

## **Students' Constructions of Educational Discourse**

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### Introduction

This paper reports some of the preliminary findings of an ongoing study of the interfaces between school physical education and university human movement studies. The particular concern of the study is the interactions and interrelationships between these two fields of knowledge in the social construction of educational discourse. The notion of educational discourse is central to the study, and is developed from the work of Bernstein (1990) on educational communications. In this paper, discourse refers to written, spoken and visual representations of what constitutes knowledge and meaning in school physical education and university human movement studies (Kirk, 1992a). The study is intended to contribute both to broadening our understanding of the social construction of educational discourse and to curriculum development in physical education and human movement studies.

The data reported and discussed in this paper are drawn from interviews with fifteen students who were completing their first semester of human movement studies at the University of Queensland. These interviews form only one part of the data base of the study. Additional and already collected but as yet unanalysed data include a second, follow up interview with the same students towards the end of their second semester, and an interview with current teachers of physical education who are recent graduates of the same human movement studies program at the University of Queensland.

In light of this limited data base, we stress the preliminary nature of our analysis. In our view the data from this first set of student interviews shows that the school and university versions of educational discourse in the physical activity field are in some important respects mutually constitutive. However, we also find evidence to suggest the students' experiences of school physical education have a surprisingly powerful and pervasive influence in shaping their initial understanding of the university version of the physical activity field.

The paper begins with a brief discussion of some of the research and curriculum development issues and other contextual factors that have informed the study. We then very briefly provide some information on the participants before presenting an overview, interpretation and discussion of the data.

## Issues and Contexts

The social construction of knowledge in educational institutions is a complex, dynamic process that has been a topic of increasing interest to sociologists and historians of curriculum since the publication of *Knowledge and Control* in 1971 (Young, 1971). Recently, the work of Bernstein (1990), Goodson (1988) and Wexler (1987) among others has challenged educational researchers to begin to explore the implications of the construction of educational discourse for curriculum development and change in particular educational fields. A key problem in this line of research has been to determine the ways in which educational discourse is constructed, transmitted, and adapted within complex, interdependent systems consisting of two or more key sites of practice. Educational discourse embodies the key concepts and language central to meaning making within a particular field of knowledge, and so forms the discursive resources curriculum developers, educational practitioners and learners must access in order to understand and engage in pedagogic practice and to challenge and change these practices.

As Goodson (1988) and other curriculum historians have shown, the social construction of educational discourse typically involves processes of struggle and contestation over meaning as vying groups and individuals seek to bring about particular outcomes in curriculum development and change. The complexity of the change process in educational institutions is now clearly acknowledged in the literature. The next phase of the process is to understand, in this complex

environment of contestation and change, how research, policy and practice may be brought into better alignment. This process requires the extension and development of the theoretical work of Bernstein and others through its substantive application to contestation and change in particular fields of educational discourse.

Recent developments in the fields of school physical education and university human movement studies present a unique opportunity to explore the interfaces between sites in the social construction of educational discourse. Due to their relative marginality in the curricula of schools and universities, the relationships between these fields have remained largely unexamined and undertheorised. While there has been dynamic growth in these fields over the last twenty five years that is possibly unparalleled elsewhere in the education sector, the implications of these developments for teaching and learning are poorly understood. Power relations within and between these sites are identified by Bernstein (1990) as critical to the maintenance and legitimisation of particular categories, and thereby specific principles of classification (concerned with the categorisation of knowledge and specifically, the strength of the boundaries between different categories) and frame (concerned with pedagogical relationships inherent in the production of knowledge), and in turn particular discourses. These power relations profoundly influence the ways in which school physical education and university human movement studies may be defined and delivered, and so the nature of teaching and learning that may occur.

While the role of relations of power in socially constructing educational discourse within each site may now be better understood, their influence through interactions between sites remains to be explored. Of particular interest to this study is the ways in which versions of the physical activity field in schools and universities interact within the experiences of students and teachers. Our initial premise is that the relationship will be mutually constitutive, with human movement studies having some influence on senior school physical education and vice versa. This is not to suggest that this relationship will involve the same degree of influence of each field on the other.

