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The learning preference of Cardiff Metropolitan sports students in teaching environments

(Dissertation submitted under the pedagogy area)

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Abstract

The main purpose of this study was to investigate the learning preference of Cardiff Metropolitan sports students in teaching environments. The study focused on the three commonly used teaching environments (lead lectures, seminars and practical sessions) and looked to find students opinions on each and ultimately discover their preferred learning environment. Previous studies and theories were reviewed to help provide a 'blueprint' and it was decided to use a qualitative approach with 6 Cardiff Metropolitan students each taking part in a semi-structured interview. The interviews, when analysed, found that all the participants preferred to be engaged in their teaching environment and found the didactic environment tedious. Further questioning led to the students seeing interactive sessions like seminars and practical's in a much more positive light to the didactic approach of a lecture. Therefore according to the results there should be more of these interactive sessions and less didactic style sessions. This view was found to be too simplistic as it is not cost effective. A lead lecture session can pass information on to 300 students, whereas it would require 10 seminar sessions to replace this lecture. It is therefore essential that teachers engage students as much as possible, regardless of the environment or number of students present, to help them reach their academic potential. The information gained from this study could form the basis of a more in-depth study that may lead to more informed / improved teaching sessions for sports students in the future.

CHAPTER 1

INTRODUCTION

Introduction

In a teaching environment students should feel engaged and be able to improve their knowledge base in order to help them progress and reach their goals (Byra, 2006). To achieve this, students need to motivated and inspired to learn. The Bologna process written in 1999 states the importance of gaining new relevant knowledge and refers to it as an 'indispensible component.' Learning is described as a change in knowledge due to experience and reflection (Brown et al, 1997). Due to the diverse nature of students, they all learn in different ways (Fry et al, 2009). This is due to 'characteristic cognitive, affective and physiological behaviours' which are causing a problem to lecturers, particularly as participation rates of people going to university are increasing and causing a greater diversity of students (Sims & Sims ,1995,xii). This does not only includes different learning preferences, but also a wider range of abilities and students having different motivations for attending university. The cost of university fees and the high level of debt in which many students find themselves adds to the pressure on both the lecturer and student to ensure that a student achieves their full potential (Biggs & Tang, 2011).

A student's learning preference in a teaching environment is an individual choice based on the teaching style used and the environment that the lesson is taking place in (Tappler, 2006).Therefore it is important for lecturers to improve their knowledge base on how students learn to help increase the effectiveness of the teaching sessions (Sims & Sims, 1995). This is often linked to the teaching environment, Fry (2009) and Brown et al (1997) say that a good teaching environment for the student is linked with effective learning and a perceived freedom to learn. Additionally it increases a student's motivation to learn, which contributes highly to student learning. It is therefore essential that the teaching environment utilised is based to a large degree on students' preferences, so their engagement will increase and they are more likely to reach their goals.

Higher education generally involves different teaching environments, for example, in Cardiff Metropolitan University, sport students engage in lead lectures, seminars, practicals, group work and also work independently at home. However, the study does understand that it is not only the teacher's responsibility to facilitate learning and that the students must openly engage in tasks such as reading, completing coursework and asking questions to check for understanding (Biggs & Tang, 2011). Consequently, the key aims of this dissertation are to identify which teaching environments are preferred by Cardiff Metropolitan sports students

and to identify the teaching environment in which they best learn. These may or may not be the same. The objectives needed to meet these key aims are:-

- Investigate the range of learning environments students experience in Cardiff Met;

- Find out which learning environments student prefer;

- Discover which learning environments are best for student learning.

The first stage to this study is to investigate and to carry out research on existing literature to gain a good knowledge base about how students learn. This review of existing knowledge through journals and other academic literature will help mould questions that can be used during planned student interviews. Semi-structured interviews will be carried out with six Cardiff Metropolitan Sports students using the literature reviewed to help determine their learning preferences and favoured teaching environments. Interviews are to be used as they are considered one of the best ways to retrieve information (Crowther & Lancaster, 2008). Cardiff Metropolitan students will be used as they are currently involved in these teaching environments and will consequently be familiar with what is being researched and will have opinions on how they prefer to learn. A limitation to this study is the small sample size as the views and preferences of only six students, whilst allowing in depth investigation, may not sufficiently reflect the learning preferences of the whole student body.

The main points of interest within the interviews will be do they have a particular teaching style which they prefer, what do they think of each teaching environment (seminar, lectures etc? Does the size of the group matter? How do they feel they learn best? Do they enjoy what they are studying? By the end of the paper hopefully there will be a clearer insight on the learning preference of Cardiff Metropolitan Sports students in teaching environments. The answers given by the participants will then be linked to theories and discussed later in the paper with a conclusion to round up all the findings. The findings and conclusions in the paper should be used to inform the planning of the future format of courses which could have a significant impact on more students reaching their full potential. Of course any changes that are made should be continually reviewed to ensure that they have the desired effect on student attainment levels.

CHAPTER 2
REVIEW OF LITERATURE

The first step of the study is to look at existing theory and research in order to identify any important work that can provide a strong foundation on which to build the study. Previous work may provide ideas that could have a real impact on teaching styles and student achievement. This review will look at higher education teaching environments (lead lectures, seminars and practical sessions) and the teaching styles used within them. As part of the review it will also evaluate relevant learning theories and how these could be applied to the study to determine if Cardiff Metropolitan Sports students have a common preferred learning style. There are a large number of studies about teaching and learning and therefore this review concentrates on those most relevant to students at university as this is the focus for the dissertation.

University is an optional education choice, for school leavers who meet the requisite course entry requirements, which can lead to them obtaining extra qualifications. Students attend university to obtain their chosen degree in order to improve their future employability or simply because they are interested in the subject (Biggs & Tang, 2011). Shoenberg (2000) suggests there is no fixed curriculum in higher education; instead each student is able to select a range of options to study alongside the core compulsory modules. Shoenberg (2000) also states that lecturers are allowed to choose their pedagogical strategies themselves depending on what they believe best suits the subject and the students. It is therefore essential that the lecturers are made aware of student preferences when it comes to learning and the environment it is done in so that they can apply it to their practice to help students reach their full potential (Sims & Sims, 1995). Courses in university are filled with different learning environments such as lectures, seminars and practical sessions. The Higher Education Academy suggests that a range of different environments are used to provide students with different opportunities to learn and to help them develop new skills.

