opportunity to do a kind of mock beforehand that was helpful, because people put in a lot of effort and really got their teeth stuck into it. They were given feedback and then you could assess how to change it for the final presentation, so that was helpful..." (R1).

Plus, there was an informal atmosphere of supervision noted:

> "*Within the module it is usually done verbally, which has been excellent...*" (R2).

> "*...you might get at the time that you are actually doing it 'yeah that's right' or 'you are doing that wrong'. You might get corrected while you are doing it, but it does not feel like feedback, it is more like just as you are going through it they are showing you the proper way of doing it...*" (R14).

Half of the respondents stated that feedback was not particularly helpful to guide their future development, because it appeared subjective or lacked clarity by not necessarily corresponding to the assignment brief or focusing on the key requirements of the assessment:

> "*I have gone to use* [previous] *feedback in another essay, then I get picked up on it again or I feel like the marking of essays is quite subjective and depends on (a) what module you are doing and (b) who's marking it... I really don't know where I am most of the time...*" (R11).

> "*...feedback does not seem to correlate with what we were told to do in the first place... Most of mine talks about my grammar, not whether I have fulfilled what they wanted me to do...*" (R12).

or that timeliness of feedback hindered the resultant learning process from critiquing work:

> "*... you have to go through your personal tutor and if they are away for two weeks and then you have got another essay to hand in, in the meantime I feel it is slightly detrimental definitely because you are not getting the feedback promptly... say if you have got two reflective essays and you didn't get the feedback from the first essay before you handed in your next one and then not really learnt from that...*" (R7).

There was an attempt to counter time delays on returning marked work and improve efficiency by offering group formative and summative feedback via the

virtual learning environment. However, it would appear that such efforts to offer guidance did not always yield the intended outcomes:

> "... one example was put up on [the] blackboard. I read it and didn't particularly think it was a good piece; I wouldn't have given it a good mark. I later learned from another student, it may be rumour, it didn't get a good mark... so the example was a very poor essay and people were writing their essay based on this, so I don't think it was a very good example to give... There was written feedback describing it, but no numbers of how they did or grade as such... From the feedback the points [the marker] was making appeared to be very minor points about presentation, it wasn't necessarily about the content, so it was unclear basically..." (R1).

In this regard, was the group summary useful?

> "Not much, I don't really tend to fit into the categories. I look at it but I don't find it really helpful..." (R11).

Potentially, there is enhanced explicitness and educational advantage to be harvested from the introduction of a new feedback sheet which prompts assessors to provide more guidance on the process of improving work, rather than purely highlighting weaknesses:

> "...with every essay you get back feedback, but from first year to third year it has changed, it is like strengths to build on... action which is much better..." (R3).

And it would appear that individuals did indeed benefit from receiving constructive criticism in the light of this:

> "...feedback from previous work gives you more of an indication of the level that you are at and more in depth. I think the feedback is really good in terms of it is always constructive. I have never looked at anything and it just says that was rubbish, it might say it is rubbish! It says it in a way that it can be improved..." (R14).

One final comment on feedback is that it is received more constructively if it communicates trust:

"I did notice the good bits of feedback I got were picking up on the same things. And that seemed to be same with all the good bits of feedback; they were finding the same things... And that's when you trust it... Because more people highlighted that as an issue you were more likely to see it or believe it, because it is clear [markers] *are actually taking notice of what's there, so I kind of knew what my weaknesses were..."* (R4).

Comprehending expected standard of work

It is presumed that the extent and quality of information issued and the feedback given on assessments, learning outcomes and the specificity of marking criteria will convey the standard of work expected of students, so following on from the above topics the final question in this part explored how easy it was for students to see the standard of work expected of them. Two thirds of the respondents felt it was difficult to comprehend standards:

"...difficult actually at times because there are no specifics. Everyone sort of says there is no right answer, so sometimes you just think 'oh, I want a definite answer'. If you can get access to the work of previous years and you get a range you kind of think 'okay, you know what it is', other times you think 'I am just stabbing in the dark writing on it and waiting to see what the outcome might be'..." (R10).

"I came from school level. I don't feel that I got enough input into how to structure things. I didn't know enough about the levels that were expected. And just thinking of some other of my friends who have just come from school age they said the same. If you had done a degree before you probably find it a bit easier to know what is expected. I had no idea..." (R11).

There was in fact no difference between entry routes; students with prior degrees or access courses did not fare any better at understanding standards than school leavers:

"Absolutely impossible. I would like to have physically seen a good essay, a bad essay, or whatever, and also I think it is very difficult that different tutors mark in different ways and what is okay with one is not okay with another..." (R13) (previous degree).

"...it wasn't [easy to see the standard of work expected]*... I think there should be examples of people's work, a range of pieces, a fail, a 2:1, 2:2 or a 1st. To see what is really, really good work. I don't think we have been shown any first class work in terms of here's what someone's done before. I think it's always good to have something to aim for, to work up to..."* (R16) (previous degree).

One respondent believed the fault to lie in the marking criteria, with its inherent lack of objectivity:

"[The standard] *does not come across. It is not explicit at times, it is implied within the lesson, the course content, but it is not made explicit throughout the modules. It is the marking criteria; there is always going to be that sense of ambiguity, because the marking criteria is structured as it is as it is not objective. I know it is a bit of a grey area as what you lose in subjectivity you gain in objectivity and vice versa, but it is probably more ambiguous than helpful at this stage..."* (R15).

Other respondents also raised problems with subjectivity, this time attributed to examiners:

"It has been fairly clear it is just when it comes to the marking some of it can be quite subjective, so what one lecturer may feel is important another may not pay that much attention to, even though the marking criteria may say something different..." (R15).

"...with the written assessment piece, it's always going to get a subjective mark. It is based on the person who is reading the essay as to whether they follow the same points as you; you pick up has it got the main point in it, but there is quite a wide spread in the individual marks, you can get a low end of the two one or a high end of the two one, it is based on the person's perception of it..." (R1).

The remaining issues were in the detail; respondents felt that standards of achievement were generally portrayed, but the challenge was in deciphering and managing the depth of material required:

"From the marking criteria it is quite easy to see, especially once you get up into that first category and then it has the lower first and the higher first, I think that is pretty clear. As to what you should be aiming for, I think sometimes with some of the learning outcomes it is not necessarily clear, how much depth of understanding you

*should show, so something like an essay will be more superficial if
you are trying to incorporate all the learning outcomes but then not
really go into depth of your understanding of it, so it might seem a
bit more superficial..."* (R7).

*"...there is no real breakdown in terms of how they want the essay,
there is no breakdown of how much they want you to talk about, you
could just add a couple of sentences of one learning outcome so it
is included and then spend a whole essay writing about one and
then again the final one you just put a couple of sentences in, so it is
not clear..."* (R10).

Finally, respondents also felt it difficult to judge whether their work conformed
to standard:

*"...it seems to be clear. I personally think I got the information in, but
when I get the feedback back it says it is not there..."* (R6).

In summary of this section, it would appear that endeavours to embrace
constructive alignment in this study failed to completely entrap students in the
positive way intended by Biggs (1996, 2004). And, in line with Sadler (2005), it
is argued that the possibility is unlikely, due to the lack of agreement regarding
criteria-based assessment and the difficulties in promulgating the expected
outcomes of learning and the standard descriptors against which they are to be
judged.

Therefore, much information remains subjective and tacit to students. Based
upon such observations, the extent to which any curriculum is 'highly aligned' in
a practical sense is questionable, and thus the causal relationship between
alignment and negative student learning behaviour proffered by Gibbs and
Dunbar-Goddet (2007) is arguably tenuous.

Category 3: Student Conception of Learning/Knowledge

> **Cluster Category 3: Student Conception of Learning/Knowledge**
> **Free Nodes**
> Cue Consciousness - general / viva
> Expectations of Learning
> Define Quality Learning
> Most Satisfying Learning
> Motivation to Learn
> Personal Stance to Physiotherapy
> Personal Stance to Professionalism
> Physio Career Choice
> Professional Integrity and Understanding

This section also correlates to the *presage* stage of Biggs' model of student learning, but this time considers the *personal* aspect; that is, the factors the student brings to the learning environment. This project relates to this notion by exploring participants' motivations to study and refers to the insight of Beaty *et al.* (1997) that students' orientation to learning will impact upon their study behaviour.

Additionally, it considers the concept of learning that they hold, that being their aspiration to develop in accordance with Entwistle's (1997a) view from restricted reproductive terms to an expanded personal engagement with course material and, following on from this position, their commitment to undertake a personal interpretative stance of their discipline, which links to Perry's (1970) work on intellectual development.

Motivation, conceptions and orientations

To begin the exploration of the students' motivation to study, they were invited to comment on their decision to enrol onto a physiotherapy course. All students had prior knowledge of the profession, either receiving treatment themselves or working or visiting an environment where practice took place which captured

their interest and influenced their career choice. In line with this, the majority of students considered physiotherapy to be their vocation:

> "...since I was young I did a lot of dancing and I had to have physio because I had a few injuries and then I just wanted to do it from there. That was when I was about 11 or 12 and since then everything has been based around it, my GCSEs, my 'A' levels, my BND, trying to get me into university. I did lots of work experience before I even came on the course..." (R11).

> "...I have injuries previously in the sporting arena. I had physio. I wanted to know what with happening to me with my surgery. The more I learnt about the body, the more interesting I found it and then I realised that that is what I wanted to do..." (R14).

Three students saw it as a stepping stone to, or an endorsement of, another career route or interest:

> "I wanted to do medicine. It was an alternative if I didn't get in, but it had to be something that I saw myself doing if I didn't get into medicine ever. I wanted something that was people-based. I like people, I always enjoyed sciences and stuff, but I am not the sort of person that can sit away in a lab." (R9)

> "I had the choice of going into physio or osteopathy and the recommendations were that I do osteopathy, but I thought about in terms of finance, time commitments and physiotherapy seemed to be the more appealing choice at the time..." (R15).

> "I've been interested in manual therapy, treatment of musculo-skeletal problems for many years. I started off in Japan, got interested in shiatsu and then from there came over here, trained with a Japanese osteopath... And then it was, well, if I am going to be safe, to fit in you need something more weighty behind you. So I looked at chiropractic, osteopathy and physiotherapy and I chose physiotherapy" (R16).

To acquire an impression of the conception of learning held by students, they were requested to define quality learning. All overwhelmingly believed this to be something greater than learning a set of facts and aspired to obtain meaning and understanding of material and apply knowledge in some way:

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"...something you have to integrate into yourself, it's knowledge applied to different contexts and different environments, so I think for you to be able to say you have learnt something it needs to be integrated into your tool kit as it were. You need to be able to access it and understand it, which allows you to utilise it in any given context. I think for me that would encompass what learning is, being able to assimilate knowledge, take it on board and digest it and then being able to apply it in different circumstances. It is able useful knowledge, it is all very well and good having trivia and facts to draw upon and sometimes that can be useful in an anecdotal sense, but in terms of clinical relevance it needs to be something that you can use clinically. It is the application that is the important bit..." (R15).

"...when I can make the links, I can see the process, I can make use of evidence to define problems, to set problems, answerable problems and then in answering those questions make a direct link to how the answers will translate into practice" (R16).

Strikingly, all of the students in this study were endeavouring to make sense and achieve a deep understanding of their course material. This conception of learning was not a general set of ideals, but an approach that they were actually utilising in their current discipline. Insightful of Entwistle's (1997a) notion that students' conceptions of learning constitute a continuum from a restricted reproduction of material to engagement, participants in this study appeared to possess a committed personal stance to establish links between theory and practice and employ their knowledge in some way. All provided examples related to clinical practice. Furthermore, students were capable of making a distinction between learning for assessment and learning for application:

"Quality learning is being able to apply it outside of university. However, when we are having to do exams it is more about memorising facts, unless you are doing a practical exam. It is not really quality learning if you are writing an essay or written exams that you are just focusing on one thing and memorising stuff just for the exams, I don't feel you can carry that over into practice..." (R12).

"You feel like you have actually achieved something, so some of it is on grades and getting a qualification in it, but also things that are an achievement for you when that penny drops, suddenly something that made absolutely no sense becomes clear can feel just as good

as getting a first or a hundred percent which are great but sometimes even if you score lower and you feel that you have gained knowledge. I do like to be able to do something with my knowledge, even outside of university" (R9).

It could be argued then that in order to generate the most efficient and effective learning, assessment needs to be in synchrony with what students desire to do with their knowledge. This relates to Marton and Säljö's (1976b) view that a student's conception and their subsequent approach to learning depends upon their distinct intention. It is suggested that the premise students held in this study surpassed regurgitation of facts; they endeavoured to convert material into personal meaning. Referring once again to Marton and Säljö's ideas, they favoured a deep approach to learning; however, as previously noted, students perceived a difference between learning for the intention of assessment and the intention of clinical practice. Such incongruence is likely to encourage surface learning, in order to manage the demands of assessment as opposed to fulfilling personal aspirations.

Possibly, if assessment was more aligned to the purpose of the underpinning study, it would become a more functional and thus constructive activity and foster a totally deep approach. So, it would appear paramount to consider how closely the assessment matches the intended outcomes; that is, what does the learner want to know or be able to do and what does the assessor want to see demonstrated? Arguably, both are in tune in the perfectly aligned curriculum, perhaps idealistic but endeavours to make the purpose of examination explicit to candidates may go someway to solve this dissonance, otherwise the narrative below may become all too familiar:

"...a lot of what we are doing here feels like jumping through hoops. I don't see the point of it. It doesn't make sense to me and a lot of things seem in a way very petty, that it is not learning because I want to know, it is learning because I have to produce an item and the amount of learning is irrelevant. That is how it feels as lots of things feel as though it doesn't matter if you actually understand about whatever, it is more on can you write an essay and having

huge amounts of marks on your ability to write a good conclusion, results or whatever, rather than do you actually understand this, have you a clue what you are talking about or can you relate it to a real person?" (R13).

The subsequent line of enquiry from a definition of quality learning to the motivation to undertake such study revealed that all students assumed an inherent personal incentive driven by interest, fulfilment or purpose - in this case, to become a competent health care practitioner:

"I want to be a good health professional. I don't think it is necessarily limited to physiotherapy. I have got quite a few interests and passions outside of physiotherapy and when I came into this degree I saw it as one facet, something I was interested in as a more global picture and it was kind of one part of the puzzle as it were. It is part of lifelong learning. I think anybody who is serious about a career in health care should see this as a lifelong process and not just a qualification" (R15).

"...In physio particularly it's where I want to give the best treatment for my patients. Everything I do I want to do it for my patients, so I always like see my patients as if they are a member of my family or so, that's what encourages me to learn" (R11).

The impetus for this group of students appeared to be grounded in their strong affiliation to a vocation:

"I am just keen for knowledge and in this particular case I wanted to have a new job, a new profession. Well, it is a vocational degree, so I would have to say that makes you go about your studies" (R17).

"The physiotherapy post at the end of it, it was the only job I wanted to do" (R12).

and could possibly be described by Taylor's (1983) *intrinsically motivated – vocational orientation*, whereby students seek high quality training and are enthused by learning about aspects that have direct relevance to their chosen career. Conflicts may be seen when these learners are also required to fulfil the academic rigors of an honours degree programme:

"*...it is more on can you write an essay and having huge amounts of marks on your ability to write a good conclusion, results or whatever rather than* [if you can] *relate it to a real person...*" (R13).

"*...when it is very clearly appropriate to medical or clinical studies it becomes more important to learn it for my own skills, but when it is more of an academic learning thing I am really just thinking about the grades...*" (R2).

"*...unless you are doing a practical exam, say what we had in our second year, then it is not really quality learning because if you are writing an essay or then you are just focusing on one thing... I don't feel you can carry that over into practice*" (R12).

Taylor's (1983) work highlighted that students' orientation to learning impacted on and directed the amount of effort and attention given to any aspect of university life. Mindful of this, students with a strong vocational orientation may struggle to accept or adapt to the academic demands placed upon them by a professional honours degree programme. They may fail to value certain components or requirements of the course and this may influence and possibly hinder their approach to learning.

This notion links to the second stage of Biggs' model, the *learning-process complex*, which considers the way a student perceives the academic environment and the decisions they make about how to accomplish their learning and the subsequent *motive-strategy combination* that they adopt. In order to balance intrinsic personal aspirations of becoming the best practitioner with extrinsic, organisational imperatives of benchmark statements of 'graduateness', students need to become adaptable if they are to be successful on both counts. It is posited that during periods of summative assessment, students are required to assume an *extrinsically motivated – academic orientation*, where the emphasis here is on educational progression to obtain good grades and become syllabi bound.

As well as a deeper consideration of the compatibility between intentions of learners and instructors in summative assessment practices, a possible resolution to adopting this dual role may be found in efforts to expose important links between theory and practice and thus bridge the divide between academic and vocational components of the programme. This is particularly important in the early years, where it is likely that freshers have only conceived a vocational or practical notion of their chosen profession. They may have insight into the skills required to develop the professional, but have not considered those required to advance the profession. Arguably, if extrinsic organisational motives are made more explicit, they may ultimately merge and sit comfortably with a student's *intrinsically motivated – vocational orientation*:

> "*Sometimes some of the comments that* [a named lecturer] *makes it is very much like I don't agree with that. I think he makes it very easy for you to do that and I think he is aiming at trying to get you to think about your practice. I think some of the discussions he has put up you think okay you are trying to provoke a reaction out of us and I think that is quite important for you, because he is talking about now for latter practice and CPD and everything 'well it is just government based, who cares sort of thing?' But then when you are thinking about it, well actually it is quite important...*" (R7).

As well as fostering this approach during contact time, as the example above, another initiative could include feedback that distinguishes between process and content. All too often criticisms focus on academic factors; ability to reference or develop an argument for example, and often fail to comment on professional knowledge. In such cases, it is not difficult to see why some students perceive the vehicle of assessment to be regarded more highly by their lecturers than the body of knowledge contained within it.