Before moving on to explore this issue through the student interview data, we first of all need to provide a general map of recent developments of the physical activity field in each site.

#### Developments in the physical activity field in tertiary institutions

Once the exclusive domain of teacher education, the physical activity field in Australian tertiary institutions has over the last thirty years been reconstructed as a series of discipline based fields concerned with the study of human movement, sport and leisure that have begun to feed emerging vocational opportunities in the sport, exercise and leisure industries and some therapies. The emergence of new courses and the new forms of knowledge they embody can be explored through a three dimensional framework of interdependent factors. The framework

takes the form of three criss-crossing continua. One continuum, the horizontal axis, is concerned with the relationship between discipline-based knowledge and professional and vocational orientations. A second continuum, the vertical axis, is concerned with the relationship between biophysical knowledge and socio-cultural knowledge. A third continuum, a front to back axis, concerns the relationship between practical and theoretical knowledge.

A dominant form of the instructional discourse of the physical activity field in Australian higher education (in Kirk, Macdonald and Tinning, 1997)

The polarising of these dimensions of the physical activity field in tertiary institutions is of course contrived, yet this is how many tertiary workers tend to think about their field of knowledge. Indeed, these dimensions are frequently cast as opposing poles. Where individuals and institutions position themselves on any of these continua, regardless of whether this positioning is conscious or reflexive, and the courses that result from their positioning, effectively provide definitions of the field.

The dominant form of the physical activity field in tertiary education currently is biophysical, discipline based and theoretical. New degree courses seeking to conform to this configuration have begun to appear in many of Australia's universities following the Dawkin's reforms of 1987 (Macdonald & Tinning, 1995; Kirk, Macdonald & Tinning, 1997). A key feature of this development has been the changes to the titles of

higher education institution departments from 'physical education' to 'human movement studies' or 'sports science', confirming a shift in the definition of the field.

The Department of Human Movement Studies at the University of Queensland is one such department which, in 1974, shifted its focus from physical education to human movement studies. The Department is organised around a range of discipline bases of human movement. This organisational structure departs from the dominant model in several important respects, particularly its inclusion of sociocultural and pedagogical bases alongside the biophysical bases of human movement, and its strong emphasis on professional development at undergraduate level in exercise management and health and physical education teaching.

#### Developments in secondary school physical education

In the school sector, perhaps the most significant development in recent years has been the emergence and consolidation of 'examinable' senior secondary school subjects in physical education. As Fitzclarence and Tinning (1992) noted, from the late 1970s onwards, Australian states pioneered their syllabuses independently of each other. While a few syllabuses have sought to challenge 'hegemonic physical education' by prioritizing socio-cultural knowledge, most reflect the biophysical priorities of tertiary human movement studies programs. Evidence presented in the 1992 report of the Senate inquiry into Physical and

Sport Education suggested that these programs were often perceived as 'watered down' tertiary courses (Crowley, 1992; Brooker and Macdonald, 1995).

In Queensland, a senior school Health and Physical Education began to be developed by the (then) Board of Secondary School Studies in 1974.

The Health and Physical Education syllabus includes material from the fields of health education and physical education, though the health education component is allocated only 20% of the subject time. The Syllabus conceptualizes physical education knowledge in terms of both cognitive and physical skill development. However, the language and structure of the syllabus does little to suggest the integration of these two perspectives. In its global aims, the Syllabus suggests that the appropriate emphasis for physical education in the senior classes is to "prepare students for decision-making through a study of the disciplines (exercise sciences and socio-historical studies) from which the subject is drawn." It then goes on to make a distinction between theory lessons which "should provide a cognitive challenge and develop academic skills" and "practical experience to pursue excellence in performance" (BSSSS, 1987, p. 2). The language and structure of the remainder of the Syllabus articulates learning in terms of four different categories of behavioural objectives:

Content Objectives: recall of specific facts, terminology and principles.

Process Objectives: use of higher cognitive processes such as analysis, synthesis and evaluation.

Skill Objectives: performance of pre-requisite and applied skills.

Affective Objectives: development of feelings, interests, attitudes and values.