2.1 Teaching styles and learning environment

 Brown & Atkins (1990) suggest that a teacher's responsibility extends to merely providing an opportunity in which students can learn and the students themselves should take that opportunity. Consequently it could be argued that the approach a teacher takes, from the many different ones available, is down to their personal preference. However, in practice there are a number of different factors that influence the approach a teacher takes. These include the resources that are available to them, the ratio of students to teachers, financial

restrictions, their workload and the characteristics of the students being taught   (Leveson, 2004).

Parker & Curtner-Smith (2012) believe that lecturers stick to a teaching style that they feel comfortable with. This may indicate that some lecturers would be resistant to adapt or change their teaching approach because they're not familiar enough or at ease with alternative teaching styles. Should this study find that a majority of the students prefer and learn more effectively when a particular teaching style is adopted then this potential resistance to change by lecturers could be restricting students from reaching their full potential (Biggs & Tang, 2011).

There are a broad range of teaching styles that lecturers can utilise. At one end of the spectrum a completely orientated teacher approach, where there is very little interaction between the lecturer and student could be chosen. This approach is linked to Mosston & Ashworth's (2002) command style of teaching where the student has very little input into a teaching session. Although this style is linked to practical PE sessions, rather than higher education, it is still relevant as it shares many characteristics with the teaching style used in a lecture setting. The command style is closely linked to the didactic approach used in higher education where the students are passive learners (Brown et al, 1997). The main advantage of using lectures to deliver learning is that is a very cost effective way of delivering knowledge, simultaneously, to a large number of learners. The surface learner tends to prefer this approach as usually all the necessary information is provided and no real thinking is required (Gordon & Debus, 2002). The learner merely needs to use the information to study for assessment (Prosser & Trigwell, 1997). Cotterill (2015) found that a didactic approach like this is less motivating for learners than a student centred approach and consequently is more likely to cause students to disengage or not attend.

 An example of a teaching approach at the opposite end of the spectrum would be how a seminar session is taught. In a seminar the teacher encourages a high level of engagement and discussion to help facilitate learning. This approach is similar to the teaching style that Mosston & Ashworth (2002) termed guided discovery. It differs slightly because in the guided discovery style the lecturer asks questions to lead the learner to the correct answer rather than facilitating discussion. The deep learner prefers this style as it allows a greater understanding of the subject to be achieved and requires the students to produce the answers rather than just being given them (Platow et al, 2013). These sessions often require smaller groups so the teacher can check for understanding, leading to more sessions having to be planned and organised, which is therefore a more costly teaching approach. This teaching method requires the students to be enthusiastic and motivated to engage,

otherwise the session would not be effective or successful (Xakeliis et al, 2005). Cotterill (2015) suggests that these more interactive sessions can lead to some students coming into sessions with more anxiety than if they attended a lecture. This anxiety could lead to students avoiding these lectures or even dropping out of university. This style is also more evident in laboratory practical sessions where teachers only provide the content and allow the students to explore and discover the answers. Some students may become anxious in these situations because they feel under pressure to participate, answer questions or fail a task in front of their peer group (Sagar et al, 2011).

As a consequence of a less rigid curriculum in higher education than in schools, teachers can vary their teaching styles depending on the situation and what they want their students to produce at the end of the session. It is key that the most appropriate teaching style (from those discussed in the above spectrum) and learning environment is used for Cardiff Metropolitan Sports students because it can help increase the chances of them reaching their full potential and achieving the best outcomes they can from university (Biggs & Tang, 2011).

2.2   How students learn - theories

Universities attract a wide range of students from all types of demographics. The students will have different educational backgrounds and in many cases may be from different cultures or countries. Additionally they will all have a different level of educational ability, although course entry requirements will level this to some extent, and learning preferences (Barrington, 2004). There are a number of theories that have tried to classify learning preference and the three most relevant to students in higher education will be discussed here. The visual, auditory and kinaesthetic (VAK) and multiple intelligences theories of learning will be considered within the study. However, Entwistle's (1987) deep and surface learner theory about how students prefer to learn will form the back bone of the study.

2.3 The visual, auditory and kinaesthetic (VAK) theory

 Fleming (1995) investigated university students learning preferences and identified three different types of learners. He found that some students prefer to learn through visualisation and he called this group, 'visual' learners. This group like to learn through watching demonstrations and videos. Other students were found to prefer learning by listening and these were called auditory learners. This group are best suited to listening to the information

and find it easier to retain information they hear and will often repeat the information out loud to help them learn or use a rhythm to help them retain the information (Smith, 1998). Students in this group like to learn predominantly (in reality students like aspects of each type of learning) in a lecture setting, where the lecturer dictates the information to the students. Smith's last style of learning was the kinaesthetic approach. This is where a learner prefers to engage in an activity to retain information more effectively. Students in this group prefer to learn in a practical setting and be more hands on. This theory of learning could be useful and should to be taken into account when creating the teaching structure in university. Fleming (2014) found that there was no evidence that understanding someone's learning style caused any 'harm' and that it is useful to understand how people learn. It would assist lecturers and make them identify what learning preference group they have with a higher proportion of students in and amend the structure of their teaching to suit the learners needs and increase the chances of students reaching their full learning potential (Fry, 2009). Fleming (2014) recognised that knowing a student's preferred learning style does not necessarily mean that their learning will improve in one environment compared to another. He additionally acknowledged the views of some critics who argue that using a style, other than the students' preferred one may help a student's development.

2.4   The multiple intelligences theory

Gardner (1993) called his theory of learning the multiple intelligences approach. He identified eight different categories of learning and concluded that learners will have a combination of some or all of the categories, but no one student can have the same profile of intelligences as another student. Barrington (2004) argued that this theory was entirely appropriate for studying learning among university students as there is a high level of diversity among students. Consequently, there will also be a wide range of learning preferences and the eight options allow sufficient scope to represent this diversity. However, Kezar (2001) believes because this theory of learning has only been employed in higher education on a couple of occasions it is more proven to be useful for teaching younger college and school pupils. The advantage of applying this theory is that it helps lecturers more easily identify types of learner and allows them to build an overall detailed profile of each student. The eight categories of intelligence identified by Gardner shown in table 1 below:

Table 1: Gardener's eight categories of intelligence

Category	Description
Linguistic	Similar to an auditory learner who is an effective listener and often makes word games in order to remember information. Skilled in the use of language.
Logical/mathematical	Learners who prefer to problem solve and have the ability to see patterns and relationships.
Musical	Learners who may prefer to learn with music playing in the background or perhaps use lyrics to help them learn
Visual/spatial	The type of learner who learns best when they see a diagram, chart or a graph.
Bodily/ kinaesthetic	Hands on learners who work well when carrying out a task or through physical activity.
Interpersonal	A learner who interacts well with others and learns well when working as part of a team.
Intrapersonal	A learner who is self motivated and prefers to work independently
Naturalistic	A learner who relates well to the natural world and is a good observer