Satisfaction of learning

Having investigated students' motivations to study, examples of their most satisfying learning on the course and an explanation of the factors that

contributed to this were sought. Without a doubt, satisfaction was gained from understanding clinically relevant material and the feature that contributed to this contentedness was the new-found ability to do something with the knowledge, to be able to apply it to clinical practice somehow:

> "...it was simply active and passive movements and we were shown what they actually meant, what they signified, by whether they could move it actively or passively or when they got the pain and it was just because I have seen people doing active and passive movements before I had done it working in a volunteer role without really understanding what it meant, and when I understood that it was like a big light bulb moment and I felt so good. Now it seems really small in context of the rest of the stuff I have learnt, but at the time that was just unbelievable... What contributed to that satisfaction was the fact that I really understood it and that it wasn't just do it for the sake of doing it, with that it all made sense, everything became clear and it just felt so good..." (R14).

> "...the most satisfying learning on the course definitely going into a neuro placement, seeing someone with a fantastic tremor and knowing that if I put my hand on his knee it will stop, and I thought I know that and I put my hand on his knee and it stopped... What contributed to that satisfaction was putting academic learning into practice, being able to use what I had learnt, having meaning and doing something with it..." (R13).

In addition to the fulfilment gleaned from transferring 'hands on' skills learnt in university to the clinical setting, general academic tasks such as researching literature, attending lectures and undertaking examinations also conferred gratification if links to clinical practice were apparent:

> "When I did that research piece when we had to do the complex patient, because I really looked into that and I researched all the methods of sputum clearance and I found that quite beneficial because I didn't really understand that when I went through the module, but I think I kind of brought all the information together a bit more with that one piece, so I found that quite helpful to be honest... The factors that contributed to the most satisfying learning were extending my knowledge, starting from not having much information or experience and knowing following the research if you were put in that situation you would be able to deal with it if you actually saw a patient in that situation" (R1).

> "...practical exams are [most satisfying], not only because you have to show you know the theory but you can put it into practice, that is

> *quite satisfying when you go and you get a question and you think yes I know this, I know what I could do with this patient. I guess it is the same soft of thing on placement, I always find that more satisfying than writing an essay, to me that shows that you can do it maybe in a real life situation"* (R9).

These findings again correlate to Taylor's (1983) conclusion and provide further evidence of a fundamental vocational orientation. Taylor's 'vocational' group demonstrated greater interest in the practical aspects of their courses and were critical of areas which they did not perceive relevant to their subsequent careers. It is apparent from the narratives above that students in this study orient themselves to clinical practice and gain fulfilment from studying directly related material.

Expectations

Allied to the themes of motives and conceptions of learning and heeding the work of Beaty *et al.* (1997), which highlights a link between what learners expect to have gained from university education and their orientation type, enquiries were made regarding students' expectations of learning and how well they had been fulfilled by the course. The biggest surprise regarded contact hours with tutors. Half of the participants were not expecting the large amount of self-directed learning required by the course. This revelation was not unique to any particular participant group; students with previous degrees were equally as phased and unprepared for this as school leavers:

> *"A lot of that comes from my personal background, I think. In Ireland the physiotherapy course is four years and it is like 9 to 5, five days a week, so when I came over here I was very surprised at it being very self-directed. You have to do a lot of your own study. I wasn't really expecting that at all and that took me a while to get used to. I think [the] first year is very much sink or swim like for the young people who have just come straight from school like... It was hard to get used to..."* (R3).

> *"My expectations prior to coming here were completely different to the way we have learnt. It is explained about self-directed learning, but for me personally I had done my college course but apart from*

that the only thing I had done before was at school and then at school it is all laid on a plate or they drum it into you. Whereas the onus going on you to do it all, there are times when you feel like 'hang on a minute, why have I come to the course?' because I could do this indoors. I am doing all the work, but I think it is only now when you get to this stage that you start to realise that actually going to look that up for yourself, that is what it is going to be like after uni and that is the way that has helped me remember it more, because I have had to put more work in to find it out. I think it is a bit of a double edged sword. I think it is not what you anticipated it to be, but now you can look back and see how it is beneficial to you now to give the quality learning, but I don't think you realise you are getting that" (R14).

Although all the students got to grips with self-directed learning by midway through their second year and many saw the eventual benefits in such study, in the early days they felt ill-equipped to cope. This was attributed to either limited direction or support from the course team:

"I am slightly disappointed, what I perceived was a bit more support by the tutors. Sometimes it was very much 'well that's it and off you go' and you go and sort it out yourself. I thought there was a lack of support in some areas..." (R2).

or their own lack of study and organisational skills:

"...initially it was quite poor, but I think you get used to it and I think it's because lack of time in uni. You usually have a set number of teaching hours and I don't think that helps you in first year. I think you need a lot more. And you need training rather than self-directed learning. It doesn't really help a lot of people. When I find myself a wee bit confused, I don't know where to look and you find other things to do with your time" (R4).

"I would have benefited from being in university five days a week, it was difficult to motivate myself to do the self-directed learning in the first year, year and a half. It was organising myself, it was normally a day before thing. I am a lot better now I read every day..." (R6).

Four students did not have any set expectations of learning, but thought the course was probably tougher than they initially envisaged:

*"I didn't have a clear expectation of what the course would be like,
but I didn't expect it to be as hard as it is if I am honest, there is
actually a lot more content that what I assumed"* (R10).

Whereas one student felt the course and its assessments should have been
more challenging, and one expected a greater emphasis on skills:

*"I feel the university is obligated to give you the technical and clinical
skills and the tools to be able to practise, because I feel that is what
a degree in physiotherapy is about... I think it should be about
preparing you for clinical proficiency. I feel that I am lacking in that
as I get to the end of my degree, I don't feel like I am proficient
enough or expert enough..."* (R15).

The remaining respondents felt overall the programme fulfilled their initial
expectations, but introduced them to different ways of learning.

Beaty *et al.* (1997) suggest that an exploration of what students expect to gain
from university will reflect their orientation to learning. Students in this study did
not specifically relate this line of questioning to outcomes of learning, but
instead linked it to the process and it is fair to say all students were expecting
and would have preferred further instruction and contact time; this premise may
actually be associated with orientation. Beaty *et al.* (1997) suggest that a
student judges achievement by the degree to which individual aims have been
met and highlight that the notion of orientation presupposes students to be
active in obtaining personal success. They use the term 'study contract' to
describe the 'internally negotiated' agreement between a learner's orientation
and the way they undertake their studies.

For this group of students, learning and application of practical skills were
viewed to be paramount to their personal success, and it is plausible that
recognition of this is measured by putting knowledge to the test, possibly to
gain confidence in their ambition of becoming a good clinician. Thus, it would

appear that students would appreciate a more rigorous assessment system, one which allowed them to demonstrate the complete range of their knowledge:

> "*I actually thought it was going to be harder. The whole course is hard, but the assessments sometimes I think they are not hard enough to sort out differences in people. I am not trying to make it harder for everyone else, but I think they could be a little bit tougher sometimes, the exams, so you really have to be good to get on to the next stage... I think more in the practical assessments. I think maybe integrating more parts into the assessment. Because I can just think of my respiratory exam, maybe you get one patient case and yes you have learnt COPD, you have learnt pneumonia and you have learnt all these different pathologies and things, then you only get tested on one... I know you have time limitations, but maybe bringing in different components into that exam so you are tested on a bit more of a range*" (R11).

Taylor's longitudinal data indicates a logical consistency between students' orientations and their resultant study habits, together with the level of effort spent on the various areas of their course. Students' study behaviour will be considered later in this chapter, but support of this finding may be evident in the following quote:

> "*...we used to do a lot of outside study. When we had Wednesdays off we used to practise all the time and we found that really helped us, because we really got a grasp of it very quickly. You do need to know the theory and we do do a lot of reading around it before we do anything and I really enjoy the theory. I know you need to know the basis of everything, but the more in-depth you go after the lectures the more interesting it gets and the more I grasp it personally. I like a lot of information...*" (R11).

It could be argued here that the custom of practising skills with peers reflects the study behaviour of a strong vocational orientation with a desire to overcome limited contact time and improve their clinical proficiency. Such activity helps students to maintain a congruent motive-strategy combination.

Intellectual development: the personal perspective

The final principle in this category investigated whether students felt they had developed a personal stance to physiotherapy practice and becoming a professional. This line of enquiry links to Entwistle's (1997a) work on learner development mentioned earlier, but was included to make comparisons to Perry's work in the 1970s on intellectual development and to examine if students in this study achieved his _relativistic_ position, which is to make sense of uncertainties by undertaking a personal interpretive stance to their discipline. It is posited that all students in this study reached this level of intellectual development and had insight into such personal growth. It is acknowledged, however, that some participants remain ill at ease with this position, but consider it necessary to their practise:

> "_...at level one you were just told to do something and you did it, but now you are more aware of ethical issues, legal I would never have thought in first year. The last module as well has kind of put that in your head there isn't just one answer, especially with your clinical reasoning..._" (R3).

> "_I would rather there be a 'you do that, you do this'. I think my brain works better like that, 'you do this, then this, then that', but I think it is just something that I am going to have to accept, because everyone is different and because every physiotherapist is different, so that approach is just not going to work... So I think the one thing I have learnt about physiotherapy practice is you do have to be flexible and you do have to be quite open minded and you do have to take your patient's opinion into consideration..._" (R9).

But no students expected conclusive answers from tutors or clinical educators; they all felt enabled to reason problems and formulate and justify a personal action plan or treatment approach, and in fact relished their future responsibilities of being a qualified health professional:

> "_With the neuro it is very much they have always said there is no right and wrong. If something is working, great, carrying on doing it, but if it is not working try different things, and I think that has been amazingly nice to know that there isn't a right and a wrong, whereas when you go out to placements they are just like 'I want it done like_

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this' whereas when you actually get out to be a junior if you do it like that all the time you are not going to experience any of the other aspects of it..." (R7).

"...the best clinicians thrive on a personal stance to practice. I think the best clinicians never use one approach, because they are always adaptable and that has been my experience of practice of when I have watched clinical educators who know what they are doing they have never been a firm advocate of one particular area or one particular technique or approach, so it has always been flexible, it has always been patient orientated... I would not say I feel comfortable with that approach. I would say I appreciate it and that is what I aspire to, so I think that is the best approach to have an understanding of as many different approaches as you can and be proficient enough to use it in the appropriate situation. ...I think I have got the clinical reasoning and the evaluative skills to start making those judgements..." (R15).

In terms of identifying themselves with a professional status, all students were ready to embrace this position. A minority felt they needed further experience, which they anticipated would come once they started work:

"I probably don't feel confident enough to call myself a professional, yet I don't know when I would be able to be confident to do that. I just feel at the moment when I go out there and get my junior job, I would be very nervous because I am out there on my own and I don't think I would feel very professional necessarily. I think I have got the tools there, I just think it is the confidence of actually going out and saying I am a professional, I am doing this for real, whereas I don't feel I am at that stage just yet..." (R7).

"I do feel I can now be a junior practitioner. I feel confident about the skills I have and I am happy to stay within the limitations of my practice, but also I have developed a professional attitude and an idea of what a professional physiotherapist should be apart from skills and that makes me interested in where physiotherapy is going... So I feel I have developed a practitioner's and professional's feeling..." (R18).

Communities of practice and clinical reasoning

A question which emerged form Perry's study was:

"What environmental sustenance most supports students in the choice to use their competence to orient themselves through

commitments – as opposed to using it to establish a non-responsible[1] alienation?" (Perry, 1970, p.213).

He suggests that the answer to this is derived from a perception of community. A realisation that in the very endeavours to work out their commitments, learners were 'all in the same boat' and not just with their peers, but with their educators too. An individual senses community by observing that other students' concerns and dilemmas are similar to their own. This community was suggested to originate from reciprocal acts of recognition and confirmation and calls upon a certain openness from educators – a visibility of their own thinking, reasoning, doubts and styles of commitment. A further requisite of the educator is to confirm membership into his community through encouraging the student's own meaning-making, risk taking and willingness to commit themselves.

It is postulated that students in this study gained such community spirit via two means: firstly, through the clinical reasoning process, whereby educators exposed their own premises and encouraged students to find theirs and, secondly, being socialised into the professional codes and conducts expected of them:

> "*I think with neuro I would feel quite confident with my clinical reasoning, because you have provided us with that throughout, the reasoning for doing it and you have made us look at evidence. You have made us look at different techniques as well… there is no one answer, it is very individual to the patient… I think now we have got more of the tools to actually go out and look and with the fact that we can go out and critique articles, I think that is very useful. Throughout this third year we have been doing quite a lot of that, so generally the course has progressed you to make those decisions yourself and to increase your clinical reasoning*" (R7).

> "*…looking at Health Professions Council Standards of Conduct, say in the portfolio, made me take onboard some of the professional issues. It also helps you to understand the whole reflective process, although it has been drummed into us over the three years you read the HPC standards of why and you suddenly think 'well, actually I do need to keep doing that' and it is not for me and it is not for them*

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[1] To parody or imitate the forms of other people's knowledge.

[educators], *it is for the people that I am treating and looking after and that is why, so I definitely think it has emphasised what we have learnt and put it all together and into perspective...*" (R10).

To conclude this section, it appeared that the strong vocational orientation of students in this study impacted upon their conception of learning and how they approached their work. They were committed to developing a personal understanding of the course material, as they appreciated the relationship of this to their goal of becoming a competent practitioner. Furthermore, they were aware that they would be expected to apply study material to the clinical components of their course.

Students were discerning of a difference between learning for personal growth and learning for assessment. Many authors note a correlation between type of assessment and surface approaches to study (Entwistle and Ramsden, 1983; Thomas and Bain, 1984; Biggs, 1993). It is postulated that a further correlation exists between the students' intended outcomes of learning and the purpose of assessment. The closer the match, the deeper the approach ensued. This may be particularly so in vocationally-oriented students, who have clear intentions and expected outcomes of learning.

The exposure of learners to a community of practice, both in the university and clinical setting, and the routine use of clinical reasoning are believed to foster metacognitive skills and facilitate students to develop a relativistic position, assuming a personal interpretive stance.

Category 4: Assessment Environment

Cluster Category 4: Assessment Environment
Free Nodes
Assessment that Enhanced Learning
Assessment that Stifled Learning
Assessment Required Fact or Understanding
Chance to Understand Study Matter
Greater Understanding From Assessment
Greater Understanding From Long-term Conditions Assessment
Learning New Material Through Assessment
Opportunity to Practise Assessment Tasks
New Skills From Viva or Portfolio
Overall Impression of Viva and Portfolio
Peer Assessment
Portfolio and Professional Role Development
Requirement to Study Whole Syllabus
Requirement to Study Whole Syllabus - Long-term Conditions
Scope of Viva to Show Understanding
Success Just Requires Memory
Variety of Assessment

This category returns to Biggs' *situational presage* stage, focusing now on assessment, but is particularly associated with the work of Gibbs and Dunbar-Goddet (2007) and extrapolates the topics they devised in their Assessment Experience Questionnaire which is recommended to measure students' learning responses to different assessment environments.

Assessment and learning

The first line of enquiry in this section aims to shed light on the formats of assessment which enhance learning and conversely on those which stifle it. Responses on the format that enhance learning were varied; however, there was a consistent theme, the relevance and link to clinical practice:

> "*...the biggest assessment is the assessment of your* [clinical] *placement, because I think that is really when it does become clear because that is when you are seeing the patients with real pathologies. In the outpatients, I was assessed the same way as I was for my musculo-skeletal exam at one point, but the difference is when I am actually being assessed when I am treating a patient with*

the problems or conditions is so different to someone who is perfectly able bodied and just lying there. I think the assessments that stand out are the placement ones..." (R14).

"Really enjoyed practical exams. Well, I don't particularly like them, nobody likes them, but I think it's a good form of learning because you are in an environment that makes you feel that you know what it is going to be like in the job situation, it mimics that..." (R4).

Although practical skills were regarded highly by all students, assessment tasks which conveyed other proficiencies transferable to clinical practice or employment were also viewed as valuable:

"...you take away things from each kind of assessment. Working backwards from IPP complex essay, certainly came around with a clear idea that there was evidence out there to support this. And these were valid approaches, perhaps combinations to use with this particular problem. So that was good. The assessment from the research project, I think that's been valuable for learning to work with other people, which are the kind of skills you need when you go into a work place. The anatomy practical being on the practical side of things. The demonstration side of things, to be faced with somebody else to question you and the need to present your knowledge around an issue, problem solve if you like verbally. I think is a valuable skill to learn. You have to do that on placement as well. Then there's the whole placement assessment as well, with a whole host of learning to be had' (R16).

"The peer learning, in hindsight, was good because it helps because you are not so nervous because you know everybody who is doing it and personally I did really well because I get really nervous and I didn't I did really well in that, my peers made me feel more relaxed as you learn with them all the time in class and you do it with them all the time in class and so it was just like another lesson so personally for me that was the best..." (R10).

"...the neurology assessment definitely enhanced my learning. I feel this was partly because it is written and practical and from a structural point of view, writing the essay I learnt a lot during that exam about how to structure things. During the process of the exam and during the prep that was very interesting too, because there was a huge amount of information you had assimilate into your mind and it was good to learn how to do that..." (R2).

Interestingly, apart from the assessment of practical competence which is arguably the most valued form for this group of students, all formats appeared

to have the potential to advance learning and provide transferable skills. Such factors included working with others, and learning with and from peers. Most striking is the final narrative regarding the neurology assessment, as this refers to an unseen, timed, written examination. Such a format is reported to have negative effects on student learning, producing a short-lasting surface approach (Marton and Wenestam, 1978; Tynjala, 1998); however, one student reported some enduring benefits from the experience.

The most commonly stated assessment method believed to stifle learning was the coursework or reflective essay. Seven respondents quoted this to be so and their rationales included word counts that restricted discussion or titles that were too specific, offering limited transferable value. Furthermore, subjectivity in marking essays and the subsequent feedback issued confused students and hindered their future development, as they were not sure how to move forward as advice given to them appeared inconsistent and conflicting:

> *"...when you have got so many words, word counts, you think ignore that even though it is quite interesting because it is not going to fit in the word count, so I think sometimes if you draw a nice little fence around a condition rather then looking at all the possibilities just because you are aware because you are assessed on it"* (R9).