These objectives are addressed through eight content Elements, organised into three groups and while it is pointed out that, "it may be possible to relate aspects of different elements to a unifying theme", the structure of the groups and elements maintain a distinction between theoretical understandings and practical skills (BSSSS, 1987, p.11). The three compulsory core elements of the Syllabus are Foundations of Physical Education (i.e. exercise physiology, biomechanics, sociology of sport), Health Education, and Games and Sports, plus five elective elements (Dance, Athletics, Gymnastics, Aquatics, and Outdoor Pursuits), at least three of which must be included in the school work program.

By 1993, this subject had the fifth largest enrolment of years 11 and 12 students in Queensland, with larger enrolments only in English, two versions of Mathematics, and Biological Science, and has been growing steadily in popularity among students since its inception in 1974 (Brooker & Macdonald, 1993; Macdonald & Brooker, 1997). The BSSSS plans to replace the Health and Physical Education Syllabus with separate Syllabuses for Health Education and Physical Education which are currently being trailed and will be available for implementation in schools by 1999. The data for this paper comes from students who studied BSSSS Health and Physical Education.

Earlier in this paper we said that we are assuming there is a mutually

constitutive though not necessarily equitable relationship between school physical education and university human movement studies. Previously completed curriculum histories (eg. Kirk, 1992b; Kirk, in press) and other research on teachers and the curriculum (eg. Evans, Davies and Penney, 1996; Tinning, 1997; Macdonald, 1995) suggest that human movement studies may play the dominant role in its relationship with senior school physical education since developments in schools have seemed to follow developments in tertiary institutions.

The way we decided to test this proposal in this study was to investigate first year university students' initial constructions of human movement studies in relation to their recollections of their experiences of physical education in Years 11 and 12. Students at this stage of their education are in a key transitional period where they are shifting from the familiarity of school physical education to the relative unfamiliarity of university human movement studies. It appears to us that this transitional period forms an important interface between these sites and an important moment in the production of the educational discourse of the physical activity field.

### Participants and Procedures

A questionnaire was completed by two hundred and sixty nine students undertaking a first semester subject in human movement studies at The University of Queensland in order to identify students for interview.

The majority of these students were recent school leavers with eighty three percent having completed their senior schooling the previous year. Just under half of the students had studied BSSSS Health and Physical Education.

Follow up interviews were conducted with fifteen students who had completed BSSSS Health and Physical Education, who are currently enrolled in the Bachelor of Science or Bachelor of Applied Science courses at the University of Queensland, and who indicated a willingness to be further involved in the research. Data provided by this group related to their constructions of health and physical education on the basis of their recent school experience and their early impressions of human movement studies during their first semester of study.

Of the fifteen students interviewed, nine were female. The majority (thirteen) were enrolled in a Bachelor of Applied Science (HMS) degree, and the other two were enrolled in the general B.Sc. All of the students completed Year 12 schooling in 1996 except for one, who completed in 1995. Nine of the students finished Year 12 at a government high school, the other six in independent schools. Students "Overall Position" (OP) scores ranged from 5 to 12 with just nine students in the OP 8 and 9 range<sup>2</sup>.

Students were asked to respond to questions in four broad categories: the extent of their involvement in school Health and Physical

Education;

their reasons for studying human movement at The University of

Queensland;

their view of the relationships between their school and university

experiences;

and their future study and career plans.

A summary of findings from each of these categories of interview data are reported in turn. Where students names are mentioned in the paper, pseudonyms have been used.

## An Overview of Preliminary Findings

### Involvement in school Health and Physical Education

Students' motivations for choosing Health and Physical Education at school included the view that it was less demanding academically than other subjects, and since it was mostly about sport it would provide a break from the more demanding subjects. Anthony and Joshua outlined this clearly when asked why they had selected Health and Physical Education:

Anthony: Yeah I just thought I'll do a bit of sport, rather than academic stuff.

Joshua: I did physics, biology, maths and english...you've got to have

just one fun subject because it just gets piled on.

Most students mentioned their interest in sport as a major motivational factor in selecting Health and Physical Education and for students like Martin, the passion for sporting activities was evident:

Martin: ... I mean in (years) eleven and twelve it was like maths and english for me. I just had to do it. There was no question. It took me ages to decide what I was going to do in eleven and twelve but Health and PE was just always there.