Each category in a students' profile may be useful to a lecturer at university, as it would allow him/her to understand the way in which a student learns best, but the most relevant for this study are the linguistic, logical and bodily kinaesthetic elements. They are the most relevant because they are the most closely linked to the teaching environments being looked at as part of this study. It is also important to determine if the learner prefers to learn independently (Intrapersonal) or as part of a group (Interpersonal). The linguistic element is similar to an auditory learner who is an effective listener and often makes word games in order to remember information. It could be argued that the logical/mathematical learner may benefit to be taught in a seminar environment as they prefer to problem solve rather than just being spoon fed the information. However, this is too simplistic a view as students are likely to have a learning profile that has a number of categories and is far more complex. Similarly students whose profile identifies them as bodily kinaesthetic learners may prefer a practical setting where they can take part in the activity to improve their knowledge. Again

the reality of the students learning preference will be more multifaceted. Students who prefer this approach like to learn through feel and this learning theory is very similar to the kinaesthetic element of the VAK theory. Students in higher education are regularly required to work in groups and independently (interpersonal, intrapersonal) (Barrington, 2004). These theories are similar and there are some links between them that may help lecturers identify which environment students would work best in. However, there is no direct evidence to whether or not this link would improve learning.

2.5   Deep and Surface Learning Theories

The theory that will be central to this study, and used to fully analyse how Cardiff Metropolitan sports students learn, is the deep and surface learner approach. Biggs and Tang (2011) found that students and teachers have an equal responsibility in the learning process– it is a learning partnership. Students must engage in tasks set by the teacher and undergo their own learning outside of the teaching environment, in order to gain a fuller understanding of a subject. Consequently, a student's ability to learn is closely linked to their motivation. Depending on the type of learning task a student engages with, Entwistle (1987) has described students to have either a surface approach to learning or a deep approach.

A student with a surface approach to learning is one who could be described as a less motivated learner who will generally just do enough work to pass (Gordon & Debus, 2002). The student will use the information prepared by lecturers and simply memorise the information in order to achieve pass marks in assessment tasks. They will do very little extra reading and will not gain a real in-depth   knowledge of the subject being studied, which is normally associated with poor outcomes. (Ramsden, 2003). A student who has the characteristics or traits of a surface learner consequently tends to prefer to learn in a lecture setting. This is because in this type of environment information is handed out or dictated to students and they are not required to fully engage as it is not usually necessary in order to learn (Fry et al, 2008).

Biggs & Tang (2011) describe surface learners as more likely to be motivated to attend university due to a desire to apply for certain jobs later in life rather than being keen to learn. If the majority of students are motivated in this way and as a result prefer to learn using a surface approach then universities should deliver the majority of teaching sessions in a lecture format. A command style, where the student can memorise the information for

assessment, should be employed with students being comfortable in their preferred learning environment.

Of course, should the majority of students want to gain an in-depth knowledge of their preferred subject and could be described as being 'deep' learners then a timetable structure which promotes and supports this type of learning could be introduced. For example, more seminar sessions could be developed. This would help to increase the effectiveness of teaching time and lead to higher student achievement (Sims & Sims, 1995). A student who is keen to learn usually adopts the deep approach to learning (Brown et al, 1997). This is usually due to an 'intrinsic interest' (Platow et al, 2013, pg 272) in the subject which is why they chose to attend university in the first place. Consequently they generally apply themselves more and engage to a higher degree in teaching sessions and complete additional work to gain a better understanding of the subject area. A deep learner is not just satisfied with knowing the solution, a deep learner wants to know how and why the solution has come about (Platow et al, 2013). Ramsden (2003) established that the deep learning approach is highly linked with successful learning when combined with an appropriate curriculum and teaching approach.

Brown et al (1997) suggested that students are not comfortable with learning using both approaches. A surface learner may not be comfortable having to learn more about a subject than is necessary whereas a deep learner may not be comfortable knowing only the basic information. Therefore a student who learns using the deep approach is more likely to prefer to learn in an interactive session with a high level of engagement like a seminar. However, there is some criticism of this theory. Dhalin & Ragmi (1997) and Marton et al (1996) have established that memorisation cannot only be associated with a surface learner. Marton et al (1996) suggest that memorisation can lead to good understanding of the knowledge. They agree that it is a combination of memorisation and understanding and a more 'strategic' approach can be taken by deep learners to achieve better results. Likewise Dhalin & Ragmi (1997) also reached the same conclusion in their study of Nepalese students. These students, because of cultural differences, tend to learn through memorisation but still achieve the high grades associated with the deep learner. This apparent contradiction calls into question the principles of the deep and surface learner theory. Haggis (2003) has also questioned the interview techniques used in the study that developed the deep and surface theory and believes that the way the interviews were conducted encouraged participants to

give specific answers. Consequently there is a risk that the data and results may be unreliable.

The VAK, multiple intelligences and deep and surface learner theories all provide knowledge of how students learn in higher education. The theories overlap and can be easily linked to one another to help identify a type of learner and establish how they best learn. However, no qualitative research has been found that identifies the learning styles of sports students and uses this knowledge to develop relevant teaching styles. Consequently, if this study were to discover any useful themes, it could be used to inform a much larger scale study. A study using a larger number of students could help influence senior university staff to develop a timetable that is more informed, in terms of the format of lessons and allow lecturers to implement a more effective teaching style and environment.

The theories within this literature review will help to identify best practice when trying to establish which teaching environments are preferred by Cardiff Metropolitan sports students and the teaching environment in which they best learn. The theories outlined above will help classify how sports student learn and will be used to more fully analyse and understand the students' views.

CHAPTER 3
METHODOLOGY

Methodology

3.1 Design

Due to the topic of research being based around student's thoughts, feelings, experiences and not being quantifiable the study was conducted using qualitative methods (Gratton & Jones, 2004). Patton (2002) states that the qualitative approach is the most effective method the researcher can use to gain a greater understanding from the participant. Semi-structured interviews were used to allow the participants to be able to expand on their answers (Gratton & Jones, 2010). Gratton & Jones (2004) described a semi-structured interview as a very flexible process where the order of questions can alter; the answers provided from the previous questions are used to help shape the next question. Kvale & Brinkmann, (2009) find semi-structured interviews to be very effective due to the informality of the interview, participants are said to relax more and reveal much more information. Due to the small sample size the interviews took place on a 1 to 1 basis, this allowed the researcher to gain a rapport with the interviewee and was more appropriate than using a questionnaire.