> *"Essays are hard. The marks do seem to vary depending on who marks them. It just confused me, because I would write something and I would have feedback saying 'yeah you have done this really well', do another essay, do those bits the same say referencing and it comes back saying 'you have done that wrong', kind of moving the goal posts all the time and you don't know where you are going'* (R6).

Other important issues were raised regarding assessment design. One relates to Gibbs and Dunbar-Goddet's (2007) finding that explicitness of goals resulted in less coverage of the course content:

> *"...where you got told to focus on your case, so focusing on one area of the body I never really then learnt any other part. Mine was the foot and the ankle, so I never went into the shoulder. I briefly*

looked over it, but because we were guided towards that specific case study I then never went into very much detail anywhere else, so I think that kind of stifled my overall development" (R7).

Although students did cover all of the syllabus in class and the assessment was considered to be a framework by which to approach studying and thus apply it to all areas, they could not switch off their efforts towards the assessment task for fear they may omit something. In line with the findings from the above authors, students narrowed their attention to those things they were told would be assessed, expanding their learning on that particular aspect, so much so that they did not have time to study anything else. So fear of failing one assessment hindered the learning of any other course material.

A final interesting point regarding assessment for learning was that the much favoured clinical practice format is potentially as damaging as beneficial to learning, by awarding a grade and not just constructive feedback on competencies:

> *"… in a funny way the placement sort of stifled learning… I think the best thing that could happen is that on placement you are pass or fail. I think the fact that you get a grade is really limiting. I think you could learn a lot more on placement if you were not graded on it because you can question, you can ask. …You want to put all the theory into practice, you want to learn it more, but generally you tend to spend a lot of the time asking either peers or other people, anybody other than your clinical educator, you will ask them some questions but at least fifty percent of your questions you will ask different people other than the one you should because they are going to be marking you and you don't want them to think that you don't know anything. So you want them to think that you are trying to learn and you are inquisitive, which you are, but you don't want to do too much because you want them to give you a good grade. So I think that limits your learning on placement if you were just given a pass or fail on safety and then you are free to push it on…"* (R14).

Variety of assessment methods

The next line of enquiry is specifically linked to the work of Gibbs and Dunbar-Goddet (2007), which suggests that the variety of forms of assessment were

experienced simply as confusing and were associated with a less deep approach, satisfaction and learning from the examination. These findings were not borne out in this study, as all students felt that the rich variety of assessments constituent of this programme were beneficial to their learning and development. Three students acknowledged that there was the potential for confusion, but did not see this to be a reason for stopping the practice. The perceived advantages included gaining transferable skills or equity, giving everybody a chance to shine in accordance with their learning style:

> "...it is beneficial and relevant given the way that Trusts are interviewing now. I think you need that range of skills if you are going to be working in a professional environment. It is nice and it is almost enjoyable to have a range of different assessment techniques. It has definitely benefited my learning..." (R15).

> "It's been good. I have done a previous degree before and the whole thing of being examined once a year at the end of the second year and at the end of the third year and the finals in the third year. I don't see that as having a place in preparing you for what you are being trained to do. So the functionality of the assessment process here has been very good... I don't think it feels like starting again every time you do a different type of assessment. I think the variety is good, I find it stimulating" (R16).

> "...it has been quite beneficial just because you have a wide range of people and everyone fares differently with different things, but I wouldn't say it is confusing..." (R9).

Gibbs and Simpson's (2004-5) study on conditions under which assessment supports student learning identified that some assessments simply fail to engage students to generate appropriate types of learning, thus they may approach intended learning activities in ways to maximise marks rather than leaning. This is partly a consequence of their orientation; however, it is posited that assessment tasks, marking schemes and feedback may actually generate unhelpful and inappropriate learning activity. To explore this notion of engagement, students were asked if they felt their assessment tasks demanded fact or understanding of them.

Assessment demands

All students agreed that this varied; some aspects demanded fact and others understanding. On the whole, students felt that assessment of practical elements required a greater understanding, but this was also dependent upon the examiner, whereas written formats were viewed to be more factually based or were considered harder to portray a depth of understanding:

> "*...some assessors are more factually biased. They tend to be more partial to factual knowledge, others seem to more interested in more psycho-social aspects or whatever, it depends on the assessor and their clinical interest as to how much you go into fact. I think it is inconsistent, it comes down to the individual assessor, someone like* [a named examiner] *will probe you until you come out with the information and will make you make that link... If you are not thinking about what you are doing it can just become protocol, so you are not demonstrating an understanding of the importance and the significance of why you are doing something and someone like* [a named examiner] *will call that out of you during an assessment, whereas someone else might not, might just leave it as the facts and not probe you...*" (R15).

> "*The anatomy I memorised, musculoskeletal, was understanding I had* [a named examiner] *and you are not going to fool* [that examiner] *if you don't understand something they definitely kept probing you to see if you knew what you are doing and I think that is good to be honest because you have to have an understanding to sort out the weaker people who don't know what is going on from the people that are trying to get an understanding of things, so I think they should have done that. The practicals demanded more understanding - with written assessment it is sometimes hard to show an understanding...*" (R1).

> "*Split again essays fact, practicals understanding because you can show your understanding through your discussion. So the things where you either have to demonstrate or talk about something require you to have more of a greater understanding...*" (R12).

It is apparent from the comments above that the perceived demands of assessment influence whether a deep or surface approach to study is adopted. This finding is in line with Marton and Säljö's (1976a, 1976b) study and Biggs' (1987a) original work and implies that students have a choice in their approach.

This may not always be the case. Biggs and Collis (1982) identified the SOLO taxonomy to measure the qualitative differences in student responses; however, it must be considered that this change represents a continuum of increasingly sophisticated learning. Therefore, students may be working in a reproductive manner as they have not yet gained the insight and skills to think in the extended abstract. However, this concept may be achieved with experience and practice of assessment, particularly if teaching and learning activities are designed to develop such attributes. Finally, feeling overloaded with course material may also force students into surface and unhelpful approaches to learning.

Further evidence in this study, which conflicts with that of Gibbs and Dunbar-Goddet (2007), is that variety of assessment appears to promote a deep approach to learning, that is inspiring, motivational and in itself more challenging than surface memorisation:

> "*I definitely think it is better, if it was just essays all the way through like I would be stagnant and really disheartened. So the different forms have stimulated and motivated me I think, yeah...*" (R3).

> "*...the course has demanded more than memory, based on the assessment formats having the range there allows you to assess more than one set of skills, so in that sense it has demanded more. It has presented challenges, especially with the group work assignments that has been particularly challenging, especially with the research project, the presentations, I think that requires a whole gambit of skills to do well*" (R15).

Of course, all students agreed that having a good memory would be an advantage to them and it was acknowledged by a minority that it was potentially possible to pass the course by memorising facts, but all were resolute that such an approach would not transform them into good clinicians:

> "*To answer the question all you really need is a good memory, I think for parts of it, but I think with things like placements and some of the practicals I think they are also looking for more, especially on*

placement, if you can remember all the stuff, but then every patient you have ever been near hates you. For that part of it's more than that, it's your personality, it's the way you interact with people and again with your group work I think that's a big key to it you know. Doesn't matter with something like that how good your memory is. One you've got to get along with your group and also you have got to be able to produce the right sort of writing" (R9).

"You could have a good memory and you would probably be able to pass, but to do well you need an understanding because you would not be able to apply things. You would be able to know the knowledge, but you wouldn't be able to apply it to different situations if you didn't have the understanding to go with it..." (R1).

All students felt that they had a professional responsibility to obtain a deep understanding of their subject matter:

"I don't think it is fair on the patient, even if you have got a high grade, if you don't actually understand what it is you are treating or why you are treating what you are. I think that patients deserve their practitioners to be able to say 'actually I really know why I am treating you the way I am and this is for your best outcome really', so I do think there is professional integrity there, definitely..." (R10).

"Well, I have a responsibility for my patients. If I don't know what I am doing, if I don't have an understanding of my profession, I can potentially harm them, so I can't cheat anyone about having the relevant knowledge..." (R17).

It was evident, however, that students' appreciation of the assessment environment was not always congruent with the concept of learning for professional integrity and indeed it was proffered that 'real' learning began post-registration:

"...there is a responsibility to study for a deeper understanding, but I think again it is fitted around time constraints. Because you are treating a patient, you need to really understand what you are doing in order to get the best result, best treatment, but that happens more on the placements, more when you are away from the exam situation. ...I think in a funny way, sounds silly if I say it because I have just done three years, but it is almost as if the real learning starts once I have got the degree, because now this is where I really build up my understanding and improve my knowledge, as up until now, although the self-directed aspects gears you towards that, it is still very much you do what you need to do to pass and then go and do it..." (R14).

Limitations and scope of the assessment environment

Another factor regarding the assessment environment which interfered with learning for understanding was limited time constraints; students felt they sometimes had to study things without having a chance to fully understand them:

> "*...there have been quite a few times during this degree where I have felt pressurised to produce as opposed to learn. That is just the nature... Because of the assessment format, the strict deadlines, the kind of material that you have to cover, the essential stuff that you need to cover for assessment; it does not help promote learning as such. It kind of forces you to be productive...*" (R15).

> "*I am trying to think of an example. Maybe some of the mobilisation techniques in musculoskeletal, you are doing it but you don't necessarily understand why you are doing it. You are just told that in the two hour session this is what you need to be able to do and then you go away and somebody says to you 'have you been taught this technique?' and they show you it and you go 'oh is that what I am doing when I do that?', but it didn't make much sense at then time. You just do it because that is what you are doing in the session. ...I think you have to catch up, you have to in order to be at a level by the time you finish your degree. Whether you catch up when you are on placement and it falls in or whether you decide to do it in the module, I do think you have to eventually catch up with doing it because the years tend to overlap, so if you didn't do something in the first year you do tend to get a chance to revisit it again. Time is an issue, but you do tend to get the opportunity to do so...*" (R10).

On the whole, however, this position was accepted by students as one which they had the responsibility to resolve and eventually formulate an understanding by the end of the course or through continued professional development.

Time constraints also reduced the opportunity to practise assessment tasks in class or prior to submission, and thus impeded learning for understanding. This was due to pressures placed on staff to cover the syllabus, or those on

students to read, digest and have material ready in time to be critiqued before final deadlines:

> "...we had the opportunity to practise practicals, definitely, so thinking back to our respiratory one we got provided with all the cases, not the ones that we are being assessed on but different ones, yeah, and then they said this is the format of the exam, here is how we do it. Whereas presentations, not really particularly, I don't feel with the health and social care module we really got an opportunity to practice it. They just said 'go away and practise it and this is your date'. Again, I am not convinced with the IPP one that we did that, they kind of let you do it in the lessons and that. I think it is a constraint of time. You get given a whole lot of the teaching and it is only a miniscule part of it, so I think it is really a time issue..." (R7).

> "...it would be impossible for me, personally, to hand mock work in because of my time constraints, because there is always something else that you could be doing for another module so, yeah, I don't think in terms of written assessments that I would not have the time to do it..." (R10).

Students were constantly aware of attending to the demands of more than one module, but generally practical and oral assignments appeared to command priority over written tasks and prompted more active engagement with course material and peer learning:

> "For the practical stuff, we came in on days that we were not being taught and just practised and had a practice go at assessment. The majority of it was with peers. There were occasions when staff came in and gave feedback on practicals. With written pieces I did send some to my personal tutor to gain some feedback prior to handing it in and although I handed it in well in advance the feedback I got was not very helpful and I was given information on my grammar and things like that whereas I wanted feedback on specific content and I was told my personal tutor wasn't sure of the specific content I was supposed to be writing about and therefore wasn't able to inform me, which I didn't find helpful..." (R1).

Furthermore, there seemed to be an expectation from the course team that assessment formats would transfer between years without the requirement for further explanation:

> *"...there have been occasions where we have say done something in the first year, then done it again in the second or third year, so we haven't practised it within that module..."* (R9).

Despite time restrictions limiting opportunity to fully comprehend or practise material for assessment, there was a general consensus that undertaking the various formats did provide a greater understanding of the module content. Some achieved this to greater or lesser degrees, and again practical or oral examinations appeared to accomplish this more successfully than essays, especially those of a reflective nature:

> *"...it does make you think about the whole topic. Whatever assessment you are doing you are technically trying to pull it all together. So you don't really know if it is, say, a practical assessment what you are going to get tested on. Then you have to pull it all together, but essays I find you can get away with not knowing what you are really talking about, cos you got the information there. Yes you have to read around it, but no-one is going to know and they are not going to test you outside of that question. So I definitely think you can get a really high grade on this course if you were good at writing essays..."* (R11).

> *"I understand the overall concepts of the module more having undertaken the assessments, but for all the modules that we did I was not always happy with all the tasks that were asked of me, but if I was a month down the line I would look back and think 'I think I know now why they asked me to do that', because I do feel I gained something out of it. I have moved forward because of that particular assessment task that was asked of me so, yeah, I think it is good, all things that have been asked have had their place..."* (R18).

Furthermore, preparation for an assessment task prompted students to extend their knowledge base and engage in new learning:

> *"I do learn new things when preparing for an assessment. There is a lot of back reading stuff that either I had forgotten or missed, or I had not viewed as completely relevant when we learning. Then when I go back over it again it is like seeing something new again for the first time"* (R14).

> *"I learn new things, reading around, practising with other people for the practicals and they say so and so or we did this, that or other on my placement and I think that is interesting, yeah, definitely do"* (R13).

But once again, students were not convinced of the value of the essay to encourage novel learning:

> *"Not written ones, it's just for the purpose of the essay. You would stick right to the things you are looking at because at the end of the day you already have a plan, you already know what you want to look for, and you are looking for that..."* (R8).

However, even this format would be significantly improved if the links to clinical practice and skill development were overt:

> *"If the essay, for example, was explain a treatment technique, or a treatment for ankle and you would be looking around and you would learn. Or how would you treat a fracture of the shoulder. I think that is more related to physio and people would learn more than just talking about general stuff as we do"* (R8).

Coverage of syllabus

The final question in this category investigated whether students felt they needed to study the entire syllabus of a module to do well in their associated assessments. The general consensus suggested it was possible to be selective about which aspects were studied for individual assignments. However, having more than one component of assessment prompted them to study different things; the saving grace for wider syllabus coverage was once again the practical or oral exam, which featured greater unpredictability and thus necessitated that students read widely. Additionally, practical aspects triggered a greater willingness to cover the material, as they evoked interest via their greater link to clinical practice.

This finding is antithetical to Gibbs and Dunbar-Goddet (2007), who suggested that variety in assessment was associated with a less deep approach to learning. Variety of assessment procedures in this study appeared to

complement one another to encourage students to engage in an overall deep approach to their learning.

Furthermore, it is argued that even with a genuine interest to learn, realistically time constraints meant that students needed a degree of selectivity to prepare for examinations and thus implement a strategic approach towards assessment. They may narrow the field of study, but not the depth:

> "[Assessments] *prompt you to cover the key parts of the module so you can't just say 'I will pick on this one subject', no, you need the key aspects of it. In certain areas you can be really specific, but generally it is more of a key part. But there would be too much for you to cover, I think, assessment wise, if you were trying to take the whole module in an assessment, I think you would see quite a few nervous breakdowns!"* (R14).

> "*Overall yes, your essay you can be selective, because you've only got one written assessment you can be fairly focussed in what you write. With the practicals it could be, you know, it could be in the second year. It could be any joint, any muscle, any treatment technique or if it's respiratory it could be you know auscultation, teaching a technique. For the case studies it could be burns, it could be, you know, COPD, it could be post-surgery. So it prompts you, you don't want to be in a position where 'oh I haven't studied burns, I haven't got a clue', which feasibly you could be...*" (R16).

> "*... in the practical exams you cannot really focus on one topic area, you don't know what question you would get and you are kind of willing to learn it anyway, because you know you need it in practice and if you don't cover it in uni you will come across it in clinical placement*" (R17).

In conclusion, this section has made direct comparisons to, but does not support, the findings of the Gibbs and Dunbar-Goddet (2007) study. Variety in assessment was not viewed as confusing, but was considered to offer equity across learning styles, a multiplicity of transferable skills and inspiration to encourage a deep approach to learning.

Publishing learning outcomes for modules did not encourage students to cover less of the course syllabus, but overt assessment questions did. Similar to Miller and Parlett's (1974) observations, students did not intend to opt out of work; indeed, they studied hard for the examined component, but they narrowed their field to respond to the demand characteristics of a particular assessment. It would appear that students adopted a deep learning motive and a strategic assessment strategy.

Category 5: Student Study Behaviour

Cluster Category 5: Student Study Behaviour
Free Nodes
Action on Assignment Guidance
Action to Feedback
Collection of Work
Effort to Memorise Fact
Effort to Understand Meaning
Level of Effort Throughout Course
Portfolio Building
Preparation for Viva
Study Behaviour and Assessment
Study Behaviour and Assessment Portfolio
Studying for Grade or Understanding

This section aims to address the second part of the research question, to explore the impact of the assessment environment upon student study behaviour. Again, this focus follows on from the work of Gibbs and Dunbar-Goddet (2007), who postulate that the 'modern' assessment environment is associated with numerous negative learning responses. To investigate this concept, students were questioned regarding their actions on assignment guidelines and feedback, the level to which they sought understanding and how they prepared for an assessment.

Explicitness and student response

Gibbs and Dunbar-Goddet (2007) indicate that a high level of explicitness of goals and standards is linked with a less deep approach to learning, and a reduced syllabus coverage, satisfaction and learning from assessment. Torrance (2007) suggests such clarity leads to criteria compliance, which arises to replace learning.