Interviewer: Is that because you had done it in nine and ten and you were really interested in it?

Martin: Yeah, like just school and outside of school, I was always playing heaps of sports and that. I just loved the sport side of it... It's like all practical kind of stuff, things you can relate to... but I was always going to do it, no matter what.

Other attractions of Health and Physical Education included getting good marks in the subject in junior high school, enjoyment of 'practical', outdoor subjects, the expectation that they would do well in the subject, and the belief that there are good job prospects in the physical activity field. Some of the students clearly enjoyed their personal interaction with their physical education teachers and often this extended beyond the classroom where the teacher became a coach and sometimes a mentor. For instance, Joanne felt that her physical education teacher had inspired her "but not always in the teaching aspect .. the ones that actually coached us, I could relate to them

more than the teachers who just taught". Elizabeth also enjoyed her interaction with the physical education staff at lunch times and during training, claiming that physical education teachers were "more friendly than other teachers".

The content of their Health and Physical Education courses provides some explanation for these motivations and views of the subject.

Students reported participation in a wide range of physical activities and also found the 'practical' units that they had experienced easier to recall than the 'theory' units. The most frequently mentioned 'theory' topics included exercise physiology, biomechanics and sociology, and health studies centred on diseases such as coronary heart disease, skin cancer and HIV/AIDS.

Reasons for studying human movement at the University of Queensland

Eleven students mentioned their positive experiences of physical activity and sport as a major motivation for choosing to study human movement at university:

Donna: I've wanted to do human movement studies for ages. It's all I'm really interested in... I wouldn't want to do anything else...um, I like anything to do with sport anyway, so that's the only thing that interested me.

Dean: Basically human movements because that's what I like doing.

Actually I spent about 4 months trying to work out what to do. I had human movements first, that was my first option, then I went through all these others: engineering, blah, blah, blah and I came back and there was human movements.

Interviewer: Is it something you've always wanted to do?

Dean: Yeah

Interviewer: Always?

Dean: Yeah, I guess it's just sport. I've always liked the sport aspect.

Joanne: Well I knew I had to come to university, but what I was going to do I wasn't really sure of, I'm still not really sure of. I've always been interested in sport and I play sport all the time so I thought human movements sounds pretty good, so I got into human movements.

The prominence of sport as part of the subjective warrant for entry to the field has been widely reported in a range of studies in physical education teacher education (Dewar, 1989; Hutchinson, 1993; Macdonald & Tinning, 1995; Placek et al., 1995) and was common to most of the students in our sample of fifteen. But sport was not the only motivation for students' interest in human movement. Surveys of undergraduate students enrolled in introductory Human Movement Studies subjects at the University of Queensland between 1993 and 1995 indicated that some intended to pursue a career in the field, some were doing the subjects principally because of their general interest in the

field, and others thought that by studying human movement they would find it easier to transfer to another course, such as physiotherapy (Macdonald & Abernethy, in press).

Consistent with this latter motivation, five students in the present study had selected the University of Queensland course because they had missed out on a place in physiotherapy and saw human movement studies as the next best option, with four intent on re-applying for physiotherapy at the end of their first year. Notably, only one of the fifteen students had entered the course with the intention of becoming a physical education teacher.

Some of the students were attracted to the field because they were interested in learning 'how the body works':

Lynette: Originally I wanted to get into physio but I didn't get the grades and I knew that would happen so I was pretty prepared for that, so I thought the next logical step would be HM. I'd always like finding out about the body and the way it moves and that sort of thing.

Other reasons for choosing the University of Queensland course included failure to make a rival institution's cut-off score. Unlike the University of Queensland which selects students for the professional streams of the B.Sc.App. (HMS) after two years of university study, the rival institution takes students into professional studies in human movement studies as school leavers. Seven students were influenced by

the 'reputation' or 'status' associated with the University of Queensland and its graduates. Some made their decision on pragmatic grounds such as where they lived, advice from friends and family, in contrast to the small number of students who mentioned factors such as familiarity with the campus or that the University of Queensland course offered more general science subjects.