3.2 Participants

Six Cardiff Metropolitan sports students who are currently in their 3rd year of higher education and are studying Sport and PE were selected to take part in the study. Gratton & Jones (2010) describe this sampling as key informant technique where the participants are chosen for the study because of their knowledge and relevance. The participants were chosen because they are currently studying in Cardiff Metropolitan University and have experience of learning in this environment and consequently will have relevant opinions and insights. In order to be able to compare the sample consistently Sport & P.E students were chosen because they experience a similar amount of each learning environment. This is unlike third year SCRAM students who are taught mostly through lectures and only undertake one practical session and may not be able to give a detailed insight on each learning environment. Silverman (2006) describes this process as purposive sampling and states that is it necessary to use this non-random sampling technique in some studies due to the specific research question. A limitation of this study is that the small sample size may not be a true reflection of the whole student body's opinion. Additionally the non-random sampling may lead to bias within the answers given by the selected students (Smith & Osborn, 2003). Although these are limitations the non-random sampling is necessary due to the specificity of the research and also because the small sample allows the interviews to be in greater depth and more information to be retrieved from each participant (Gratton & Jones, 2010).

3.3   Pilot study

A pilot study was conducted to help critique the questions and help prepare the researcher for the actual data collection (Thomas et al, 2011). The pilot study is an important part of research as it helps improve the scientific rigour of the study by allowing the researcher to test the questions prepared and make changes to improve the effectiveness and flow of the interview (Feeley et al, 2009). The main issue that came up within the pilot study was the order of the questions. Smith & Osborn (2003) stress the importance of having an order that allows the interview to flow with each answer leading on to the next question. This is especially important in a semi-structured interview as the aim is for the conversation to be as natural as possible. Also some questions were vague and did not obtain the relevant information. These questions were amended and also extra points will be written next to the question to prompt the researcher to probe for all the different information that can be obtained (Burns, 2000).

3.4   Ethics

It is the researcher's responsibility to make sure that ethical approval is obtained before the study starts to minimise the harm to participants (Silverman, 2006). As the study did not include interviewing a vulnerable population it was not necessary to seek approval from Cardiff Metropolitan's ethics committee and the study was signed off by the dissertation supervisor. Once ethical approval was obtained the participants were contacted and invited to take part. The participants were provided with an information sheet to outline what the study would consist of and were shown the interview questions beforehand (Gratton & Jones, 2004). Once the participants had agreed to take part in the study they completed a consent form and the study was ready to begin. Participants were reminded that they could remove themselves from the study at any point and that their answers would remain confidential and only be available to the researcher. To ensure confidentiality the participants would be called participants 1-6 and be referred to in this way in the results section (Gratton & Jones, 2004).

3.5   Procedure

Six Cardiff Metropolitan university students studying sport & physical education were approached before the study. The students were given an overview of what the study was

about and what their role would be, should they agree to take part, within it. Once the students had consented to take part a mutually convenient time was arranged for them to take part in the interview. The interviews took place on site in the university in a social learning space which was perfect for these interviews as it was free from noise disturbance and also contributed to the informality of the situation. Participants in an informal interview are more likely to be relaxed and answer the interview questions openly and in more detail. The semi-structured interviews then took place, they began with a greeting and small conversation to help build rapport with the interviewee. This small introduction helps relax the participant and increases the chances of the participants revealing more of their thoughts and expanding on their answers (Seale et al, 2007). This was then followed by asking the previously prepared questions about the participants' preferred learning environment, their opinions on each learning environment and how they prefer to learn. See Appendix 1 for the full transcripts of each interview. The interviews were recorded using an iphone and an ipad and the recordings were then uploaded onto the computer and transcripts written up during the data collection process. These results were then analysed and conclusions made on what the learning preference of Cardiff Metropolitan students is in teaching environments.

3.6   Trustworthiness

Trustworthiness within a research study is essential. If the research is not deemed to be trustworthy then the results accumulated are likely to be false and not creditable (Lincoln & Guba, 1985). According to Kumar (2005) a research project can never be entirely reliable but there are many factors that can reduce the reliability and accuracy of the results obtained. The researcher can help play a vital role in increasing the reliability of the results. Gratton & Jones (2010) state that the researcher has to be knowledgeable in the subject field as it is their interpretation of the answers given that is applied to the existing theories. So before undertaking the interviews the researcher read around all the literature and theories linked to the interview so that an accurate interpretation could be taken from the answers given. Also the researcher should not show any bias whilst asking the questions and respect all answers given by the participants because if the participant's feels obliged to give a certain answer it is going to decrease the reliability of the results. Kumar (2005) also stated the physical surroundings and interaction of the researcher can affect the answers given by the participants. Therefore, it is important that the researcher is consistent in his approach and that the environment in which the interview takes place is the same for every interview.

In order to ensure that the transcripts were a true representation of how the participants felt they answered the questions they were all provided with a copy to read and approve. The limitations will be more fully discussed in the conclusion but one limitation worth mentioning here is the study only consists of one interview. It may have been more appropriate to use a multi approach and carry out some observations in seminars and lectures. This would have allowed a more in depth insight to be gained by the researcher who would be able ask more relevant questions at the end of each session but may have had ethical implications as could be seen to be directly interfering with the learning process (Gratton & Jones, 2010).

3.7 Data Analysis

Data analysis takes place so that all the information gained from a research study can be organised and interpreted to allow the researcher to discover key themes and comparisons within the results (Burns, 2000). To achieve this, once all the interviews had taken place, the transcripts were written up. An inductive approach to data analysis was used as Armour & Macdonald (2012) state that when undergoing qualitative research it often leads to an inductive approach being used as it is based majorly on the researcher's interpretation of the data.