If it is taken that explicitness is gleaned from specific guidance on assignments, such findings were not substantiated in this study. Indeed, in cases where guidance was issued, students felt more fulfilled as their confidence increased and this was manifested in greater learning from the assessment. Of course, it can be argued that greater specificity may lead to strategic learning, but such strategies may also be viewed as valuable problem-solving skills in the face of limited time. Notably though, there appeared to be no evidence to support the notion that students where adopting a surface approach to their studies. It is previously acknowledged that assessment tasks may force students to narrow their focus, but this appeared to relate to breadth as opposed to depth in this study. In that context it follows that less syllabus is ultimately covered, but it is postulated that this is the fault of the assessment method and not related to the degree of explicitness:

> "[Assignment guidance] *allows you to be more confident in what you are doing. It sort of like does reassure you, 'cause all the doubts you have got! 'Am I doing this the right way?', 'Is this what they are looking for?' That is the last thing you need when you should be focussing on just getting the information and putting it down, so when you do get the specific guidance it really directs you toward what you want to do. It makes it a lot clearer once you have got that direction..."* (R14).

> "*After the assignment brief I start just general reading to begin with. Text books, look up the big kind of picture, issues say OA of the knee and go from the textbooks on OA to the BMJ, peer review articles summarising the latest findings on OA of the knee. From there look at all, you know, to start with the big picture and a general*

picture and see if you can break it down and then trace the issues. I think that is important' (R16).

"...after getting the assignment brief I usually start off by looking up far, far, far too much information, so I try and do a lot of reading, try and get my head around whatever the major themes of the topic are..." (R9).

Gibbs and Dunbar-Goddet (2007) state that the 'modern' assessment setting, with a variety of formats, high levels of explicitness and alignment of goals, is associated with reduced use of feedback by students. Presuming such were the conditions in this study, they did not account for students failing to maximise feedback, which appeared to be due to time factors and quality. The modular structure pressurised students to put one assessment behind them and move on to the next, affording the luxury of revisiting work only if it required further revision:

"By the time it has gone for marking and second marking or whatever and you get your feedback I am on to another topic and that has to take up all of my attention. I can't worry about it then. You think 'I have passed that, that can go on the back burner now until I do this'" (R14).

"...the trouble is being given it after you have done the thing and your module is over. I don't think that provides you with a very good feedback situation..." (R7).

Gibbs and Dunbar-Goddet (2007) suggest that clarity is conferred by opportunities to experience rather than 'explicitness' of standards and it is logical to suppose that variety of assessment limits occasions to practise and develop. Yet, even so, there is still potential to highlight transferable skills and learning if feedback is timely and appropriate.

Students in this study did not state that varied assessment methods limited learning from feedback and appeared capable of establishing links between them. However, they were convinced that the educational value of feedback

was hindered by the time issues mentioned and the degree of significance. They were far more likely to respond positively to feedback if it was of sound quality, justified, specifically identified knowledge gaps, they were interested in pursuing the subject matter further, or foresaw the relevance of the assessment to future clinical practice:

> *"I tend to reassess based on the feedback, if it is good feedback and feedback that I can use... it depends on the way the feedback was given and the quality of the feedback and whether it made sense to me and also how much it inspired me to do it. I think a lot of what I do is based on motivation. It is based on passion for the subject, so if I am not interested in a subject, if I am not passionate about it, it is going to be very hard for me to get motivated enough to go back and do the reading. So, for me it needs to be something that I can engage with... it depends whether the tutor or the course material can be sold to me, if I can see the benefit of it, if I can see how I can improve, then obviously it is logical, if I understand the consequences or the implications..."* (R15).

An interesting final observation was the ultimate assessment piece that required students to construct a portfolio in relation to the standards for professional registration, and which prompted them all to revisit work they had undertaken over the entire programme and chart their subsequent development:

> *"...the thing that has prompted me to do that, and it has been quite enlightening to do, is the portfolio. I think that's quite good. That has been a good way of visiting the work that you have done. So the portfolio has been useful for that..."* (R16).

> *"I looked at my essays. I thought 'why have I done that?'. I didn't even finish the sentence in the paragraphs. Where I have gone back and edited it, I couldn't believe I had done that. The first time I had gone through it I had just looked at my mark but not the content of the essay. I was just amazed with that"* (R1).

Additionally, the portfolio assessment impelled all students to reflect upon gaps in their knowledge or skills and for the majority to identify an action plan to address this:

"Once I went back over the work it just fired up more questions than what I was asking myself or what I wanted to learn about when I was initially studying it... I thought about an action plan to address the knowledge gaps, just being a third year and realising better learning strategies for me to give me a better idea of how I can fill the gaps that were left, just because I didn't understand the best way of learning in the first year..." (R14).

"...it prompted me to look at my knowledge gaps, definitely. Oh, doing the reflections and the SWAT analysis, I did that and I actually went on courses from it because, yeah, it made me see gaps... I have an action plan, yeah I know what I want to do now. I have got an idea for when I go on to be a junior what to target. I have come up with some ideas about how I might target some of the gaps, yeah..." (R11).

Assessment, study habits and effort

To continue the theme of the impact of assessment upon study behaviour, students were asked whether they changed their study habit during periods of examination. All students agreed that they did so, but this did not take the form of surface leaning but became specific and focused in both breadth of content and time management:

"...the pre-reading for a seminar or something in some cases goes completely out the window, just because in order to learn or memorise ready for the assessment that just has to take my complete attention. I sit there and I try to justify or plan stuff like that and I just can't justify reading a chapter in a book for a seminar over reading a chapter in a book that will come up in my assessment. It is just a case of prioritising..." (R14).

"I am more specific. I always write out a study timetable and again it is very specific, I do this in this hour etc... Yeah, actually you probably do more reading around it whilst we are at university, whilst it is fresh as well, if you can understand it before you go on to revise for exams or whatever then it is much easier and then your notes make more sense as well! Yeah, you are more specific as to what you are reading. At the moment I am reading really broadly, but then in four weeks time I am going to be very specific..." (R12).

All students acknowledged that in the immediate assessment period their approach to learning changed, possibly becoming more procedural, restricted and less enjoyable, and in that sense arguably strategic; but all endeavoured to read widely and achieve a deep understanding of the material throughout the taught aspect of the module. Thus, preparation for examinations focused upon honing in, practice and rehearsal:

> *"When it becomes close to the assessment and I think you spend far more time on it if it is a presentation, reading through your presentation over and over again... So is it more of the performance skills as well as the content, yes, and also when you are doing an essay that time of writing it, redrafting it, reading it through, redrafting it, that is very time consuming, so you kind of miss out all the other bits and focus on that one aspect of assessment..."* (R7).

> *"...it makes a lot more sense if you go through the understanding process first and it's more stimulating if you can link it back again. If it's a muscle here say, it is to do with the biomechanics of the lower limb, that is what I always try and do..."* (R16).

> *"I hope that by the time it comes to the exam I have gained an understanding rather than just memorising, not sure whether* [study habits] *change... I have tried to keep up a certain routine for the last three years, so I don't think I change an awful lot. Obviously I prepare differently for an essay than I do for a practical exam, so for a practical I go and practise with my fellow students, for an essay I read more, but generally I have a pretty set routine about how I prepare..."* (R17).

Only one student admitted a position of relying on the memorisation of fact:

> *"...my memory is quite good in that sense, so I am able to remember factual information for a short period of time, so there is quite a bit of superficial learning that goes on if I am honest..."* (R15).

Therefore, it can be concluded that summative assessment in this programme was not associated with all the negative responses reported in the Gibbs and Dunbar-Goddet (2007) study, which indicated the adoption of surface approaches to learning.

Similarly to Gibbs and Dunbar-Goddet (2007), this study also investigated the quantity of student effort throughout the course. Students felt that they needed to work consistently hard throughout the programme, but did not divide their time equally between modules. Some were perceived to be easier to grasp and understand and thus did not demand so much time and practice. The intensity of effort increased during the assessment period, but this was likely to be due to responding to multiple deadlines and thus time pressures, rather than a greater devotion to study:

> "*I focused more on some. I had neuro in the same semester as respiratory and I think I ended up devoted to the neuro and in the other semester I had musculoskeletal and community and I devoted most of my time to musculoskeletal. I would say I have worked the same consistency throughout the course, but I have allocated my time and effort differently. The modules haven't been equal, there are some that have taken more time than others...*" (R1).

> "*It has been consistently hard, whereas some modules are less intensive than others...*" (R17).

> "*I wouldn't say you need to work consistently hard. You need to progress and improve and develop, because you are not just learning the physio side of stuff, you are learning how to write, how to explain, how to conduct yourself. It is not just about learning a new topic, it is about developing and improving the way that I explain that and talk about that and show that...*" (R14).

A final noteworthy point is that, with hindsight, some students felt they did not work as hard as they should have done in their first year, and this was probably due to a lack of experience and guidance in self-directed study:

> "*...in the first year I didn't really know exactly how much to do. I did do extra study, but I think I could have put more work in, in the first year, but second and third year, yeah, it has been consistent and on placements you work a lot harder...*" (R3).

> "*I needed to be quite consistent, although the first year I probably wasn't doing as much self-directed learning, unless it was for something specific, because I didn't quite know what I was expected*

to do. Yeah, I think I needed some direction really. I wasn't used to doing stuff on my own, kind of thing, so that was probably what that was..." (R5).

So, to conclude on this matter, it would not appear in this case that the 'modern' assessment environment, with its alignment of curriculum, encourages students to put in less effort and deep approach to learning. Time constraints and competition for attention are influential in this. Arguably, that is down to the 'modern' assessment environment which features a modular structure. Generally, students put a great deal of effort into trying to understand material; this too is affected by time, but also by interest, relevance to clinical practice and ability to get a grasp of the subject:

> *"I do* [put effort in] *generally. When I read something I go through it very slowly and then if I didn't understand something of if I think 'what did I just read?'. I reread it again, yeah, personally I feel that I have quite a poor memory, so if I understand it at least I can talk about it afterwards without necessarily being able to quote pages or whatever. So I do spend quite a lot of time trying to understand things..."* (R12).

> *"Varying degrees of effort, it's based on interest, it's based on assessment time, it's also based on energy. I will try, but I think at the same time you need a background and if you don't have that picture, I don't feel I have the basis to make sense..."* (R16).

> *"More inclined to try and understand things that are based on treatment and that have clear cut use outside the university..."* (R9).

Students also considered it necessary to retain a great deal of factual information, but did not see the point of rote memorisation. Fact-aided understanding and an enhanced understanding were detailed with specific facts:

> *"I try and then translate* [facts] *into a format that I can then imagine myself standing in front of somebody saying 'well you've got that respiratory problem, it's not actually a problem with you lungs it's a problem with your muscles. If you train the muscles, hopefully things will feel a little easier'. So I can translate it into very, very layman's type language..."* (R16).

"*I do try* [to memorise fact] *definitely, do attempt to. I think that if you have that knowledge, that memory of those specific points, say the ranges of blood gases, you can very definitely say 'I know it is out of range', so I know that is wrong. But also having the knowledge behind it, so okay, if it is higher it is this and if it is lower then it is that...*" (R7).

"*Yeah, that is the clinical reasoning, because you have to say this person needs oxygen because the oxygen levels are low, yeah, from that point of view it is clinical reasoning I suppose...*" (R10).

"*...if I have a fact, I consider it as a dead fact if it is not used. It is just like a useless piece of information, so the facts that I learn are the ones that I think are useful and therefore I try to put that across into clinical practice...*" (R4).

Thus, students felt that their clinical reasoning skills relied upon them being in possession of a great deal of factual knowledge in order for them to make sense and reasoned judgements.

Studying for grade or understanding

The final consideration in this section is to explore whether students perceived a difference in studying for a grade or understanding. Two students felt they went hand in hand, in that assessment was a building block to understanding, that could be advanced in time. But the majority agreed that they were entirely different processes. Studying for a grade was allegedly more strategic, relied more on memorisation and could potentially be achieved with a superficial knowledge base. No students, however, reported reaping the rewards of this approach. On the whole it appeared too risky; if memory failed there would be no understanding to fall back on.

All students endeavoured to balance grade with understanding; this was achieved by reading widely and practising during the taught component and post-assessment, yet focusing down content and rehearsing for the format of

examination in the immediate assessment period. It was acknowledged that having to consider grade was detrimental to learning, in that it stifled reading and self-directed interest. If competition for graduate jobs was not as fierce as in the current economic climate, students would gain greater personal satisfaction from the confidence of being a good clinician rather than obtaining a first class award:

> "...there is a high drive to get a good mark, but I think I definitely have another drive to know stuff. How do I balance that out? I think it has to stay quite focussed on the assessments and if an assessment is coming up be quite strict about that. 'That's really interesting but you still don't know anything about this yet' and also having a good group around you is brilliant because of testing each other and they also help keep you on track, especially with things like presentations, to have people to go through them with..." (R9).

> "I don't want to just do it for a grade at the end of the day, if it didn't matter about the grade like it does now, if I could just step out and walk into a job, I would just concentrate on being a good clinician now. I wouldn't worry about the exams. I would go along and do my best, but I feel like there is so much pressure to do brilliant and that makes me worse in exams knowing that I have to do well. I had that on my placement before. I was in an area where I really didn't feel confident at all and the pressure got too much and I cracked big time. You just can't go along thinking I have got to get a first. It can't be done all the time..." (R11).

> "I think [studying for grade or understanding] probably comes close... If you've got a single assessment, it's going to be two or three weeks concentrated study. But if an area which is stimulated by that assessment, say musculo-skeletal stuff, you can have your practical assessment, but then I've gone to that material beforehand and I'll go back to that again. So it is creating that depth of knowledge and you will be able to use the knowledge, it will require more that just doing that assessment..." (R16).

There is a potential paradox here, in that the student who is endeavouring to read widely and gain a deep and meaningful understanding of the subject matter may be penalised in assessment. Svensson (1997) proffers that deep learning entails the conscientious arrangement of integrated wholes, which could result in failure if the assessment requires memorisation of a specified range of material. Thus, academic failure could result from a devotion to

thoroughly understand course material which prevents studying from being targeted to a specific form of examination, or interferes with time management and thus precludes coverage of other modules or aspects of the syllabus:

> "*When you are studying to get a good grade you are looking for a specific set of points that are going to give you the good grade, get you to pass that exam, whereas if you are trying to understand something you read a lot more around the subject. Some areas I have read around the subject, I found neuro really interesting so I read the subject, learnt a lot more than I probably needed to know, which wasn't really good in a short space of time, which is why I think the exam was a bit of a let down. It still went well, but I went far too wide*" (R4).

This highlights the importance of sound curriculum alignment and careful consideration of the match between the assessment and the course content or desired outcome of learning. If there is congruence, it is likely that students will demonstrate the required skills and attributes which are being sought by the examiner. However, if there are discrepancies between content, expected outcomes of learning and assessment, academic failure is more likely to result.

A further consideration which impacts upon the equilibrium students achieve between studying for grade or studying for understanding is the equality of complexity across assignment questions or topics. If students are permitted to select a title from a set of questions that are not regarded as equally complex, they are forced to choose between working purely for grade and taking the easier option, or working to improve their understanding in a lesser known area and running the risk of obtaining a lower grade:

> "*...with the essay last year I could not understand equal pressure point and I set myself on the equal pressure point essay so I could have an understanding of it and I did bad. I got 55, bad for me, and other people said if you did like me and wrote about the other subject you would have 75. So I went into the assessment to deepen my understanding, knowing that that was a harder question and my grade would suffer, but that was my aim* [to understand a difficult concept]" (R8).

The work of Miller and Parlett in the 1970s suggested that cue-consciousness correlated to exam success. That concept was examined in this study to ascertain whether students sought clues and to what effect. Plausibly, this group of students reflected Miller and Parlett's (1974) receptive-perceptive type, 'cue-conscious' with a sensitivity to hints regarding exam topics. In their preparation for an assessment, they attended to pointers issued by lecturers, referred to marking criteria and past questions and discussed content with peers. However, this appeared to be in pursuit of general themes and not specific questions:

> "*I don't particularly ask people what's going to come up. Because if I just learnt what specifically is going to come up and that's wrong then I'm buggered, and even if it is right and I just learn that then there is so much more that I won't learn. But I will generally try and get an idea of a sort of bigger picture of what's going to come up. Instead of learning that means that, I can learn sort of around the areas of that as well, because I think it's not just a matter of I do what I need to do to pass the test, I'm also aware that it's not just about passing tests, I've then got to go out and function in practice...*" (R14).

> "*I take notes some of the lecturers will hint this will be useful for the exam, you kind of listen out for that. Also, in the second year we were able to ask the students who had already taken the exam the previous semester about what may come up, not in a 'can I have all your written notes scenario' but more informal 'what sort of questions do they ask?', 'what should I concentrate on?'. You use your peers, your practice and you kind of find out what you all learnt on clinical placement, because it all differs. I try to get as much information from as many sources as I can. ...Because the semesters are so short we all start talking about exams straight away, so I don't think that just happens during the last week or two because by that time it is too late to start reading more wildly. That has to have been done before, you just practise more and learn and repeat what you know. I think it is too late at that point to do anything last minute, because it is not going to sink in properly*" (R17).

Interestingly, one student sought cues to create time which allowed them to concentrate on areas of the curriculum that attracted them, presumably so they could continue to study it with a deep approach to learning:

"...it is a way of freeing up time so I know what to specifically focus on during assessment, so I have got more time to focus on the kind of things that I am interested in, course content..." (R15).

Miller and Parlett (1974) associate the behaviour of 'cue-seekers' who actively hunt explicit information with achieving the highest marks in examinations. It is postulated that students in this study tackled the dilemma between studying for grade or understanding by focusing their information gathering on general topics and not specific questions. That way, they could balance the assessment demands with the personal satisfaction of being a competent clinician.

This section has considered the impact of the modern assessment environment upon student learning behaviour. In this case, it was not associated with the negative responses reported in the Gibbs and Dunbar-Goddet (2007) study. However, the inherent time constraints of a modular structure appeared to pressurise students to make less use of feedback and become strategic in their approach to assessment, but not in their motive to learn.

The findings in this chapter have highlighted some interesting considerations regarding vocationally orientated learners. This study has revealed students to possess a strong intentional component of learning. As long as teaching, learning and assessment activities were in tune with participants' expected outcomes, they were deeply motivated to learn, but inevitably time constraints pressurised them to adopt a strategic approach towards assessment.