#### Relationships between school and university experiences

Students' first experience of human movement studies at the University of Queensland is a Semester One subject called 'The Biophysical Foundations of Human Movement'. Biophysical Foundations presents subject matter in discrete blocks of lectures and laboratories, dealing in turn with the physiological, biomechanical, neurological, and psychological bases of human movement, in addition to a series of lectures on human growth and development. Cutting across these blocks of subject matter are three of the major themes of biological science, growth, adaptation and maturation. The course concludes with some examples of how the various biophysical bases of human movement might be brought together to focus on particular movement issues or problems.

Students reported that this subject was meeting their expectations of human movement studies, which they had anticipated would involve 'physiology', 'training the body', 'exercise and movement', 'biomechanics', 'anatomy', 'how the body works', and 'to do with muscles'. The major differences between their studies of Health and

Physical Education and their first human movement studies subject was that for some students there was new subject matter in the university subject, and most of the students commented on the higher level of detailed information presented in Biophysical Foundations compared to school. Another difference they commented on was that the university subject did not include 'practical' physical activity. This absence was for some disappointing and appeared to be compounded by the fact that peers who were enrolled in the course offered by another university were involved in 'practical' physical activity.

Most of the students interviewed thought that the human movement studies course would be an extension of the Health and Physical Education subject they studied in Years 11 and 12. Students were surprised by the strong focus on science in their first year of study and while some saw links between content areas in some subjects of their B.Sc. course, many questioned the relevance of general science subjects like chemistry, plant biology and physics. Students saw these subjects as separate and distinct entities, unrelated to what they were studying in the Biophysical Foundations subject. We need to bear in mind that the students' constructions of worthwhile knowledge in human movement studies was restricted at this stage to the Biophysical Foundations subject, and they viewed the rest of the science curriculum as a precursor to studying the 'real thing'.

Indeed, most of those surprised by the science content of their degree seemed resigned to studying general science subjects, but they were

optimistic that the course would come closer to their expectations of human movement studies as they progressed into second year and beyond:

Interviewer: Is (the course) meeting your expectations so far?

Dean: Well sort of... but at the moment all we are doing is science, like Chemistry and Biology just to get background information but the actual human movements subject is what I expected it to be... Like next year it is all human movements, so it will be good then. We've just got to get through this pre-stuff.

Interviewer: Do you think the course is meeting your expectations so far? Did you realise it would be so science based to start off with?

Donna: No, I didn't really, like I thought they might just do all the things to do with human movement through chemistry and that. Like in biology we are learning about plants and stuff and we're going "What? How does this tie into it?"... The only thing that is keeping me going is my friends in fourth year saying it gets better after the first two years... but as I said before, I mean, it'll get better and more specific as the years go on (laugh), hopefully.

#### Plans for future study and career

While only one student had entered the course with the intention of becoming a teacher, several had already begun to entertain the possibility that this might be a career path for them. Some others who had initially wanted to study physiotherapy seemed comfortable with

staying in human movement studies. Nine of the students interviewed did not see teaching as a desirable career for them. However, only a few had any strong feelings about what they wanted to do beyond their course.

Although we are only dealing with a small sample, it is notable that these early shifts in students' thinking about career paths seemed to have little to do with the information that they had acquired during their first semester of university study. They were influenced instead by their growing awareness of the two specialised vocational streams of the applied science degree in human movement studies that were available to them in their third and fourth years, exercise management and health and physical education teaching. Most students had only a vague idea of what exercise management might involve as a job, and some had formed the impression through conversations with older students that there may be limited job opportunities in this field. The shift in some students' thinking to include teaching as a career path for them seemed to be motivated primarily by their desire to find a job at the end of their course, as indicated by Martin:

Martin: When I first came into human movements I wanted to get into exercise management but I've since changed. Now I want to get into education.

Interviewer: Do you? What makes you want to get into that now?

Martin: I was talking to someone and they said that last year when the exercise managements got out, out of the forty that did it, five

got jobs or something like that. Yeah and the education side, they're crying out for people so, that was the main factor.

Interviewer: The 'jobs factor'?

Martin: Yeah, that's what you come to uni for, so...

Interviewer: To get a job?

Martin: Yeah.