Once the interviews had been transcribed, key themes were looked for within the results to help identify trends and come to a conclusion, this emphasises the inductive approach (Patton, 2002). Patton (2002) also states that these themes can be used to develop understanding of previous work done on the topic. For example, research was completed prior to the investigation about deep and surface learners, so questions were shaped to find out how the students preferred and to learn to help find out which category Cardiff Metropolitan sport and PE students fall under. Any themes that may become evident from the data received from the student interviews would be referenced back to the existing research as identified in the literature review. This allows the study to build on existing knowledge.
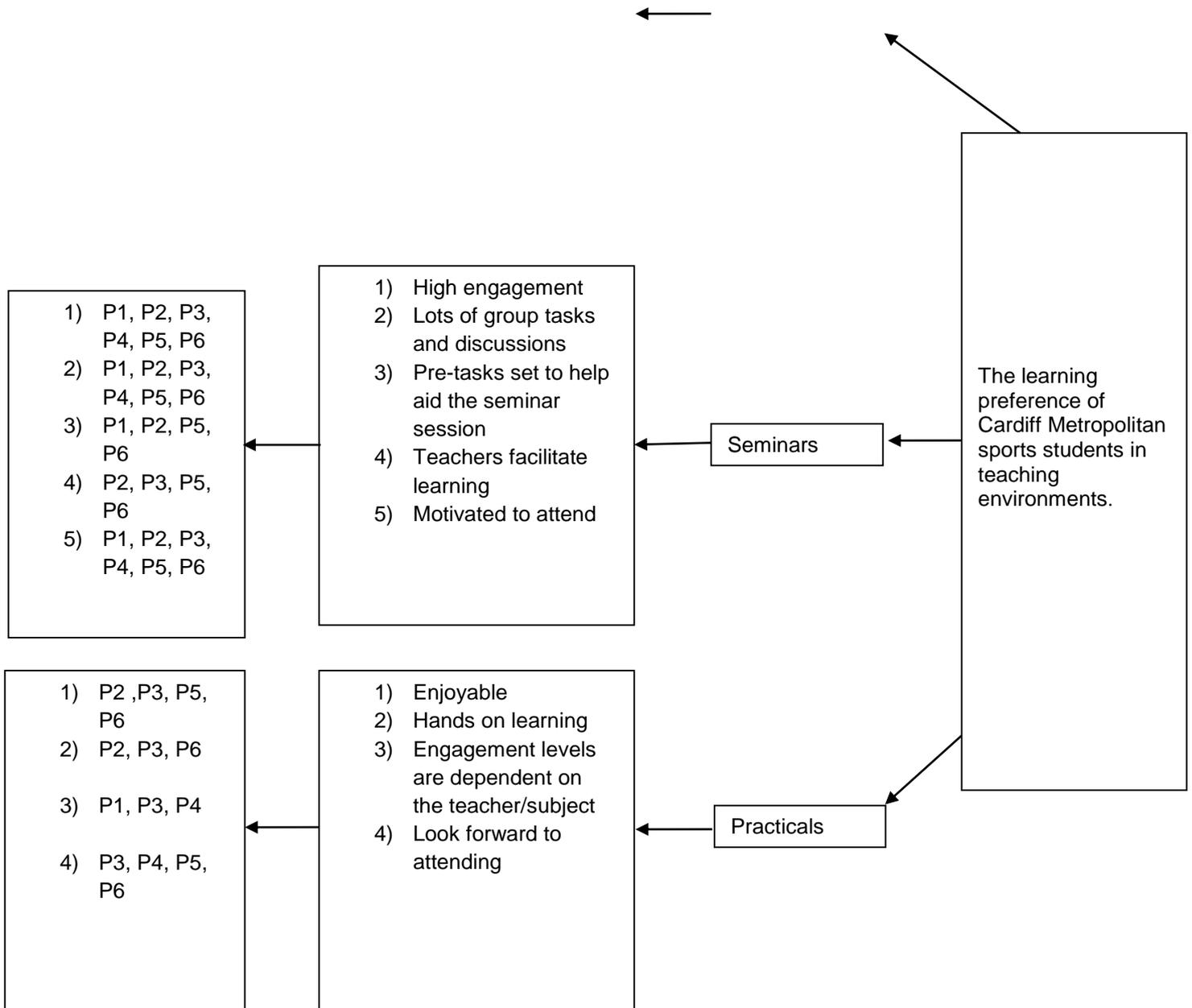
CHAPTER 4
RESULTS AND
DISCUSSION

Results and Discussion

The aim of this investigation was to discover what the learning preference of Cardiff Metropolitan sports students is in teaching environments. The section below will present the results gathered from the 6 semi-structured interviews that were conducted during the study. The participant's names will not be used within the results to ensure confidentiality and they will simply be referred to as participants 1-6. During the interview participants were questioned about their feelings relating to 3 different learning environments and on how each participant preferred to learn. As identified in the methods section the inductive nature of the

data analysis requires key themes to be identified. Therefore after the interviews had been conducted the data was transcribed and analysed with themes and patterns being identified. These themes are presented in the hierarchal content tree as shown in table 2 below. Direct quotes from the participants will be used to exemplify the findings and promote discussion in relation to existing literature.

Table 2. Hierarchal content tree presenting the data collected

Raw data collected	Key themes	Learning Environments	Research question
1) P1, P2, P5, P6 2) P1, P2, P3, P4, P5, P6 3) P2, P3, P4, P5, P6 4) P1, P2, P3, P6 5) P1, P2, P4, P5, P6 6) P1, P2, P3 7) P1, P2, P4,	1) Lack of engagement 2) Teacher just reads off the board 3) Group size too big 4) Boring 5) Not motivated to attend. 6) All material put on blackboard/moodle afterwards, so nothing missed. 7) Lectures still have a place in the curriculum	Lectures	

The learning preference of Cardiff Metropolitan sports students in teaching environments.

Seminars

1) High engagement
2) Lots of group tasks and discussions
3) Pre-tasks set to help aid the seminar session
4) Teachers facilitate learning
5) Motivated to attend

1) P1, P2, P3, P4, P5, P6
2) P1, P2, P3, P4, P5, P6
3) P1, P2, P5, P6
4) P2, P3, P5, P6
5) P1, P2, P3, P4, P5, P6

Practicals

1) Enjoyable
2) Hands on learning
3) Engagement levels are dependent on the teacher/subject
4) Look forward to attending

1) P2 ,P3, P5, P6
2) P2, P3, P6
3) P1, P3, P4
4) P3, P4, P5, P6

4.1 Lead Lectures

During the interviews all 6 participants revealed negative feelings towards learning in a lecture environment. One theme that became obvious, when analysing the data, was that the participants found the lecture setting to be not very engaging and felt that only limited teaching was undertaken within them. The quotations taken from the transcripts below reinforce this theme.