CHAPTER FIVE: DISCUSSION

Contextualisation of the Learning Environment

Gibbs and Dunbar-Goddet (2007) considered the assessment environments in three contrasting settings (Oxbridge, pre-1992 and post-1992 universities), categorising them according to the criteria laid out in Table 5.1. The characteristics of this study are shaded in yellow.

The disciplines that Gibbs and Dunbar-Goddet researched were science, humanities and applied social science. However, no reference was given to the learning orientation of the student groups. One of the key themes arising from this study is the strong vocational orientation of the students. This is likely to be expected, in view of the course leading to a professional award. But it is argued that this factor is significant in explaining the student learning behaviour observed in this work.

The assessment profile in this study lies somewhere between the pre-1992 and post-1992 universities of the Gibbs and Dunbar-Goddet study, resembling their post-1992 institution very slightly more (see Table 5.2). Cells resembling this study are shown shaded in blue.

Table 5.1: Definitions of 'High', 'Medium' and 'Low' for each Characteristic of Assessment Environments

Characteristic of assessment environment	Low	Medium	High
% marks from examinations (does not clarify type of examination)	Below 40%	Between 40% and 70%	More than 70%
Variety of assessment methods	1-3 different methods	4-6 methods	6+ methods
Volume of summative assessment	Mark allocated less than 15 times	15-40 times	More than 40 times
Volume of formative only assessment	Less than 15 times	15-40 times	More than 40 times
Volume of (formal) oral feedback	Less than 15 hours	15-40 hours	More than 40 hours
Volume of written feedback	Less than 3000 words	3000-6000 words	More than 6000 words
Timeliness: average days after submission before feedback provided	More than 20 days	10-20 days	Less than 10 days
Explicitness of criteria and standards	Explicit criteria and standards rare and/or nebulous; marks or grades arrived at through global judgment in tacit way; no effort to enable students to internalise criteria and standards	Criteria for some assignments and exams; weak link to marks or grades; little effort to enable students to internalise criteria and standards	Clear criteria for most or all assignments and exams; link made to grades; effort made to enable students to internalise criteria and standards
Alignment of goals and assessment	Learning outcomes rarely or weakly specified at either programme level or course level; very weak or rare link between learning outcomes and choice of assessment methods; no explicit link between learning outcomes and allocation of proportions of marks; only overall grades recorded	Learning outcomes specified at programme level, but weakly specified at course level; no explicit link between learning outcomes and allocation of proportions of marks; only overall grades recorded	Learning outcomes specified at programme level and for most or all courses; documentation shows how each assessment links to each learning outcome at the course level; some link to marking procedures; student performance recorded in relation to outcomes

Source: Gibbs and Dunbar-Goddet (2007, p.9).

Table 5.2: Comparison of the Characteristics of the Assessment Environments in this Study with the Three University Types in Gibbs and Dunbar-Goddet's Study in Terms of Nine Assessment Variables

Feature of assessment environment	This Study	Oxbridge	Pre-1992	Post-1992
% marks from examinations	Med	Hi	Med	Lo
Variety of assessment methods	High	Lo	Med	Hi
Volume of summative assessment	Med	Lo	Med	Hi
Volume of formative assessment	Low	Hi	Med	Lo
Volume of (formal) oral feedback	Low	Hi	Lo	Med
Volume of written feedback	Low	Med	Med	Med
Timeliness of feedback	Med	Hi	Lo	Med
Explicitness of standards	High	Med	Hi	Hi
Alignment of assessment	High	Lo	Med	Hi

Source: Gibbs and Dunbar-Goddet (2007, p.21).

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As indicated by the shading in Table 5.1, Gibbs and Dunbar-Goddet (2007) categorised alignment of goals and assessment as 'high' if learning outcomes are specified at programme level, course documentation shows how each assessment links to each learning outcome, there are links to marking procedures and student performance is recorded in relation to outcomes. Furthermore, explicitness of criteria and standards were considered 'high' if criteria is given for most or all assignments and exams, links are made to grades and effort is undertaken to enable students to internalise stated criteria and standards. Within this study, such factors equate to the level of curriculum alignment and, based upon these principles, the programme under study would be classified as 'high' on both counts and thus could be said to be aligned. Indeed, the educational philosophy of this programme befits the summary outlined by Gibbs and Dunbar-Goddet (2007), claiming that:

> "The assessment of each module is designed to measure the students' achievement of the learning outcomes for each module. Module specifications for each module are published in the student handbook and on WebCT. The links between learning outcomes are identified within the module specifications and in the instructions/briefings for assessment requirements. Students are thus able to prepare effectively for the assessment process" (Potter, 2006, p.26).

High Alignment and Approaches to Study

Gibbs and Dunbar-Goddet (2007) associated 'high' scores on these factors with a reduced coverage of course syllabi coupled with a less deep approach to learning. It is logical to suppose that if students are issued with specific learning outcomes and standards by which they will be judged, it may encourage a surface approach to learning and that study will be devoted only to aspects of the course known to be examined, thus geared to fulfilling assessment demands which may not be analogous to fostering a deep understanding.

However, the impact of such a position upon student learning behaviours is not substantiated in this study.

This outcome may be explained at its most simplistic; that despite such efforts to align the curriculum in terms of specifying learning outcomes and assessment criteria, it would appear that in this study they did not provide students with sufficient clarity to definitively work from. Thus, I would question the validity of Gibbs and Dunbar-Goddet's methodology to determine level of alignment, as arguably much information continues to remain tacit to students, despite course organisers' best efforts to expose it. I am therefore not claiming that this programme is fully aligned.

More radically, in line with Haggis (2003), it is argued that the *deep approach* as a valid measure of desirable student learning behaviour is outmoded in contemporary, mass higher education. In relation to the former point, specifying learning outcomes and assessment criteria did little to expose standards; they were generally viewed as too vague, generic, subjective or contained unhelpful language to be fully directional, and thus did little to promulgate a clear idea of the level of work expected. This is in line with Hussey and Smith's view that the formulation of precise outcomes is either "fatuous or impossible" (2002, p.230).

It is hard to estimate whether endeavours to make outcomes and standards explicit advanced the situation observed by Snyder (1973) of intuiting the thought processes of the examiner. Certainly, students in this study became cue-sensitive, picking up on pointers issued from tutors regarding assessment; possibly because learning outcomes alone were not transparent.

From this premise it is argued that reliance upon learning outcomes and marking criteria to specify both content and depth of course material meant running the risk of being unprepared. Considering their level of explicitness was

perceived by students to be limited, it is unlikely they could provide the foundation for the deliberate formulation of a *surface approach* to study. It is probably fair to say, however, that exposure to learning outcomes and marking criteria provided a framework by which to cope with assessment demands, rather than a tool to guide and reflect upon learning.

Generally, students referred to them during assessment periods, whereby they were used retrospectively to check that assignments were complete, but they conveyed little information on the quality of the outcome of learning. In the main, they were not used prospectively to plan and direct study or chart development, neither did they convey clear standards to which students could aspire. This relates once again to Hussey and Smith's (2002) argument that learning outcomes are only explicit when interpreted by an experienced audience.

So, plausibly learning outcomes and marking criteria in this study did little to capture the essence of Biggs' (1999, 2004) *constructive alignment*, thus 'trapping' students into engaging in appropriate learning activities; but neither did they appear to lead to a surface approach to learning as inferred by Gibbs and Dunbar-Goddet (2007). More likely, the availability of learning outcomes and marking criteria allowed students to develop a strategic or achieving *approach to assessment* and thus it is possible that a further category needs to be added to the motive-strategy combination that students adopt to study, that is a *deep learning motive – achieving assessment* strategy.

Regarding the latter point that the deep approach may not be an appropriate indicator of the desired outcome of higher education, it is noted that much literature highlights the link between the adoption of a surface approach to learning and poorer academic performance (Marton and Säljö, 1976a; Biggs, 1979; Entwistle and Ramsden, 1983; Kember and Gow, 1990; Diseth, 2002).

Less research, however, explores the specific relationship of a strategic or achieving approach on such functioning, although Biggs (1979) acknowledges that an achieving approach is associated with an increasing structural complexity of performance and a strategic approach has been linked with high attainment (Entwistle and McCune, 2004). It is therefore necessary to discriminate between the approaches students adopt to learning with those assumed during periods of assessment, as they may not necessarily be consistent.

Numerous claims have been made regarding the superiority of espousing a deep approach on the quality outcome of learning (Trigwell and Prosser, 1991; Marton and Säljö, 1997; Prosser and Trigwell, 1999) and this line of thought is continued in the Gibbs and Dunbar-Goddet (2007) study. However, it is argued that in the light of ongoing debate about grade inflation and the current economic climate which predisposes graduates from this study to a highly competitive employment market, both educationalists and students need to be realistic about the significance of a strategic approach to overall success and, as such, it must surely command recognition as a marker of a successful outcome of tertiary education.

Haggis (2003) raises issues generally with regard to the notions of conceptions and approaches to learning in a mass education system, suggesting that the ideas are based upon a set of values and goals of an elite academic culture, rather than those of a wide range of student learners. Furthermore, the model is criticised as representing a 'truth' about student learning, with a remarkable lack of contest over time (Webb, 1997; Haggis, 2003) and its governing psychological approaches arguably portray a limited conceptualisation of pedagogy, reducing pedagogic theory to a set of professional rules for practice (Malcolm and Zukas, 2001).

It is not the intention of this work to refute the model in general, but to extend the perspective of the original Western literature to explain the findings of this study. Throughout the 1990s, verification emerged of an approach to learning characterised by the intention to both understand and memorise. The evidence arises mainly from research in Hong Kong and other Asian countries, where students were reported to primarily rely upon rote learning, yet were highly successful in their studies. What appeared to be underpinning their achievements was a combined approach with a purpose to both understand and memorise. Kember and Gow (1990) labelled this as a *narrow orientation,* whereby students systematically worked through restricted components of the course material, attempting to first understand it and subsequently commit it to memory.

Plausibly, such findings raise questions regarding the polarisation of the original surface/deep debate. Indeed, Kember (1996) claims that the combination of memorisation and understanding suggests that approaches to learning might be better described as a continuum, rather than a surface/deep dichotomy. It is possible that students may combine a deep approach to study with a strategic or achieving *approach to assessment.* I would argue that the process of curriculum alignment fosters this position and, not as suggested by Gibbs and Dunbar-Goddet (2007), a surface approach to study.

This concept is substantiated in the work of Tang (cited in Kember, 1996), who suggests that memorisation can be divided into surface and deep categories. The former category corresponds to a surface approach as previously defined by Western authors. However, the latter was implemented by students who sought a deep approach, but found their courses and particularly assessment tasks stressed reproduction. It was therefore necessary to memorise information in order to accomplish high grades.

These students maintained the distinctive intention to understand with a desire to adopt a congruent deep approach to learning, but employed a combination of understanding and memorising in order to pass examinations. A representative quotation from Tang's study demonstrates both the approach and the justification for using it:

> "You have to memorise for a test, but you still need to understand first. If you try to rote memorise you soon forget... Rote memory cannot be that long-term, while a memory with understanding can be a long-term one" (Tang, 1991, p.115).

Remarkably, Tang's quote mirrors typical remarks made in this study:

> "I try not to go straight for memory. I try to understand what I am talking about, because I know that if my memory fails I have got to be able to work it out and if I don't understand how it works I haven't got a hope..." (R13).

So, it is possible that the model of the conception of learning and the subsequent approach to studying needs to be expanded to take account of this group of learners. Arguably this notion is not that far removed from Biggs' (1987a) or Ramsden's (1979) original hypotheses, in that approach to learning involves an intention and strategy component. However, it is suggested here that there are intermediate steps between the deep and surface continuum, the memorising-understanding approach (Kember, 1996). This may well be encapsulated by the achieving or strategic approach, but undeniably includes a motive to understand and actualise interests or competence, coupled with the conscious intention to package material through memorisation to cope with assessment demands:

> "... when we were going through the basal ganglia at first it was just overwhelming what was going on, but after going over and trying to understand why things are happening, it made it clearer and that is general learning. But when it came to revising I was finding myself having to draw out the little flowchart thing over and over again, until I knew what was going on and once I had my flowchart I was then

able to. Because I understood what the flowchart meant from
previous learning, I was able to just talk about it without having to
write things down and remember the writing... So I packaged it in a
way that I could expand on and apply in some way..." (R1).

It must be acknowledged, however, that memorisation is not only a form of packaging information for the purpose of assessment, it is inherent in the process of understanding, yet the literature appears to portray a distinct divide between the intentions to understand or memorise; remembering is viewed as an almost unintentional by-product of the deep-approach. For example, Gibbs (1981) implies that meaning is automatically stored devoid of superficial form, but it is argued that practice, repetition and memorisation of principle facts related to the discipline provide a foundation on which to build understanding.

It is suggested that the memorising-understanding approach may vary depending on whether understanding comes before memorisation or vice versa (Kember, 1996). The 'narrow orientation' identified by Kember and Gow (1990) above involves understanding prior to memorisation, whereas other studies indicate that repetition and memorisation precede understanding (Hess and Azuma, 1991).

Whichever temporal route students undertook in this study to prepare for assessment, it is argued that they did not adopt a surface approach to their studies. More likely, they befitted the combined memorising-understanding approach observed in Asian students. During the taught component of the module, students sought a deep understanding and read widely, but during assessment periods they became specific and narrowed their focus more to the demands of the particular assessment, thus rehearsing concepts that had previously been understood in order to demonstrate them in their examinations.

So, it is proffered that the original conception approach model needs to be broadened to capture such learners. Richardson (1994) concluded that

evidence for a separate strategic approach, as identified by Ramsden (1979), is ambiguous, yet Kember and Gow's (1990) data demonstrated factors which substantiated the achieving approach. Therefore, it is argued that the Asian studies are enlightening and should inform further research in the UK if we are to understand the learning behaviours of our students, particularly in view of the widening participation agenda and the move towards mass higher education rather than the preservation of an elite academic culture.

In the light of this, there needs to be further exploration of achieving or strategic approaches, and a move from the narrow view of bestowing worth only on purely deep approaches. With the relatively short semesters and modular structure typical of many modern higher education institutions, it is argued that realistically students need to espouse the characteristics associated with a strategic approach, thus to organise time and distribute effort to the greatest effect and be alert to cues, learning outcomes and marking criteria in order to be successful in assessment.

That is not to say that such students do not possess a desire to seek meaning, but they are not naïve to the dichotomy between learning for understanding and learning for assessment. Consequently, it is argued that students in this work have adapted their study habits to cope with the modern teaching and learning environment. Credence should thus be given to the admirable qualities of both understanding course material combined with success in associated assessment tasks. Such recognition could potentially bridge the divide between the elite goals and values of an academic culture and the intentions of a wide range of learners in a mass education system.

So, it is argued that the attribute of the deep approach as the gold standard measure of success in contemporary higher education is not adequately sensitive to independently describe all aspects of positive or appropriate

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student learning behaviour. It was evident in this study that students were operating with a deep intention to actualise intrinsic interest and competence and were utilising a deep approach to learning, yet this was combined with reproductive and strategic characteristics during assessment periods, particularly when assessment demands were perceived to be high.

It would appear that there are two points emerging thus far; firstly, that alignment in the curriculum, as classified by Gibbs and Dunbar-Goddet (2007), did not appear to provide students in this study with sufficient guidance on which to base a deliberate surface approach to learning and, secondly, that judging desirable student learning behaviour on the possession of a pure deep approach to studying may not be a valid measure anyway. Converse to the Gibbs and Dunbar-Goddet view, it is speculated that poor alignment of learning outcomes, assessment and criteria may indeed result in a less deep approach to study.

This conception links to the students' orientation to learning (Beaty *et al.*, 1997). Regardless of entry route, all students in this study could best be described as befitting the intrinsically motivated-vocational orientation (Taylor, 1983) camp, as they were driven by an inherent personal interest in their chosen career, grounded by their strong affiliation to a vocation. Mindful of these factors and Beaty *et al.*'s notion of the internally negotiated study contract, an agreement between a learner's orientation and the manner by which they undertake their studies, it is logical to conclude that if teaching, learning and assessment tasks reflect what learners perceive to be valuable to enhancing their professional skills, they are more likely to strive for a deep understanding of the subject matter.

Students in this study were enthused by all teaching and learning activities where overt links to clinical practice were apparent, and could distinguish a

difference between learning for application to clinical practice and learning for assessment. Therefore, it is argued that the greater the correlation between these two factors, the more likely a deep approach to learning will ensue.

The downside of capitalising on interest to promote a deep approach to study is that it only works if the learners are interested. Students need to be convinced of the value of all aspects of the course and it is argued that many struggle to adapt to the demands of a vocational programme situated in an academic environment. This may be countered somewhat by exposing the link between the development of the professional and the advancement of the profession. This may be accomplished simply by greater explanation in the early years of the professional knowledge generating cycle, whereby the individual interacts with both theory and practice through their own reflective process to develop their professional skills and, in so doing, contribute to the profession's body of knowledge.

It is acknowledged that a student's conception and their subsequent approach to learning depends on their distinct intention (Marton and Säljö, 1976a). The prime conception and intention of this group of students was to gain an understanding of the discipline to enable them to practise as a competent clinician. Therefore, if learning and assessment tasks befit this purpose, it is likely they will facilitate a deep approach to learning.

Indeed, students in this study were resolute that assessments that had an overt link and relevance to clinical practice encouraged a deep approach to learning. Even the coursework essay, which was considered to be the least favoured format to enhance learning, was considered valuable if the title facilitated an exploration of the subject matter which would expand clinical knowledge or skills.

Thus, it is argued that it is assessment not curriculum alignment that influenced the students' approaches to learning in this study, and it is speculated that if learning outcomes and assessment criteria contained greater detail and specificity and demonstrated an explicit relationship to clinical practice, deeper approaches to learning would be fostered.

Variety of Assessment and Learning from Examinations

A further observation arising from the Gibbs and Dunbar-Goddet (2007) study is that variety of assessment is similarly associated with a reduced coverage of course syllabi and a less deep approach to learning, and is perceived by students as confusing. The above authors classify variety of assessment as high if six or more methods are used. Table 1.1 shows the various methods employed in this study. In summary, nine forms of assessment were introduced at level one; five more at level two and a further three at level three, therefore accordingly 'variety of assessment' in this programme would be classed as high.