Some students also remarked that they were familiar with what physical education teaching involved since they had been able to observe their teachers first hand during the Health and Physical Education courses. Clayton felt he had developed a good idea of what teachers' work involved:

Clayton: I mean, those who go into teaching probably have the best idea of what they are going into. The rest of us are sort of going in wondering, I suppose, hoping that it will turn out the way you want. I suspect there would be less teachers who drop out simply because its not what they expected.

Interviewer: Do you think they have a preconceived idea of what teaching is all about?

Clayton: Yeah there is a preconceived idea and I think generally that would be right because they see what teachers do. I mean they see them everyday while they're at school. The extent of what they do is basically teach, prepare for lessons and mark assessment, I suppose, as

far as I can tell.

Calvin was attracted to teaching by his perception of the lifestyle associated with being a physical education teacher:

Interviewer: Does anything in particular appeal about teaching?

Calvin: Um holidays (laugh)... holidays are pretty good, um, oh I don't mind helping people out when I know what to do and they ask me questions and I don't know, it just seems fairly cruisy. Not really cruisy because I know it can be a lot of work. It just seems an alright job.

Interviewer: So do you see yourself working at all with little kids?

Calvin: Yeah I suppose. There's a guy at home which I wouldn't mind doing his job because like he just goes around to all the different schools in the area and just plays sport with the kids (laugh).

Interviewer: A phys ed teacher?

Calvin: Yeah he just sort of, he does all these little activities with them and that seems alright. He just plays little games. He just keeps going from one spot to another, has a break in between.

Interestingly, however, when Calvin and his peers were asked what skills they would need to develop to equip them for teaching health and physical education in schools, few apart from Clayton could give examples. General personal traits such as "patience" and "perseverance" were commonly mentioned, but only one student considered management and organisational skills to be important. Other skills associated with

teaching generally were overlooked. The students believed that they would learn all of the skills necessary for effective teaching during the remainder of their course.

#### Preliminary Interpretation of the Student Data

In commenting at this point on the degree to which there is any match or contrast between the students' experiences of school physical education and university human movement studies, it is important to bear in mind that they have completed only one semester of university study and only one subject specifically concerned with human movement, which was Biophysical Foundations. This biophysical knowledge was familiar to the students and was, to some extent, consistent with their expectations of what human movement studies would entail. Students expected their university studies to be more detailed than school Health and Physical Education and they were not surprised to encounter some new knowledge, such as biomechanics and psychology.

The major differences they reported relating to the absence of 'practical' physical activity and the heavy emphasis on science foundations in their first year of study did disturb their expectations. However, many of the students appeared aware that these were specific features of the University of Queensland course rather than the physical activity field at tertiary level more generally, since they knew that an apparently contrasting version of the field was offered by another institution.

Given the almost universal statement of interest in sport as a major motivation for studying both Health and Physical Education and human movement studies, it is somewhat surprising that students did not comment more explicitly on the relative lack of reference to sport in the Biophysical Foundations subject. While sport is one source of examples and applications for the biophysical bases of human movement, other examples from work, health, and everyday life are just as prominent in this subject.

An important issue to emerge from the student interviews is the influence of the students' perceptions of the value and relevance of knowledge in relation to specific occupations. Many of the students reported that they were interested in learning more about 'how the body works'. Even so, this interest was embedded in their understanding of what utility knowledge might have in relation to specific jobs. Most students appeared to accept at face value that knowledge of the Biophysical Foundations of human movement would be relevant to a career in the physical activity field generally. This concern with the occupational utility of knowledge lay behind some of the students' surprise that they had to study foundation science subjects in their first year. Of particular interest here is the issue of what knowledge is seen as the obvious and valuable for inclusion in the study of human movement.

Although only one student appeared to be drawing on her knowledge of

the Biophysical Foundations of human movement when she was discussing her career plans, for all students interviewed, the occupational utility of knowledge appeared to be a prominent concern and a frame of reference for making sense of human movement studies, confirming Macdonald's and Abernethy's (in press) recent and related research in this area. Those students who reported that they had a good understanding of Health and Physical Education teaching on the basis of their school experiences of the subject and who had begun to think that they may also become teachers were, perhaps, using what was familiar to make sense of their new and less familiar experiences at university by sifting their new experiences through the sieve of occupational utility.