'I don't think you really engage in the lecture, I mean personally I switch off, I think it's an hour of just listening to someone talking and going through slides and I think you can only process information for a certain amount of time. You're not   really given tasks, your just literally listening for the whole hour lecture really.' Participant 1

Participant 1 explained, when asked a follow on question, that he found lectures to contain only limited teaching. '...........Yeah, it's not really teaching, it's just reading off slides.' Of course some lead lectures do use interactive tasks but these opportunities were felt to be limited. Further questioning could have been undertaken to get additional data about lectures with interactive tasks. Other participants shared this view as outlined below.

'I don't really like the lecture setting because the teacher just reads off the PowerPoint on the whiteboard rather than engaging with the students. I normally end up switching off half way through the lecture so no more information can go in.' Participant 2

Every participants in the study mentioned that teachers just read off the slides during lectures and participants 1, 2, 5, and 6 specifically commented on the lack of engagement within the lectures. Ramsden (2003) relates that a lack of engagement can have a detrimental effect on the learning of some students. Participants 1, 2, 3 and 6 have elaborated on this lack of engagement and have labelled the lecture environment as 'boring,' with participants 1, 2, 4, 5 and 6 saying that they are not motivated to attend lectures due to the lack of engagement and because they feel they are not going to learn anything.

Another factor that emerged from the interviews was that all the material that was being covered in the lecture was being published online on blackboard/moodle, so the participants felt that even if they don't attend the lecture they won't miss any of the content. The data collected from the participants in the study agrees with Cotterill's (2015) views on the didactic approach being de-motivating and contributing to students not attending their lectures. Also as found by Platow et al, (2013) all participants throughout the interview exhibited the characteristics of a deep learner; examples of this are as shown below from participants 3 and 6.

When questioned about whether or not they were happy just to know the answer or if they wanted a greater understanding of the topic Participant 6 said 'I think it always helps to know

why and how the answer has come. I think it allows you expand on your answers in exams and essays.' Participant 3 agreed 'It is always good to know why something is the answer because you have a better understanding and obviously it will contribute to your learning.' Both participants exhibit the characteristic of a deep learner because they need to know why something is the answer and how it is reached (Biggs & Tang, 2011).

The desires of students to know more about the answer and engage in discussion around the topic are key indicators associated with deep learners. Brown et al, (1997) discusses how deep learners struggle to learn in a command/didactic environment such as lectures. The results discussed above reinforce this point and show that participants believe that although lectures are not having a negative effect on their learning they would improve more in learning environments more suited to the deep learner. These results cause the effectiveness of the lecture setting to be questioned. The participants had different opinions on whether or not the lecture setting should be used to deliver learning. Although participants 1, 2, 4 and 5 don't like to learn in the lecture setting they all agreed that the lecture learning environment should remain in the curriculum, if used in tandem with a seminar session. This positive theme for the lecture setting was endorsed by participant 1 who reinforces Prosser & Trigwells, (1997) point that lectures are effective at passing on a lot of information to a large group in an hour slot.

Other participants who helped identify this theme are Participant 2 who said 'Yeah in order to have a seminar I feel like you need a lecture to get the background knowledge of the topic and go into more detail in the seminar,' and Participant 1 who added 'I can see why they put them on, because it allows them to pass on a lot of information to a big group in an hour slot.' These participants highlighted the cost effective benefit of the lecture setting. However participant 6 has a different view on lectures.

> 'I think it's debatable. It can give an overview to a topic which can be researched in more depth in a seminar setting. However, if a seminar session is needed to help explain the topic in more detail wouldn't it just be easier to run seminar sessions? I think the same amount would be learnt if the university just ran seminars and also attendance would increase.' Participant 6:

Participant 6 questions the need for lectures to take place in university. The participant argues that a lecture only provides an overview and as shown in this study participants didn't

feel like they learned anything in this setting. Participants 1,2,5 and 6 believed that it would be better to introduce a larger pre-task that allowed them to gain an overview of a subject and then increase the number of seminar sessions where they felt they would increase their learning.

The reduction/removing of lecture settings would increase the time available in the curriculum for seminars to be held and would also increase the money available to create more seminar sessions, consequently reducing the problem identified by (Prosser & Trigwell, 1997). There are, however, significant staffing and resourcing issues here for Universities. One lead lecture can cater for a large number of students whereas a number of seminars would need to be held to teach a similar number of students. Seminars need rooms and lecturers to run them so the resource implications are much greater. Participant 6's view on lectures is backed up by Sims & Sims, (1995) that the lecture environment is not an effective way for deep learners to learn. Therefore reducing the number of lectures and increasing the number of seminars could have a positive effect on students learning and the grades they achieve during university.

4.2 Seminars

The interviews found that seminars were seen as a more positive learning environment by the students because they found them less tedious and felt they were much more productive for learning. Four out of the six participants regarded seminars as their preferred learning environment, with 5 out of the 6 participants revealing seminars were the environment in which they learnt best. All participants identified 2 key themes within their interviews regarding seminars. High engagement levels coupled with lots of group tasks and discussion were some of the main reasons seminars were the preferred learning environment for the majority of the study sample. This is illustrated by the comment below from participant 2.

'I really enjoy seminars because there's good engagement and you're able to do a pre task. This pre task allows you to do research on your own and then go to the seminar and discuss in groups about what you found and it's really reassuring when someone else in your group has found the same stuff as you.' Participant 2

All the participants revealed that they prefer to problem solve in a similar way to Mosston & Ashworths (2002) learning method of guided discovery. The engagement and group work

that takes place in seminars to construct possible answers can have a positive effect on learning and increase retention of information (Platow et al, 2013). Participants 2, 3, 5 and 6 referred to the teacher taking a much bigger role during the seminar environment. They concluded this interaction was beneficial and increased their learning. Kuh et al (2005) agrees with the participants views within this study. Kuh et al (2005) states that student success and persistence is in correlation with student involvement within a session. Biggs & Tang (2011) also found that during a seminar environment the teacher facilitates learning by asking questions and setting tasks. This checking of understanding and nature of learning is very beneficial to the deep learner. Participants 1, 2, 5 and 6 mentioned that undertaking a pre-task can have a positive impact on the following seminar. Even though participant 5 earlier stated that lectures are good to provide a sound basis of knowledge this is contradicted in a later quote as shown below.

> 'Yeah you have seminar tasks before you go in and if you don't do it you're not going to know what is going on in the seminar. You need to have a background of information to understand what is going on.' Participant 5

Biggs & Tang (2011) state that students must openly engage in tasks set by the teacher as they are just as responsible for their learning as the teacher is. The fact that the students undertake this prior reading or research allows the teacher not to have to explain things and allows more time to be spent on the more difficult issues surrounding the topic.