Students in this study, however, felt the multiplicity of such an assessment profile was beneficial to their overall learning and development, and therefore once again findings did not support those of Gibbs and Dunbar-Goddet (2007). It is put forward that diversity in assessment may have even contributed to students adopting a deeper approach to their studies. Participants in this work appeared inspired by the array of assessments and it is logical to conclude that if the format is motivational, it is likely to promote an engaged and deep approach to learning. Furthermore, students were aware that the disparate forms of assessment were challenging different skills; some demanded fact, others understanding, some incorporated several learning outcomes, others a different set and, in so doing, arguably prompted a wider coverage of the syllabus.

A great deal of research highlights the impact of curriculum design and delivery and attitudes of tutors upon study approaches (Laurillard, 1984; Ramsden, 1997; Kember, 1996) and it has been suggested that deep approaches to learning decline as students progress through programmes of study (Watkins and Hattie, 1985; Biggs, 1987b; Gow and Kember, 1990; Kember and Gow, 1991). I suggest, however, that variety in assessment may be fundamental in sustaining deep approaches throughout the duration of a course, if they are valued by candidates and offer new developmental challenges that potentially guard against complacency and boredom.

As previously mentioned, the key objective for these learners was achieving clinical proficiency. Furthermore, it has been suggested that if assessment is considered fit for purpose it is likely to encourage a deep approach to learning. Students in this study viewed the various assessment activities as encompassing essential skills required in the workplace (for instance, team working, presenting one's argument both in text and verbally, clinical reasoning and evidence-based practitioning). From this point of view, it is argued that having a high vocational orientation, students were driven by aspects of the programme considered necessary to equip them to practise in the clinical setting. As senior students, these participants were aware of the requisite transferable skills and took the opportunity to develop these through the various forms of assessment.

This notion links agreeably with the work of McCune (2005), who suggests that identification with the role (in that case of 'scientist') seemed particularly important for students' active engagement with their academic work. The concept of *authentic learning experiences* is believed to influence students' enthusiasm and willingness to engage in their studies. The term 'active engagement' is used to describe students working in the ways of thinking and

practising associated with a discipline, as a community of practice, and may include aspects which are explicitly taught, as well as more tacit practices and customs (McCune and Hounsell, 2005). McCune (2005) suggests that a student's sense of identity and their future aspirations influence what they view to be important in their studies and consequently impacts upon their willingness to engage. Teaching and learning activities that were perceived as authentic to the aspirant's role appeared to foster a willingness to engage deeply with the course content.

The concept of authentic learning experiences relates to the curriculum design in this study. The case-based focus, practice placement elements and integration of clinical reasoning represents a 'realistic' learning situation. And, it is argued that the opportunity for authentic learning exists when there is a good 'fit' between the students' intentions, the teaching and learning environment and where the processes and outcomes of assessment are considered conducive to role development. This being the case, students are more likely to subsequently adopt a deep approach to studying (McCune, 2005).

It is argued this perspective explains why variety of assessment in this study was not viewed as confusing, encouraged a surface approach to learning, or indeed was associated with less learning from the examination, as was the case in the Gibbs and Dunbar-Goddet (2007) study. This outcome is attributed to the notion that assessment in the main represented authentic learning, by being personally meaningful to students' future roles as physiotherapists. This concept reflects the programme's education philosophy of situatedness:

> "Lave and Wenger (1991) have identified the 'situated' character of learning, particularly for the development of practice, and emphasise the importance of setting learning within a proper context. The learner is seen less as one who will require a set of abstract knowledge and apply it to later contexts, and more as one who will acquire skills and knowledge through participation and engagement in the actual process. Within a 'community of practice'

(Lave and Wenger, 1991), learning is mediated through working alongside experts and participating in their practice (to a limited degree and with limited responsibility) and being absorbed in the appropriate 'culture of practice'" (Potter, 2006, p.23).

Literature (Stein *et al.*, 2004; McCune, 2005) suggests that authentic learning opportunities not only familiarise students with the ways of thinking and practising within a specialty by bringing the learning environment into line with real life situations encountered by a discipline, they may also assist students to engage with the customs and practices of their specialty. It is suggested that, on the whole, the assessment environment in this study mimicked aspects of real life situations and in that sense facilitated a deep and meaning-seeking approach to studying.

On a pragmatic note, variety in assessment may just counter familiarity. This echoes Kember's (1996) point that assessment designers have formulated courses which require students to reproduce large amounts of presented information, whereby it is suggested that students adapt to the demands of the assessment and attempt only to memorise rather than understand the material. Evidence that the assessment environment discourages students from using a deep approach (Kember and Gow, 1990) showed that student scores on espousing a deep approach to learning declined as they progressed through their course. Conversely, however, it is speculated that students in this study have increasingly adopted a deep approach to their studies as they have advanced through the programme as a result of various, yet appropriate, assessments designed to measure their evolving knowledge and skill base.

To summarise, variety of assessment appeared to produce beneficial effects upon the learners' overall development in this study. I suggest the diverse profile encouraged a deep approach to learning, in that it demanded multiple skills, which prevented students from consistently adopting a surface approach.

As learners were aware that specific assessment tasks would require more than recall, they responded to the advanced complexity of the assessment demands. Additionally, the methods employed were believed somewhat to reflect real life situations and conveyed personal meaning to a vocationally orientated group of learners. It is speculated, however, that such success is multifactorious and as such relies upon a balance in other aspects of curriculum design and delivery.

Balance in the Curriculum

Perception of Workload

It is suggested that by far the most influential factors inciting a surface approach to learning in this study were perceived workload demands, irrelevance of teaching, learning and assessment activities to clinical practice and limited word counts. Many studies have highlighted the link between a perceived heavy workload and assessments that are aimed at rote recall with a reproducing orientation to studying (Entwistle and Ramsden, 1983; Entwistle and Tait, 1999; Trigwell and Prosser, 1991; Kember, 2004). The above authors also note that the perception of and actual workload demands may not be synonymous and are influenced by assessment methods, subject matter, difficulty and student and teacher relationships (Kember, 2004).

Kember (2004) put forward that an assessment profile that frequently demanded recall not only induced a surface approach, but also decreased motivation and increased the perception of a high workload. Kember explains this by students spending more time on their own memorising and less time actively engaging with their peers. This seemed to lead to less cohesion within the class, a subsequent reduction in morale and a resultant perception of high workloads. In contrast, projects that required students to work together

appeared to encourage a deep approach to learning and a commitment to numerous hours of work without feeling overloaded.

Interestingly, the essence of this educational philosophy is claimed to be embedded within this programme of this study. It is said to adopt a constructivist approach, which:

> "...locates learning as an inherently social activity (Sullivan-Palinscar, 1988), developed through activity and participation, rather than as something that occurs through isolation for one individual. The learning and teaching strategy incorporates activities whereby students purposefully engage in learning activities as a collaborative exercise" (Potter, 2006, p.21).

I suggest that Kember's (2004) observations may help to explain the positive outcomes associated with variety of assessment in this study, in that multiplicity demanded different attributes, some independent study, but also group working skills and, being a practically orientated course, hands-on practice with peers in the pursuit of developing mutual understanding and proficiency. Thus, it is suggested that variety of assessment methods exposed students to novel and challenging learning styles, which both maintained interest and fostered peer support which, to some extent, countered and made the actual pressurised workload associated with a programme leading to professional registration manageable.

In addition to the positive impact of coherent learner groups on perception of workload, Kember (2004) also highlights a similar correlation between cohesive teacher-student relationships and levels of morale, which seem to alleviate the perception of excessive workloads and thus the need to adopt a surface approach to learning. Furthermore, Vermunt and Verloop (1999) discuss the significance of the interplay between teacher and learner; between students' intrinsic regulation and tutors' extrinsic control, and suggest that teaching and

learning strategies may not always be congruent, in which case 'friction' is said to occur. However, it is recognised that friction may be 'constructive' or 'destructive'.

Teaching and Learning Strategies

Constructive frictions provide a challenge to advance and develop students' approaches to learning, while destructive frictions may diminish existing learning and thinking skills by failing to utilise or advance them. Teaching and learning strategies are described as congruent and thus balanced if, for instance, students are ill-equipped to regulate their own learning and thinking activities and the tutor undertakes this for them at that moment. However, they may become destructive when a student who is perfectly able to self-regulate their learning is prescribed to by the tutor. Other situations may be constructive where they challenge students to adopt new ways of approaching learning and thinking, and this relates to Vygotsky's zone of proximal development (Vygotsky, 1978), whereby learners are guided to a more advanced position or way of seeing.

Therefore, the literature highlights the integrated nature of teacher and learner on the uptake of a deep approach to study. Biggs (2004) encompasses this in the presage, process, product model and conceptualises three advancing ways of viewing teaching. Level 1 focuses on student presage; learning is a function of the differences the individual brings to the learning environment. At Level 2, the teacher presage, learning is a product of teaching and is dependent on what the teacher does, while level 3 centres on what the student does at the process and product stage. At this stage, learning results from student engagement with learning-focused activities as a consequence of their personal perceptions and effort combined with the total teaching context.

This position implies a premise of teaching that is not just about the transmission of facts and principles to be delivered and understood, but also to appreciate about what it means to 'understand' content in a way desired by the discipline and what kind of activities are required to obtain that understanding. This view underpins the notion of constructive alignment (Biggs, 1999), yet it is this very concept that Gibbs and Dunbar-Goddet (2007) have attributed to negative student learning behaviours observed in their study. A criticism of their work is that it does not develop a discussion of the situational factors of the teaching environment and, it is argued, that consideration must be given to such issues in addition to an analysis of course documentation.

Variety of assessment in association with the preparatory teaching and learning strategies associated with the specific format may facilitate an opportunity to challenge students to maximise their potential and expand their thinking and learning skills:

> "I had come straight from 'A' level, so I was quite used to learning, but with these different methods, say reflection, and quite a lot of practical, say observing someone else doing things and then doing it yourself, so if you were shown a technique and getting feedback they are new techniques of learning and examining that I hadn't been used to with the 'A' levels. I was kind of expecting it, but it wasn't an area I was used to..." (R1).

Returning to the debate about curriculum alignment, it is inferred from this study that variety of assessment may be unsuccessful in supporting such deep learning and construed as confusing if associated learning outcomes and teaching strategies are not aligned with the assessment format. This does not mean coaching students to faithfully reproduce concepts to pass examinations, a criticism of the initiative to enhance clarity of assessment processes, said to encourage instrumentalism and criteria compliance (Ecclestone and Pryor, 2003; Torrance, 2007), but socialising them into a community of practice, to the ways of thinking and behaving connected to the discipline and exposing them

to an authentic learning environment to enhance and extend their development and understanding.

Professions as Communities of Practice and Practice Knowledge

A primary difference between this and the Gibbs and Dunbar-Goddet (2007) study is the vocational nature of this programme. The above authors studied science, humanities and applied social science courses. The extent to which such pathways culminate in a unique role is unknown, but it is argued that graduates' subsequent careers are likely to be more diverse than those awarded with a professional registration. I suggest that this factor is fundamental in explaining the differences observed between the Gibbs and Dunbar-Goddet (2007) study and this work.

This view is based upon the espoused culturally grounded and common ways of seeing and reasoning associated with a profession. Indeed, Dahlgren *et al.* (2004) suggest learning to become a professional involves a cultural learning process, as well as a cognitive one, in order to understand and justify the ways of reasoning and behaving associated with the discipline and the specific contribution the profession makes to problem-solving and advancement. The above authors view professional learning as entailing social interaction which shapes individual conceptions into a shared knowledge base, whereby individuals appropriate as well as donate their wisdom. To this end, the philosophy of the programme in this study is:

> "To facilitate students' development as autonomous, competent and reflective practitioners who are able to make sound professional judgments through a process of effective clinical reasoning. This involves the acquisitions of a wide range of knowledge and skills at all levels in order to fulfil a demanding professional role. Implicit within this are the abilities to question and reflect on and evaluate one's own practice and that of others, based on available evidence, as well an ability to manage time and resources effectively. Throughout the programmes the interrelationship between research, education and practice is strongly emphasised. This is seen as

essential in preparing students to meet the needs of patient groups"
(Potter, 2006, p.19).

Higgs *et al.* (2004a) assert that health professionals need to integrate and articulate knowledge, reasoning and clinical skills, and reflect and evaluate practice. They thus explain professional knowledge as multifaceted, including *propositional knowledge* (which is explicit, prescribes and predicts, obtained from research or scholarship and permits generalisability or transferability), plus two types of non-propositional knowledge; *professional craft knowledge* (derived from practice experience which may be tacit) and *personal knowledge* (arising from life experience and demands personal engagement accompanied by reflection). Additionally, there is *procedural knowledge* (enabling action), *theoretical knowledge* (which explains and interprets) and finally *emancipatory knowledge* (which empowers). Given the often unpredictable and indeterminate nature of health care practice and settings, these various forms of knowledge are used to address the imprecise 'grey' areas of practice and the expectation of professional responsibility.

Contemporary health care in the UK is based upon a culture of audit and accountability, and principles of clinical governance (Moores, 1999) underpinned by a commitment to recognise and share good practice. It is therefore paramount that student health professionals are engendered with a disposition to appraise current practice and undertake a critical and analytical stance to ensure that their actions are fit for purpose and for the future advancement of the profession. It is thus essential that educators facilitate the development of such attributes by sharing examples of their own practice to construct models of thinking and practising and to thus generate a professional paradigm.

I hypothesise that this notion is a major contributing factor underlying the positive outcomes associated with variety of assessment and constructive alignment in this study. It is suggested that a great deal of information included in the course documentation remained tacit to students and did little to promulgate standards. However, by association with a community of practice both within the academic environment and clinical settings, students were able to gain a more explicit vision of what was expected of them and their future role.

I suggest that curriculum alignment can be beneficial to student development if it acts as a quality assurance measure to guarantee assessment as befits its purpose - in this case, discerning competence in clinical practice. However, I speculate that this view is primarily the domain of programme leaders and curriculum designers, and would be of little value to learners without the concomitant professional socialisation bestowed upon them by academic and practice educators. If, however, outcomes of learning and associated measurements of achievement appear to mirror the professional culture of the discipline, it is likely that students will be willing to engage deeply in such learning and assessment tasks, as is believed to be the case in this study.

Therefore, it would appear that curriculum alignment in association with the promotion of a sense of professional identity and belonging to a community of practice, engenders student learners to engage deeply in their learning and assessment tasks. Pivotal to this success and underpinning a united community of practice, both within the academic and clinical setting, is the profession's philosophical stance on clinical reasoning.

Clinical reasoning is the thinking and decision-making process which takes place in clinical practice and links knowledge with practice. It provides a mechanism whereby knowledge may be created and refined through practice

and experience. It fosters a sense of reflection and awareness, which allows practice knowledge to be critiqued, for practitioners to highlight gaps in their knowledge base and realise their limitations, as well as identify clinical patterns which are the forerunners to the generation of new knowledge. Clinical reasoning is the hub of professional practice, expertise and advancement. It is key to ensuring that novel and emerging practice knowledge is suitably utilised and evaluated to become tomorrow's professional craft knowledge (Higgs *et al.*, 2004a).

Clinical Reasoning

Clinical reasoning involves an integration of cognition, metacognition and practice knowledge (Higgs and Jones, 2000) and, as such, links well to the *process* stage of Biggs' (1987a) model of student learning, the *learning-process complex*, which is concerned with the decisions students make about how to accomplish their learning and the distinct motive-strategy combination that they subsequently adopt. Biggs (1987a) believes that in order for learning to be efficient and successful, students must adopt an approach to studying which befits their specific intentions and outcomes of learning. However, in order to accomplish such congruence, learners must have insight into their motives, knowledge-base and the demands of the task. Such awareness requires a conception of the learning processes that may be used and executive control in deploying them, metacognition (Biggs, 1987a). Because the fundamental principle underpinning the clinical reasoning process entails metacognition, a teaching and learning philosophy based upon this is argued to support and develop the requisite skills for executing such action.

By integrating cognition with practice knowledge, metacognition aids the clinician to consider associations or irregularities between clinical findings and those expected from previous knowledge or experience. This facilitates an

analysis of the observations and an opportunity to challenge the assumptions that may underpin clinical decision-making (Higgs and Jones, 2000). In implementing this approach into teaching and learning activities, the student health practitioner is familiarised with the process of reflective self-awareness, monitoring and evaluating the quality of knowledge and the need for continued professional development. It is argued that such socialisation is an integral part of the student experience in this study and plays an important role in promoting and developing the skills and attributes required to adopt a congruent deep motive and strategy combination to studying.

Imparting a metacognitive attitude upon student health professionals through clinical reasoning exposes them to the various ways of obtaining, evidencing and conceptualising theory and practice. Thus equipped, they may challenge a unique or unquestioned stance and seek novel ways of understanding and generating knowledge for professional practice. Such skills are imperative to success, as it is recognised that clinical practice is specific and may be uncertain and complex, and thus there is a requirement to individualise treatment. The application of rigid treatment protocols with absolute certainty from unequivocal research-based knowledge is rare and practice without considerate deliberation of the situation and context becomes habitual as opposed to professional.

Therefore, the process of clinical reasoning allows an experienced practitioner to integrate propositional with professional craft knowledge, for the efficacious management of patients and this relies upon the interdependency between theory and practice experience. Professional practice devoid of underpinning theory is unsubstantiated. However, the use of theory without due consideration to the practice context is likely to result in ineffective decisions on treatment and management (Higgs *et al.*, 2004b).

Espousing Professional Characteristics

Clinical reasoning provides a tool to examine the relevance of knowledge to a particular practice situation, by amalgamating the findings of evidence-based practice with professional judgment to interpret and apply to a given clinical situation. I believe this afforded a framework which anchored the multiplicity of assessment used in this study in a way which conveyed meaning and motivation to students and facilitated the development of valued transferable skills.