Bernstein's concepts of classification and frame can also be utilised to understand human movement studies in contrast to school experiences. Along with the anticipated increase in detail, students also experienced an unexpected increase in the compartmentalisation of knowledge in their university course. In Bernstein's terms, there is a stronger classification of knowledge in the university version of the field than the school version. The organisation of the Biophysical Foundations subject contributed significantly to the impression students' appeared to gain that there were real boundaries between each of the discipline bases. This perception was further reinforced by the fact that each section of the subject was taught by lecturers who had specific expertise in a discipline base. At school, in contrast, all of the 'theory' components of Health and Physical Education were taught by

only one or two teachers, with only one exception to this general arrangement where the student claimed to have a different teacher for each 'theory' unit.

We can also reflect upon changes in the framing of knowledge in university as compared to school studies. In the university setting we can note that there is less 'control' of student learning, with the pedagogical relationship between students and the teacher more open than in schools. The organizational arrangements that produced the strong classification of university knowledge also had an impact on frame. Many students commented on the friendly, personal and relaxed relationships they had with their physical education teachers in senior school. But it is also the case that the potential for teacher control over student learning was enhanced by the arrangement of having one teacher work with a relatively small class of twenty to thirty students throughout the entire subject over two years. In the university setting, in contrast, each lecturer had responsibility for only one section of the subject. Moreover, with around three hundred and eighty students attending lectures, there was little opportunity for personal contact between teacher and learner.

Arguably by default, university students have a greater responsibility for their own learning than school students, but we are hesitant in equating this with the weak framing of university knowledge. The lecture setting is one in which the content is typically 'non-negotiable'. The style of delivery will vary between lecturers,

just as it will with different teachers in schools. Without additional research, we are not in a position to generalise further about the strength of framing in either the university or schools settings.

The shifts in the classification and aspects of the framing of knowledge between senior secondary school and initial university experience represent important and significant reconfigurations of the physical activity field. The strong classification of university knowledge is not merely an effect of greater specialisation, though this is important. It is also an effect of resources available to universities, human resources in terms of expertise and identity of academics and material resources in terms of funding, facilities and equipment. Moreover, the strong classification of knowledge represents a foundational epistemology that is institutionalised in traditional universities such as the University of Queensland. A presupposition underpinning the organisation of learning informed by this epistemology is that there is a hierarchy of knowledge that is best acquired through a progression from foundational to introductory and advanced levels and from the general and discrete to the specialised and integrated.

A third characteristic evident from the student interviews was an absence of the use of epistemological principles that might have provided some thematic unity to the fields. Students were able to list and describe the component parts of their Health and Physical Education courses and to do the same, with a lesser degree of confidence, for the Biophysical Foundations subject. However, there is little evidence to

suggest they had at this stage been able to conceptualise these versions of the physical activity field in terms of making connections between the component parts. Rather, in Bernstein's terms, it would appear that a collection code rather than an integrated code underscores the organisation of university knowledge at this level.

If there was an element in common within the component parts of school Health and Physical Education, it was sport. However, the limitations of sport as an epistemological organiser become immediately apparent in the students' reproduction of the field as 'theory' and 'practical', where there is no apparent relationship between each category. Even though the Biophysical Foundations subject attempted to provide some thematic links between each of the knowledge bases of human movement in the form of the concepts of growth, adaptation and maturation, these principles did not figure in students' constructions of their initial experience of human movement studies.

### Concluding Comments

We conclude by reiterating the preliminary and tentative nature of our interpretations at this stage of the study. This is so particularly in light of our discussion of the data which suggested that the students' prior experiences of school physical education play a prominent part in their attempts to make sense of their experiences of university human movement studies. Students in their first year of university study are in a transitional phase of adapting their secondary school knowledge to

accommodate the demands of university study. Our focus in this paper on students at this stage of their education has brought to light the importance of their constructions of the physical activity field based on their secondary school experiences as a framework for interpreting the university version of the field, a factor that has not been clearly identified in previous curriculum and teacher focused studies.