Another factor that all the participants agreed on was that the amount of group work undertaken adds to effectiveness of seminar sessions. The participants all agree that the discussion that takes place in a seminar environment often helps improve knowledge. This is partly because the participants identified that other students' opinions can be different from their own and consequently help them construct a well-rounded answer. This links to the theory of social constructivist learning and principles. Maor (2003) highlighted that engaging in critical, lecturer facilitated, discussions with others has a positive effect on learning. Participant 5s comment illustrating this is shown below.

> 'Yeah, I think seeing that other people's ideas are good can help you change   your mind on certain things. Especially in pedagogy at the moment, with the discussions if someone makes a point it can help you along with your point of view.' Participant 5

These participants' views are linked in with the multiple intelligence theory. The participants' positive views on group work indicate that they are interpersonal learners (Kezar, 2001). The small seminar environment is a good catalyst for and facilitates group work. A study conducted by Kuh et al (2005) talks about the engagement of students having a positive effect on learning and this is very evident within the results of this study. However, there were some limitations expressed by the participants about group work. They identified that the enjoyment and standard of group work often depended on the willingness of others in the group. Participant 2 identifies the problem if others within the group are not willing to contribute.

> 'I like discussing as part of a group because I like finding out people's opinions but I'm not overly keen on group work as I always end up in a group where I do the majority of the work, whilst the others give hardly anything to the task.' Participant 2

On the whole the study found that undertaking group work was positive due to the creation of new ideas and the possibility of helping one another. The only problems highlighted by the participants were the willingness of others within the group to contribute and meet up outside the classroom. However, the problem of meeting up outside the classroom was usually resolved using social media. The participants usually sent work through 'Facebook' and 'WhatsApp' groups and communicated through new media to arrange meeting times. Additionally the participants explained that they are motivated to attend seminars because they're different to a normal lecture setting, not only because of the level of engagement level but also because they feel they are going to learn more. Participant 5's views are shown below.

> 'You feel as if you are going to learn more because you are more involved. I don't mind going to a seminar because you know you are going to interact with others and it is quite enjoyable. It's a lot different than just being sat at the back not doing anything.' Participant 5

Jankowska & Atlay (2008) conclude that the novelty of a session not being repetitive can improve participants' collaboration within the session. The participants within the study stated that unlike the lecture setting a seminar offers a variety of activities such as group work, discussions and question and answer sessions. Kuh (2009) also states that when a student is enjoying engaging in the work they are more likely to attend. These theories tie in

with the research done within this study and show why seminars are seen in such a positive light.

4.3 Practicals

The practical session being investigated as part of this study is the performance practical. Initially the sessions are lecturer led, but after ten weeks the student is assessed on what they've learned in their own coaching session. These practical sessions received mixed reviews off the participants. Two out of the 6 participants regard a practical as their preferred learning environment. However, participant 6 revealed that although practicals are their preferred learning environment, a seminar session is where they learn the most. Consequently just 1 participant felt that a practical setting is where they learnt best.

The interviews identified a few key themes about the practical setting. These included a practical setting being enjoyable and involving hands on learning. Participants also looked forward to attending practical sessions, however, the engagement levels within a practical setting are inconsistent and depend on the teacher and subject.

Participants 2, 3, 5 and 6 all found that they enjoyed practical lectures, with participants 2, 5 and 6 specifically enjoying the opportunity to engage in hands on learning. These views are demonstrated by Participant 2 who said ' I really like practical sessions, they're a lot different to seminars or lectures as you are able to get a hands on approach to learning and get out and do something different.' Participant 6 agreed with this view. 'I like practicals personally; they're a welcome change from just sitting in a classroom or lecture theatre. I like the hands on learning, like the seminar it's very engaging.'

Participants found the informality of a practical session beneficial and felt it was a welcome break from doing standard classroom work (Jankowska & Atlay, 2008). Also Cotterill (2015) reinforces the participant's views that the informality of the practical setting makes it more enjoyable and puts less stress on the participants. As seen in the quotes above participant 2 and 6 like the hands on learning aspect of the practical setting.

Smith (1998) believes that these participants display qualities associated with the kinaesthetic learner. These types of learners find it easier to retain information if they play an active part in the learning. Another positive that came out of the practical section of the interview is that the majority of participants looked forward to attending the sessions.

However, this motivation to attend practical settings is not solely due to the enjoyment factor. Participants 2 and 6 also identified that a register is taken in a practical lesson and a certain number of these sessions need to be attended to pass the module. In addition, according to participants 1, 3 and 4, the enjoyment factor associated with practical sessions depended on the teaching style and the subject.

'I think you get used to the lecturers and coaches leading them, I think it depends if you know you've got a lecturer that likes using a variety of different styles and allows you to get on with it and helps you engage within the session then yeah, I quite look forward to them. Whereas, if you're going to go to a session where you know the coach is going to bring you in to look at a PowerPoint every 5 minutes and is mainly command style and tell you what to do then I don't really look forward to it.' Participant 1

Kuh (2009) explains that the participants enjoy practical sessions because of the level of engagement and the freedom from the teacher to allow them to problem solve. If the teacher reverts back to using PowerPoint presentations and just explaining the work, without engaging the students, they may as well be in a lecture environment. Participant 5 goes as far to question the need for practical sessions with the dissertation this year, as the participant believes that the engagement levels have dropped significantly.

4.4 Summary of Main Findings

From the reviews of the three different learning environments, detailed above it is quite evident that lectures are seen in a very negative light compared to seminars and practical sessions. Seminars and practical sessions can offer a stimulating environment that is engaging and is constantly changing from session to session (Kuh, 2009). This is the key difference that has emerged from the study. Participants displayed qualities associated with deep learners, for example, wanting to problem solve and learn all information surrounding the topic rather than just the answer (Platow et al. 2013). Consequently the interviews found that the participants want to take an active part in their learning, which they believe, is not available within the current lecture settings. However, it is recognised that some lead lectures do have interactive elements within them, but this was not discussed during the interviews.

The interviewees all found the lecture to be 'boring' and because the lecture content can be viewed online the participants are not motivated to attend, as they know they will not miss anything if they don't. Jankowska & Atlay (2008) also criticize this approach as they believe placing the lecture slides online is no replacement for effective teaching and that lectures need to be stimulating for participants to keep attending.

The reason seminars were seen to be the most popular learning environment was as a direct result of the levels of engagement within them. Kuh (2009) reinforces that engagement within lectures has a direct correlation with persistence and academic results. The smaller group allows the teacher to facilitate learning easier and allows the participants to engage with the teachers.