Furthermore, I put forward that educating undergraduate students through the principles of clinical reasoning not only fosters a deep approach to learning and develops transferable skills, equally applicable to variety of assessment or clinical situation, but also enables them to acquire a high level of cognitive awareness to reach Perry's (1970) *relativistic* position. Learners in this study were able to accept that phenomena may be described in various ways, plausibly through their *propositional*, *theoretical* and *professional craft* know-how, and similarly were able to make sense of a pleural and uncertain world through a personal interpretative stance by the use of their *personal* and *emancipatory* knowledge. Students no longer operated within a *dualistic* conception, seeing things as black and white and expecting conclusive answers; they were empowered to cope with various shades of greyness, the uncertainly and complexity that clinical practice will demand of them.

As mentioned in Chapter Four, Perry (1970) questioned what environmental factors encouraged students to develop an obligation to espouse the characteristics of their discipline, as opposed to imitating the forms of other people's knowledge and, arguably, adopting a reproductive approach to learning. In relation to this study, such commitment involves building-up clinical expertise that not only contributes to the development of one's own

professional practice knowledge, but also to the professional knowledge-base in general. Higgs and Jones (2000) view clinical expertise as a journey not an endpoint, which is multifaceted, including efficacy of clinical outcomes, professional judgement, technical and practical competence, interpersonal skills, a grounded body of knowledge and cognitive and metacognitive aptitude.

It is argued that it is the overall philosophy of clinical reasoning which is embedded throughout the curriculum in this study that sustains students to orient themselves through commitment. This fits with Perry's (1970) view that such sustenance is provided by a sense of community, as the process of clinical reasoning endows language and actions that are understood by professionals and are passed down from learned to learner, which could be said to represent Perry's notion of a community originating from reciprocal acts of recognition and confirmation and an openness of educators. The formal process of clinical reasoning enables educators to expose their thinking, reasoning, doubts and styles of commitment, provides a format for students to develop their own, and encourages the formation of a personal interpretative stance on the discipline.

I feel that education, through the process of clinical reasoning, equates to Biggs' (1999) notion of level three teaching which is suggested to foster a deep approach to learning, as it facilities an 'understanding' as required by the physiotherapy profession. In line with McCune's (2005) work, this stance fosters role identification, which I believe to be highly significant to the motivation and subsequent learning behaviour of vocational students. The central principle of metacognition that underpins the clinical reasoning process facilitates a search for meaning. This, along with exposure to a community of practice which views knowledge and understanding in the same way, creates opportunities for authentic learning and it is argued that the subsequent impact of this must not be underestimated.

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All tutors in this study are indeed clinicians and will commonly use and structure knowledge via the principles of clinical reasoning and convey this to learners during instruction. I suggest this position aids the adoption of level three approaches to teaching and thus the potential for a deep motive for student learning.

A further factor which appeared to influence the perception of a community of practice and impacted upon students adopting a deep approach to learning was the perception of professional integrity. By their final year, students in this study had espoused the core standards of conduct, performance and ethics as laid down by the Health Professions Council, the body providing state registration for allied health professions in the UK.

Students felt that they had a professional responsibility to obtain a deep understanding of their subject matter in the best interests of their patients. They felt ready to embrace a professional status, believing this to originate from an underpinning body of knowledge, a set of practical skills and cognitive know-how, including the ability to critique evidence-based practice and a growing confidence in their proficiency in clinical reasoning, and the recognition of the scope and limitations of their practice.

CHAPTER SIX: CONCLUSIONS AND IMPLICATIONS

The concept of constructive alignment (Biggs, 1996; 1999; Watson, 2002) has been introduced into the curriculum design and delivery of programmes in higher education institutions in the UK over the last decade with the purpose of encouraging a deep approach to learning by their students, and the adoption of such principles have been assumed to equate to good teaching. However, studies in recent years have raised concerns regarding this style of education (Hussey and Smith, 2002; Ecclestone and Pryor, 2003; Torrance, 2007), and indeed the evaluative work of Gibbs and Dunbar-Goddet (2007) supports such concerns. They essentially make the point that strongly aligned curricula are associated with a less deep approach to learning, and variety of assessment formats are perceived by students as confusing.

It was this background, and in particular the work by Gibbs and Dunbar-Goddet (2007), that provided the impetus for this study and thus prompted an investigation into the assessment characteristics and the resultant student learning behaviour in my own discipline, situated within a modern university. The findings of this study, however, did not substantiate the above and in fact appeared directly antithetical to their outcomes.

Despite the curriculum representing high alignment (according to the Gibbs and Dunbar-Goddet classification), students in this study endeavoured to adopt a deep approach to their learning and were engendered with a professional responsibility to commit to a personal stance of understanding and meaning-making. I maintain that this position is attributed to the strong affiliation of this group of learners having a vocation and the inherent cultural, as well as cognitive, learning processes associated with a professional education, which are embedded through the process of clinical reasoning and its associated use of metacognition. Finally, the unity this promotes, along with a professional

standards and conduct framework amongst educators to create a community of practice to which students may aspire.

However, the availability of learning outcomes and marking criteria, associated with the concept of curriculum alignment, did facilitate students in this study to develop a strategic or achieving *approach to assessment*, in spite of opting to study deeply. I suggest this highlights the need for a further category to be added to the motive-strategy combination; that is, a *deep learning motive – achieving assessment* strategy. This may represent a more accurate description of student learning in contemporary mass higher education and life-long learning. This concept raises questions regarding the polarisation of the original surface/deep debate, which may be outmoded as a model representing a diverse range of adult learners. This has been criticised for representing the values of an elite academic culture (Haggis, 2003), which may not befit the current situation of widened participation.

Gibbs and Dunbar-Goddet (2007) imply that objectivity regarding goals and standards is achieved by experience, not by aligned curricula. They do, however, acknowledge the importance of practice communities in promoting clarity. I suggest that it is both alignment and socialisation that conveyed expected outcomes of learning in this study. A distinct feature of this work was, however, the vocational nature of the students. It is suggested that this is fostered through the process of a professional education and, being immersed into a community of practice, students possessed a distinct intention or motivation to study.

I deduce from this work that constructive alignment has the potential to develop deep approaches to learning, if careful attention is paid to the desired outcomes, how they relate to professional development, and how teaching and assessment strategies may support this growth. This being the case, students

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will be able to parallel their own aspirations with those of module leaders and thus create a truly aligned curriculum. A limitation of this notion, however, may be that it is specific to vocational learners, with established conceptions of learning, and further research is required to explore whether such relationships exist within generic degree programmes.

Recommendations for Practice

I speculate that, in the main, the concept of constructive alignment as put forward by Biggs (1996, 2004), whereby students are entrapped in a web of consistency, optimising their likelihood of a deep approach to learning is unlikely without the concomitant socialisation process, the thinking and practising associated with a discipline. It would appear that formal efforts to express explicit goals and standards in this study failed, as much of the information contained in course documentation and module specifications remained tacit to students or lacked specificity to objectively convey standards and expectations. What appeared to counter this weakness was the strong sense of identity conferred by the characteristics of a professional education.

This concept also appeared to explain why variety of assessment was not viewed as confusing by students in this study. Indeed, variety in assessment correlated with multiplicity in the learners' skills base. Such skills were valued, as they demonstrated overt links to professional role development and were therefore viewed as motivational and encouraged a meaningful approach to learning. I suggest that any assessment format has the potential to promote deep learning if it is considered by learners to be an appropriate measure of the desired outcomes, and thus befits its purpose.

Unlike studies reported earlier (Gow and Kember, 1990; Kember and Gow, 1991), I speculate that a 'deep approach' matured in participants of this study.

It is inferred from this work that it is an attribute which culminates in final year students. A follow-up project would usefully compare the learning behaviours of freshers who are less socialised into the professional culture. Kember (2000) charts the development of flexibility in student learning styles, whereby senior students had not only overcome the initial difficulties associated with new ways of learning, but had come to appreciate them. I anticipate similar outcomes in my own discipline, and suggest that variety in assessment facilitates such personal growth. As senior students, participants in this study were aware of the requisite transferable skills and took up the opportunity to develop these through the various forms of assessment.

Once again, this position is dependent upon agreement between the intentions of the learner and the course, and I propose this may be progressed by sound formative assessment and feedback to expose accordance between task and product. This work suggests that feedback is more likely to be acted on if the assessment is deemed valid in the first place, in that it offers significant potential to advance personal development, is timely, of sound quality in that it justifies comments, identifies professional as well as academic ability, presents suggestions for improvements and is objective and trustworthy.

In the main, feedback occurs after written, summative assessment and it is recommended that further opportunities are created for feedback from practical or oral examinations, especially in the early years when students are most likely to be unclear of the standards expected of them and the outcomes of self-directed learning. It is anticipated that such encouraging results may not have been yielded from studying first year learners.

Following such recommendations, it is suggested a further assessment environment could be distinguished from the three evidenced by Gibbs and Dunbar-Goddet (2007, pp.25-26) below:

- "a 'traditional' environment, characterised by infrequent summative assessment of a narrow range of forms, frequent formative-only assessment and oral assessment, and weak specification of goals and standards.
- a 'modern' assessment environment in a teaching-oriented institution, characterised by frequent summative assessment of a wide variety of forms, very low levels of formative-only assessment and oral feedback, with clear specification of goals and standards and aligned curricula
- a 'modern' assessment environment in a research-oriented institution, in which there were modest levels of both summative and formative assessment, and modest levels of specification of goals and standards".

Thus, I would add a further assessment environment, being:

- a 'modern' assessment environment in a teaching-oriented institution, characterised by frequent summative assessment of a wide variety of forms, with high levels of formative assessment and oral feedback, with clear specification of goals and standards and aligned curricula.

It is argued that such a position is the most likely to be of benefit to large groups of learners from diverse academic backgrounds, where the luxury of one-to-one or small group tutorials and time is unlikely. The impact and importance, however, of the vocational nature of this programme and its students must not be forgotten, as it is suggested that this feature was pivotal to the cohesive approach to teaching and learning embraced by tutors and students in this study and the resultant community of practice this promoted. Therefore, further research is required to establish whether this concept is universal or found in other vocational fields such as medicine, nursing or teaching.

A further aspect of the research which I suggest relates to the vocational nature and the socialisation into a community of practice observed in this programme is the reflexivity of the respondents. From early on in their training, students are

encouraged to maintain reflective diaries, and reflective writing forms a component of many assessments. Students are encouraged to chart their development and identify an action plan for continued professional development. This practice culminates in a final assessment, whereby candidates are required to submit a portfolio demonstrating their competencies against the number required by the Health Professions' Council. This activity motivates respondents to review work undertaken throughout the entire degree programme and coerce them to chart their progress and highlight learning needs.

I suggest this general culture of reflection, coupled with the aforementioned assessment, was paramount to the thoughtful and reflective accounts offered by the participants in this study and thus contributed to the richness of the data gathered. Respondents readily engaged in an introspective examination of personal learning and enthusiastically responded to the brief issued in the original participant information (see Appendix Two: Preparatory Information for Participants).

Arguably, this activity also facilitated metacognitive growth (a key concept emerging in this work) and it would be enlightening to ascertain if students of other disciplines would be familiar and willing to engage in such reflective endeavours. Plausibly, the methodology utilised in this study owes its success to the reflective nature of its participants and thus may not be transferable to all student groups.

Future Directions

The most enlightening finding of this study is the prevailing impact of a vocational education upon students' conceptions of learning and the potential an associated community of practice offers to enable learners to think and

understand in ways demanded by a discipline. A significant factor in exposing such attributes is the profession's stance on clinical reasoning, which formalises a language and actions that are understood by professionals. However, I suspect that much of this behaviour still remains tacit to students.

I maintain that the metacognition involved in this process fosters the insight to select a *deep motive-strategy* combination and should be recognised accordingly. I suggest the concept could be further utilised to demonstrate ways of thinking and understanding, not only about clinical decisions, but generally. Future work will consider options to both acknowledge the impact, and introduce formal teaching of clinical reasoning skills earlier in the curriculum. Furthermore, to consider the potential to adapt the model to provide a framework to advance outcomes of learning, by exposing the metacognitive processes involved in an increasingly complex structure of knowledge.

Such a position, along with a highly aligned curriculum, may provide an environment which is conducive to the success of a diverse range of adult learners entering a mass higher education system who do not experience the benefits associated with a traditional elite culture, including small group tutorials. The process of constructive alignment may fulfil this role in contemporary higher education; however, this is not to say that a simultaneous deep approach to learning cannot be fostered.

REFERENCES

Beaty, L., Gibbs, G. & Morgan, A. (1997). "Learning orientations and study contracts". In: F. Marton, D. Hounsell & N. Entwistle (eds.), *The Experience of Learning Implications for Teaching and Studying in Higher Education*, Edinburgh: Scottish Academic Press, pp.72-86.

Bernstein, R., *Beyond Objectivism and Relativism: Science, Hermeneutics and Praxis,* Philadelphia: University of Pennsylvania Press.

Biggs, J. (1979). "Individual differences in study processes and the quality of learning outcomes", *Higher Education*, **8**(4), 381-394.

Biggs, J. (1987a). *Student Approaches to Learning and Studying*, Victoria: Brown Prior Anderson Pty Ltd.

Biggs, J. (1987b). *Student Approaches to Learning and Studying*, Melbourne: Australian Council for Educational Research.

Biggs, J. (1993). "What do inventories of students' learning processes really measure? A theoretical review and clarification", *British Journal of Educational Psychology*, **63**, 3-19.

Biggs, J. (1996). "Enhancing teaching through constructive alignment", *Higher Education*, **32**(3), 347-364.

Biggs, J. (1999). "What the student does: teaching for enhanced learning", *Higher Education Research & Development*, **18**(1), 57-75.

Biggs, J. (2004). *Teaching for Quality Learning at University*, Buckingham: Open University Press.

Biggs, J. & Collis, K. (1982). *Evaluating the Quality of Learning. The SOLO Taxonomy (Structure of the Observed Learning Outcome)*, London: Academic Press.

Black, P. & Wiliam, D. (1988). "Assessment and classroom learning", *Assessment in Education*, **5**, 7-74.

Blumer, H. (1969). *Symbolic Interactionism*, Englewood Cliffs, NJ: Prentice Hall.

Brocki, J.M. & Wearden, A. (2006). "A critical evaluation of the use of interpretative phenomenological analysis (IPA) in health psychology", *Psychology and Health*, **21**(1), 87-108.

CSP (1997). "The chartered society of physiotherapy policy on degree courses", *Physiotherapy*, **65**(11), 353-354.

Dahlgren, L. (1997). "Learning conceptions and outcomes". In: F. Marton, D. Hounsell & N. Entwistle (eds.), *The Experience of Learning*, Edinburgh: Scottish Academic Press, pp.23-38.

Dahlgren, M., Richardson, B. & Sjostrom, B. (2004). "Professions as communities of practice". In J. Higgs, B. Richardson & M.A. Dahlgren (eds.), *Developing Practice Knowledge for Health Professionals*, London: Butterworth-Heinemann, pp.71-88.

Denzin, N. & Lincoln, Y. (2005). *The Sage Handbook of Qualitative Research*, 3rd edn., Thousand Oaks, CA: Sage.

Diseth, A. (2002). "The relationship between intelligence, approaches to learning and academic achievement", *Scandinavian Journal of Educational Research*, **46**(2), 219-230.

Ecclestone, K. & Pryor, J. (2003). "Learning careers or assessment careers? The impact of assessment systems on leaning", *British Educational Research Journal*, **29**(4), 471-488.

Elton, L. & Laurillard, D. (1979). "Trends in research on student learning", *Studies in Higher Education*, **4**(1), 87-102.

Entwistle, N. (1990). "Teaching and the quality of learning in higher education", *Handbook of Educational Ideas and Practices*, London: Routledge.

Entwistle, N. (1997a). "Contrasting perspectives on learning". In: F. Marton, D. Hounsell & N. Entwistle (eds.), *The Experience of Learning*, Edinburgh: Scottish Academic Press, pp.3-23.

Entwistle, N. (1997b). "Reconstituting approaches to learning: a response to Webb", *Higher Education*, **33**(2), 213-218.

Entwistle, N. & McCune, V. (2004). "The conceptual basis of study strategy inventories in higher education", *Educational Psychology Review*, **16**(4), 325-345.

Entwistle, N. & Ramsden, P. (1983). *Understanding Student Learning*, London: Croom Helm.

Entwistle, N. & Tait, H. (1999). "Approaches to learning, evaluations of teaching and preferences for contrasting academic environments", *Higher Education*, **19**(2), 169-194.

Fade, S. (2004). "Using interpretative phenomenological analysis for public health nutrition and dietetic research: a practical guide", *Proceedings of the Nutrition Society*, **63**, 647-653.

Gibbs, G. (1981). *Teaching Students to Learn: A Student Centred Approach*, Milton Keynes: Open University Press.

Gibbs, G. & Dunbar-Goddet, H. (2007). "The effects of programme assessment environments on student learning". Report submitted to the Higher Education Academy, Oxford: Oxford Learning Institute.

Gibbs, G. & Simpson, C. (2004-5). "Conditions under which assessment supports students' learning", *Learning and Teaching in Higher Education*, **1**, 3-31.

Giorgi, A. & Giorgi, B. (2003). "Phenomenology". In: J. Smith (ed.), *Qualitative Psychology. A Practical Guide to Research Methods*, London: Sage, pp.25-50.

Gow, L. & Kember, D. (1990). "Does higher education promote independent learning?", *Higher Education*, **19**(3), 307-322.

Grbich, C. (2007). *Quantitative Data Analysis. An Introduction*, London: Sage.

Haggis, T. (2003). "Constructing images of ourselves? A critical investigation into 'approaches to learning' research in higher education", *British Educational Research Journal*, **29**(6), 89-104.

Heidegger, M. (1962). *Being and Time*, New York: Harper and Row.

Hess, R.D. & Azuma, M. (1991). "Cultural support for schooling: contrasts between Japan and the United States", *Educational Researcher*, **20**, 2-8.

Higgs, J. & Jones, M. (2000). "Clinical reasoning in the health professions". In: J. Higgs & M. Jones (eds.), *Clinical Reasoning in the Health Professions*, Oxford: Butterworth-Heinemann, pp.307-315.