As we noted earlier in this paper, we expected to find that versions of the field in secondary and tertiary education institutions play a mutually constitutive role in each others' construction. However, we added to this expectation the evidence from previous curriculum research that the configuration of the field dominant in tertiary institutions, which stresses biophysical over sociocultural knowledge, discipline over professional knowledge, and theoretical over practical knowledge, played a dominant role in shaping the senior school version of the field. In turn, this evidence seemed to suggest similar constructions of educational discourse within and across both settings. The preliminary interpretation of this first data set challenge this earlier evidence in some important respects.

Perhaps the most powerful influence on students in their attempts to make sense of university human movement studies was the difficulty of seeing the occupational utility of the foundational science knowledge that formed the majority of their first year experience.

Cross-sectional survey data of students enrolled in years one to four of human movement studies degrees at the University of Queensland

suggests that subjects such as chemistry, biochemistry, physics, and statistics remain of little perceived relevance to students throughout their undergraduate program, while professional development subjects are identified as most relevant in terms of occupational utility (Abernethy & Macdonald, in press).

We suggest that part of their difficulty in making sense of their university experience stemmed from their limited experience of the kinds of occupations that graduates of human movement studies might follow apart from teaching. Since they each had first hand and very recent experience of physical education teachers, the students could not see how their university experiences tallied with their interpretations of their teachers' work. In other words, they translated the occupational utility of their university knowledge into the familiar terms of school Health and Physical Education, and the main frame of reference available to them was physical education teaching.

It is open to question whether there needs to be consistency in educational discourse in the physical activity field and a correspondingly close match between school and university versions of the field. For students, it may be that a closer match would make the transition from school to university easier, at least in relation to some aspects of their course of study. It also remains to be seen to what extent occupational utility, the subjective warrant of sport and other factors that have their source in the students' school experience

continue to form a frame of reference for this group of students, a matter we plan to follow up through further analysis of the second set of student interviews and in a study involving second and fourth year university students beginning in 1998. It will be interesting to pursue whether or not subsequent studies involving subjects such as the Sociocultural Foundations of Human Movement that students take in their second semester do give rise to notable changes in their perceptions of what constitutes valued and valuable knowledge in the fields of physical education and human movement studies.

Given the complexities of curriculum organisation in secondary and tertiary education institutions, it is perhaps unlikely that curriculum development could ever proceed in a coordinated fashion. It would appear, instead, that innovations in the tertiary sphere are most likely to find their way into schools through the work of teachers graduating from university programs. The teacher interviews conducted as part of this study should be able to throw some light on this possibility. Whether the experiences of school physical education that students enter university with can bring about changes in the university version of the physical activity field is a matter that may be dependent on the progress over the coming years of 'client-centred' higher education.

Finally we should comment on the contribution that Bernstein's work has and can make to our exploration and understanding of these complexities. Perhaps more than most scholars, Bernstein directs us to

both acknowledge and unpack that complexity and the contested nature of the issues with which we are concerned. He provides us with some concepts that represent an important foundation for our investigations and analysis. However, we should not regard them as the only concepts we can utilise and an important task in our further analysis is to reflect upon their adequacy and appropriateness in dealing with data in which both social structures as well as individual people are clearly influential.

We see considerable potential and an arguable need to utilise Bernstein's (1990) concepts of 'voice' and 'message' in the light of both our data to date and the questions that we are seeking to answer. A picture can be seen to be emerging of students experiencing multiple and potentially contradictory messages during the course of their education in secondary and tertiary institutions and their subsequent employment in teaching. The extent to which these messages are shaped by, compatible with, or can be regarded as challenging, the voice of curricula in both secondary and tertiary studies are critical issues that we will continue to pursue in our ongoing research.

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## Notes

1 We have also completed interviews with recently graduated teachers in relation to their uses of human movement studies knowledge in teaching

health and physical education. However, this data is not reported here.

A much larger three year study beginning in 1998 will expand this study to include data collection from HMS students in at least three universities, increase the number of data collection points throughout their university careers, and increase the numbers of teachers who have graduated from a variety of universities.

2 Overall Positions (Ops) are allocated in bands 1 - 25 (with 1 being the highest) and distributed according to a loose normal curve (2% band 1; 15% bands 2 - 6; and 70% bands 7 - 21).