Higgs, J., Andresen, L. & Fish, D. (2004a). "Practice knowledge - its nature, sources and contexts". In: J. Higgs, B. Richardson & M.A. Dahlgren (eds.), *Developing Practice Knowledge for Health Professionals*, Oxford: Butterworth-Heinemann, pp.51-69.

Higgs, J., Jones, M., Edwards, I. & Beeston, S. (2004b). "Clinical reasoning and practice knowledge". In J. Higgs, B. Richardson & M.A. Dahlgren (eds.), *Developing Practice Knowledge for Health Professionals*, London: Butterworth-Heinemann, pp.181-199.

Husserl, E. (1970). *The Crisis of European Sciences and Transcendental Phenomenology*, Evanston, IL: Northwestern University Press.

Hussey, T. & Smith, P. (2002). "The trouble with learning outcomes", *Active Learning in Higher Education*, **3**, 220-233.

IoEL (2007). *EdD Student Handbook 2007/2008*, University of London: Institute of Education, University of London.

Kember, D. (1996). "The intention to both memorise and understand: another approach to learning?", *Higher Education*, **31**(3), 341-354.

Kember, D. (2000). "Misconceptions about the learning approaches, motivation and study practices of Asian students", *Higher Education*, **40**(1), 99-121.

Kember, D. (2004). "Interpreting student workload and the factors which shape students' perceptions of their workloads", *Studies in Higher Education*, **29**(2), 165-184.

Kember, D. & Gow, L. (1990). "Cultural specificity of approaches to study", *British Journal of Educational Psychology*, **60**, 356-363.

Kember, D. & Gow, L. (1991). "A challenge to the anecdotal stereotype of the Asian student", *Studies in Higher Education*, **16**(2), 117-128.

Laurillard, D. (1984). "Learning from problem solving. Styles and approaches in problem solving". In: F. Marton, D. Hounsell & N. Entwistle (eds.), *The Experience of Learning*, Edinburgh: Scottish Academic Press, pp.126-144.

Lave, J. & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*, Cambridge: Cambridge University Press.

Malcolm, J. & Zukas, M. (2001). "Bridging pedagogic gaps: conceptual discontinuities in higher education", *Teaching in Higher Education*, **6**(1), 33-42.

Marton, F. (1981). "Phenomenography - describing conceptions of the world around us", *Instructional Science*, **10**, 177-200.

Marton, F. & Säljö, R. (1976a). "On qualitative differences in learning: I. Outcomes and process", *British Journal of Educational Psychology*, **46**, 4-11.

Marton, F. & Säljö, R. (1976b). "On qualitative differences in learning: II. Outcomes as a function of the learner's conception of the task", *British Journal of Educational Psychology*, **46**, 115-127.

Marton, F. & Säljö, R. (1997). "Approaches to learning". In: F. Marton, D. Hounsell & N. Entwistle (eds.), *The Experience of Learning Implications for Teaching and Studying in Higher Education*, Edinburgh: Scottish Academic Press, pp.39-58.

Marton, F. & Wenestam, C.G. (1978). "Qualitative differences in the understanding and retention of the main points in some texts based on

the principle example structure". In: M.M. Grunenberg, P.E. Morris & R. Sykes (eds.), *Practical Aspects of Memory*, London: Academic Press, pp.633-643.

Marton, F., Dall'Alba, G. & Lai, K.T. (1993). "The paradox of the Chinese learner", *Educational Research and Development Unit Occasional Paper*, **93**(1), 1-17.

McCune, V. (2005). "Final year biosciences students' willingness to engage: teaching-learning environments, authentic learning experiences and identities". Paper presented at the Invited Symposium of the Higher Education Special Interest Group, 12th Biennial Conference of the European Association for Research on Learning and Instruction, Budapest, Hungary. Also currently in press as McCune, V. (2009). "Final year biosciences students' willingness to engage: teaching-learning environments, authentic learning experiences and identities", *Studies in Higher Education*, scheduled for 6 March 2009 edition.

McCune, V. & Hounsell, D. (2005). "The development of students' ways of thinking and practising in three final-year biology courses", *Higher Education*, **49**(3), 255-289.

Miller, C.M.I. & Parlett, M. (1974). *Up to the Mark: a Study of the Examination game*, Guildford: Society for Research into Higher Education.

Moores, Y. (1999). "Clinical governance and nursing", *Professional Nurse*, **15**(2), 74-75.

Osborn, M. & Smith, J.A. (1998). "The personal experience of chronic low back pain: an interpretative phenomenological analysis", *British Journal of Health Psychology*, **3**, 65-83.

Perry, W. (1970). *Forms of Intellectual and Ethical Development in the College Years. A Scheme*, New York: Holt Rinehart Winston.

Potter, J. (2006). *BSc Physiotherapy / Podiatric Medicine Re-approval Document*, London: University of East London.

Prosser, M. & Trigwell, K. (1999). *Understanding Learning and Teaching*, Buckingham: Open University Press.

Ramsden, P. (1979). "Student learning and perceptions of the academic environment", *Higher Education*, **8**(4), 411-427.

Ramsden, P. (1992). *Learning to Teach in Higher Education*, London: Kogan Page.

Ramsden, P. (1997). "The context of learning in academic departments". In: M. Ference, D. Hounsell & N. Entwistle (eds.), *The Experience of Learning Implications for Teaching and Learning in Higher Education*, Edinburgh: Scottish Academic Press, pp.198-216.

Ramsden, P. & Entwistle, N. (1981). "Effects of academic departments on students' approaches to studying", *British Journal of Educational Psychology*, **51**, 368-383.

Reid, K., Flowers, P. & Larkin, M. (2005). "Interpretive phenomenological analysis: an overview and methodological review", *The Psychologist*, **18**, 20-23.

Richardson, J.T.E. (1994). "Cultural specificity of approaches to studying in higher education: a literature survey", *Higher Education*, **27**(4), 449-468.

Richardson, J. (2000). *Researching Student Learning*, Buckingham: Open University Press.

Sadler, D. (2005). "Interpretations of criteria-based assessment and grading in higher education", *Assessment and Evaluation in Higher Education*, **30**(2), 175-194.

Sim, J. & Wright, C. (2000). *Research in Health Care*, Cheltenham: Stanley Thornes Limited.

Smith, J.A. (1996). "Beyond the divide between cognition and discourse: using interpretative phenomenological analysis in health psychology", *Psychology and Health. The International Review of Health Psychology*, **11**(1), 261-271.

Smith, J.A. (1999). "Towards a relational self: social engagement during pregnancy and psychological preparation for motherhood", *British Journal of Social Psychology*, **28**, 409-426.

Smith, J.A. (2004). "Reflecting on the development of interpretative phenomenological analysis and its contribution to qualitative research in psychology", *Qualitative Research in Psychology*, **1**, 39-54.

Smith, J.A. & Eatough, V. (2006). *Interpretative Phenomenological Analysis*, London: Sage.

Smith, J.A. & Osborn, M. (2003). *Interpretative Phenomenological Analysis*, London: Sage.

Snyder, B. (1973). *The Hidden Curriculum*, London: MIT Press.

Stein, S., Isaacs, G. & Andrews, T. (2004). "Incorporating authentic learning experiences within a university course", *Studies in Higher Education*, **29**(2), 239-258.

Sullivan-Palinscar, A.S. (1988). "Social constructivist perspectives on teaching and learning", *Annual Reviews of Psychology*, **49**, 345-375.

Svensson, L. (1997). "Skill in learning and organising knowledge". In: F. Marton, D. Hounsell & N. Entwistle (eds.), *The Experience of Learning Implications for Teaching and Studying in Higher Education*, Edinburgh: Scottish Academic Press, pp.59-71.

Tang, K.C.C. (1991). "Effects of different assessment methods on tertiary students' approaches to studying". Unpublished Ph.D. thesis, University of Hong Kong.

Taylor, E. (1983). "Orientations to study: a longitudinal interview investigation of students on two human studies degree courses at Surrey university". Unpublished Ph.D. thesis, University of Surrey.

Thomas, P.R. & Bain, J.D. (1982). "Consistency in learning strategies", *Higher Education*, **11**(3), 249-259.

Thomas, P.R. & Bain, J.D. (1984). "Contextual dependence of learning approaches: the effects of assessment", *Human Learning*, **3**, 227-240.

Torrance, H. (2007). "Assessment as learning? How the use of explicit learning objectives, assessment criteria and feedback in post-secondary education and training can come to dominate learning", *Assessment in Education: Principles. Policy and Practice*, **14**(3), 277-294.

Trigwell, K. & Prosser, M. (1991). "Improving the quality of student learning: the influence of learning context and student approaches to learning on learning outcomes", *Higher Education*, **22**(3), 251-266.

Tynjala, P. (1998). "Traditional studying for examination vs. constructivist learning tasks: do learning outcomes differ?", *Studies in Higher Education*, **23**(2), 173-191.

Vermunt, J.D. & Verloop, N. (1999). "Congruence and friction between learning and teaching", *Learning and Instruction*, **9**, 257-280.

Vygotsky, L.S. (1978). *Mind in Society: the Development of Higher Psychological Processes*, Cambridge, MA: Harvard University Press.

Watkins, D. & Hattie, J. (1985). "A longitudinal study of the approaches to learning of Australian tertiary students", *Human Learning*, **4**, 127-141.

Watson, P. (2002). "The role and integration of learning outcomes into the educational process", *Active Learning in Higher Education*, **3**, 205-219.

Webb, G. (1997). "Deconstructing deep and surface: towards a critique of phenomenography", *Higher Education*, **33**(2), 195-212.

Willig, C. (2001). *Introducing Qualitative Research in Psychology: Adventures in Theory and Method*, Buckingham: Open University Press.

APPENDICES

APPENDIX ONE: INTERVIEW SCHEDULES

INTERVIEW ONE

1. What was your access route to university? Briefly motivation to come on the course?

2. Define quality learning for you.

3. Can you give an example of the most satisfying learning on the course?

4. What contributed to the satisfaction?

5. You have experienced a range of assessment formats on the programme, for example: portfolios, group working, peer assessment, annotated bibliographies. Evaluate the use of such variety to your learning or development? *Prompts*: confusing, benefits.

6. Do you feel the assessment for any module particularly enhanced your learning? Why do you feel that was so?

7. Did any assessment formats stifle your learning? Why so?

8. Do you usually learn new things when preparing for an assessment? (examples)

9. Tell me about your level of understanding having completed an assessment for a module. (Fuller / muddled / examples)

10. How well do you feel your expectations of learning have been met throughout the course?

11. What is your evaluation of the use of LOs to guide your learning or direct your study?

12. What is your evaluation of the use of marking criteria to guide your learning or direct your study?

13. How easy was it to see the standard of work expected of you? (methods)

14. Tell me how you found out about learning outcomes / marking criteria

15. Describe your experience of the extent to which teaching reflected the stated learning outcomes for a module.

16. On the whole do you feel the assessments you have been asked to do incorporated the stated learning outcomes?

17. Tell me about the specific guidance you received on your assignments.

18. Tell me how you usually respond to the guidance given.

19. Describe any opportunities you have had within modules, to practice your assessment tasks.

20. Explain how feedback has been given to you.

21. Tell me about how you respond to the feedback given to you. *Prompt:* does feedback prompt you to go back over the work you have done? Does feedback prompt you to go back over material covered on the course?

22. Did you need to study the entire syllabus of your modules to do well in their assessments?

23. Did the assessment system on the whole allow you to be selective about what aspects you studied? (examples)

24. Over the course do you feel you needed to work consistently hard to meet the assessment requirements?

25. Do you think your assessment tasks demanded fact or understanding? (Give examples, consider different requisites)

26. 'To do well on the course all you really need is a good memory'. What are your thoughts on that statement?

27. When you are reading / preparing for assessments do you try to memorise important facts which may come in useful later? (Examples, purpose)

28. Do you try to thoroughly understand the meaning of what you are asked to read? (Explain, purpose)

29. Do you usually put in a lot of effort to try to understand things that initially seem difficult? (Explain, purpose)

30. Do you find yourself questioning things you hear in class or read?

31. Do you have to concentrate on memorising a good deal of what you have to learn? (Examples)

32. Do you use this retained information in any way? (Explain)

33. Would you say you often have to study things without having a chance to really understand them? (Explain)

34. Reflecting on your behaviour, do you feel you alter your study habits during periods of assessment? (Explain)

35. Do you think that studying to obtain a good grade is the same process as studying to deepen your understanding? (Explain)

36. Do you set out to obtain a good grade or develop your knowledge and understanding? (Explain)

INTERVIEW TWO

1. Tell me about your preparation for your viva for the LTC & E module.

2. Did you seek out cues for likely questions? (Explain)

3. Did you need to study the entire syllabus of the module to do well in the viva?

4. Did you learn new things when preparing for the viva? (Explain, examples)

5. Reflecting on your experience of the viva, do you feel the format provided you with adequate scope to demonstrate your understanding and integrate your knowledge (demanded fact or understanding)?

6. Do you understand the overall concepts of the LTC & E module having undertaken the assessments?

7. Tell me about the process of putting together your portfolio. *Prompts*: allowed you to be selective about what aspects you studied, demanded fact or understanding?

8. Evaluate the impact of constructing your portfolio on your professional role development.

9. Tell me about constructing your portfolio. *Prompts*: revisit previous work / material covered / consider new material.

10. Did construction of the portfolio prompt you to reflect on your strengths and progress to date? (Examples)

11. Did construction of the portfolio prompt you to reflect on your knowledge gaps? (Examples)

12. Have you considered an action plan to address the knowledge gaps identified? (? elaborate)

13. Did you learn new skills from undertaking the viva and portfolio?

14. Can you evaluate the use of the viva and portfolio to your learning and development?

15. Do you feel you have developed a personal stance to physiotherapy practice? If so what does that mean to you?

16. Do you feel you have developed a personal stance on professionalism or becoming a practitioner? If so what does that mean to you?

APPENDIX TWO: PREPARATORY INFORMATION FOR PARTICIPANTS

Dear

Thank you for agreeing to participate in an interview regarding your experiences of learning and assessment. You are reminded that you are free to stop and terminate the interview at any time and in such a case any information given thus far will not be used in the subsequent analysis and dissemination of the study.

Would you kindly read through the following themes on which you will be interviewed and spend a little time preparing and thinking of examples so you can give real and considered responses.

You will be asked questions from four themes including:

1. Your motivation to study and how you view learning

Here you will be asked to reflect on why you joined the course, your prior experience of learning, what you see learning as, what you consider to be the most satisfying aspect/s of learning on the overall programme and why. Which module/s and their associated assessment most fulfilled your style of learning and which ones did not?

So in preparation for this theme please think about why you started this course, the aspects of the course where learning happened for you and why you think this was? What was the most beneficial assessment in the entire three years and again why? Conversely which were not so good & why?

You will also be asked relate this to specific examples, so please try to think of times when learning seemed to be easy or more fun or you particularly struggled. Can you remember a particular enlightening moment, when the light bulb came on!? Any thoughts why?

2. The level of alignment of the curriculum

In this section you will be asked about how joined up the overall course appeared to you. This will cover topics such as how explicit were learning outcomes, marking criteria, module specifications etc… Whether learning outcomes and course content were adequately reflected in assessment of modules and the extent to which guidance and feedback were given in preparation for your assignments/examination.

To prepare for this area reflect on your overall experience of gathering information on modules and their associated assessments. How easy was it for you to understand their aims and objectives and the

requirements of the assessments? How did you achieve this? How satisfying was this?

Please think about the assessment you have gained the most/least from and remind your self of the learning outcomes and the assignment brief and the feedback you gained, how informative were they?

3. The demands that the module/assessment made on you

These questions will cover issues like how much of each module content did you have to attend to? What bits could you afford to leave out? Did your assessment / teaching demand memorisation / fact / understanding? Did you need to work consistently hard through out the programme or were their peaks and troughs? How did you learn about the specific demands of the overall course?

I appreciate that you will not be able to remember all the aspects of your course this far but would like it if you could come with some examples of the aspects that stand out in your mind. For example were there any modules that you were studying that seemed easier than others? If you were studying them in the same semester did you devote more time and effort to one rather than another? How did you manage / juggle your study time?

Many thanks for taking the time to prepare for this interview.

APPENDIX THREE: PARTICIPANT CONSENT FORM

Dear Participant

Purpose of this study:

This project aims to determine the nature of the assessment environment on the BSc Physiotherapy programme. It will gather a general philosophy of the course and examine the impact of the assessment environment upon students' study patterns and learning behaviours.

Dissemination:

Principally this study will form a doctoral thesis. However, it is expected that outcomes of this evaluation could contribute to initiatives generated through the Schools Teaching & Learning Committee and to the wider university community through the vehicle of the Assessment Working group. In addition outcomes may be presented at events such as the university's learning and teaching conference and to a wider national and international audience via presentations and associated publications.

Participation:

In order to achieve its overall aims, this project will explore and analyse student's experiences and perspectives of the assessment environment and examine students' patterns/behaviour to study for assessment tasks.

As a participant you will be required to partake in an individual interview / conversation to discuss your experience of assessment/associated patterns of study.

Prior to the interview student participants will be asked to prepare by reflecting on their access route to university, past learning experiences and those whilst studying on the undergraduate programme.

Participants will not be identified by name, however general contextual links may be apparent. Participants are advised that they are free to seek further clarity on the project and may terminate the interview at any time, in such a case any information given will not be used in the subsequent analysis and dissemination of the study.

On completion of the interview participants will be asked if they are content with the material discussed and to further consent to the subsequent inclusion of data gathered into the study.

I would like to thank you for your involvement in this project.
Thank you for you cooperation.

Regards
Joy Needham
Senior Lecturer
School & Health & Bioscience: (contact details)

I confirm that I have had the nature of this project explained to me and that I am aware that I am free to seek further clarity or terminate the interview/conversation any anytime and any material given will not be used in the subsequent analysis or dissemination of this work.

I am aware that after undertaking the interview I will have the opportunity to decide whether I am satisfied with the content of the discussion and may edit aspects if required or may choose not to have the material included in the subsequent analysis and dissemination of the study.

Name

Signature

Date