However, Markwell (2007) states that lecturers should find ways to interact with both small and large groups, to benefit the students. Fredericks (2004) believes that engagement has 3 different properties. If students are emotionally engaged they are interested in what is being done within that lesson. This study found that students become emotionally engaged during seminar and practical sessions because of the amount of interaction between students and the lecturer. This then affects their behaviour and results in them attending these learning sessions, regardless of the learning environment. In this situation the cognitive element will be exceeded as students will learn more new material.

According to Kuh et al, (2007) to ensure student satisfaction the curriculum needs to be re-organised. This study indicates that there needs to be an increase in the number of seminar sessions and a reduction in the number of lectures. However, as discussed earlier this may not be possible because of the cost and resource implications. The practical setting should remain as part of the curriculum as it is a helpful release from classroom learning and it allows the kinaesthetic learner to learn in their preferred learning environment. Sims & Sims (1995) believe a change in the curriculum to suit the learners' needs would lead to higher student achievement.

CHAPTER 5

CONCLUSION

<u>Conclusion</u>

The purpose of this study was to investigate the learning preference of Cardiff Metropolitan sports students in teaching environments. Therefore as part of the study the students were questioned on their opinion of three commonly used teaching environments and were asked to go into detail on why they preferred to learn in a particular environment. The main finding of the investigation, which corresponded with Kuh (2009), was that the students preferred to be engaged and involved within their lessons. The study established that the students found that being actively engaged helped improve their learning and also prevent the session from becoming tedious. Unsurprisingly because seminar sessions have a high level of interaction, they were found to be the preferred learning environment for the majority of students whereas the lecture session in isolation was seen as tedious and unproductive by the students. However, two of the students said that a lecture session can still play an important part in a students' learning, as long as it is used conjunction with a seminar

session. This implies that students may prefer more seminar sessions and less lecture sessions. However, this is never going to be financially viable as lectures are a very cost effective way of providing students with information (Prosser & Trigwell, 1997). It could, depending on the size of the group, require 3 or 4 seminar sessions to provide the equivalent amount of learning/information to students provided in one lecture setting. The conclusion that can be drawn agrees with Markwell (2007) that lecturers should be doing more to engage students in their lead lectures regardless of the number of students present in order to help them reach their academic potential.

However there are limitations to this investigation. Gratton & Jones (2010) state that the purposeful sampling technique of acquiring participants could lead to bias answers. Additionally the small sample size may not be a true reflection of all Cardiff metropolitan sports students. Gratton & Jones (2010) also state that a one off interview may not capture the complete feelings of a participant. If the study had consisted of observations and more than one interview it could have led to a more reliable outcome being reached about each teaching environment. Another limitation is the way the questions were asked. Not enough probing took place during the interviews to help establish if the lead lecture in one subject was more productive than the lead lecture in another, instead during the interview the teaching environments were just generalised. However, there are strengths associated with this study. The use of semi-structured interviews allowed the students go into more detail in their answers and didn't restrict the amount of information that could be gathered within the investigation (Gratton & Jones, 2010). By sampling current students, who are involved in these teaching environments on a daily basis, the results that are collected are up to date, relevant, accurate and reliable. If a past student was questioned on these teaching environments their results may not be as accurate because the types of learning environments or the teaching methods of the teacher may have changed. This study provides the opportunity for future studies that can build on its' findings. There could be further investigation on whether all lead lectures are the same or if the lead lectures in some subjects are more engaging than others. Additionally, a study could be conducted on a wider scale using a modified questionnaire to see if the results found during this investigation are a fair reflection on the thoughts of all students. There could also be studies to investigate if students who study different subjects rather than sport have a different opinion on the learning environments.

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APPENDICES

Appendix A – Consent Form

Consent form for participants [to be used with participants for over the age of 16]

Ethics Approval Reference Number: 15/5/23U

Title of Project: The Learning Preference of Cardiff Metropolitan Sports students in Teaching Environments

Name of Researcher Alex Beecham

Please complete the following sections by placing your initial in each box and signing where stipulated.

1. I confirm that I have read and understand the information sheet for the above study.	
2. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily	
3. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason	
4. I agree to the interview being audio recorded outlined in the information sheet being recorded	
5. I agree to the use of anonymised quotations and data being used in publications	
I agree to take part in the above study	

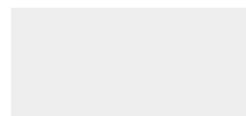**Name of participant**

Signature of participant
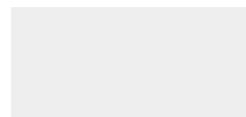
Date: DD/MM/YEAR

Name of person taking consent

Signature of person taking consent

A-3

Date: DD/MM/YEAR

**When completed, 1 copy for the participant and 1 copy for the researcher site file.

Appendix B – Participants' Information Sheet

Information Sheet for Participants in learning styles Research

Ethics Approval Reference Number: 15/5/23U

Title of Project: The Learning Preference of Cardiff Metropolitan Sports students in Teaching Environments

To all participants

Thank you for agreeing to take part in this research project, which I am undertaking as part of my dissertation for my degree at Cardiff metropolitan University. The aim of the research project is to discover the learning preference of Cardiff Metropolitan sports students in teaching environments. You have been chosen because you are currently studying sport at Cardiff Metropolitan and you are aware of the current teaching styles in higher education.

Why have you been chosen to take part?
You have been chosen for this study due to you currently studying sport at Cardiff Metropolitan and this is the criteria of people I require for my study. Also due to you currently studying you will be very familiar with the current teaching styles used in higher education.

What does it involve?
At a convenient time for you, outside any lectures or other commitments you may have, I will interview you for about 15-20 minutes. The interview will be very informal and will take place on the universities sports campus in Cyncoed. It will take place in a controlled quiet environment so we are not distracted. It is voluntary and if you do not want to answer a question you do not have to. During the interview hand written notes will be taken and also the interview will be audio recorded.

What happens if I'm not happy with the interview?
The interview is totally voluntary, you are not required to take part and if you decide you do not want to carry on for any reason you can drop out. It is extremely unlikely that anything will go wrong but if it does Cardiff Metropolitan University fully indemnifies its staff, and you are covered by its' insurance.

Risks?
Please be reassured that all the information you provide will be treated in confidence and if you believe that a topic is too 'Sensitive' you can decide to end the data collection at any time or to terminate the interview. The interview will be conducted in a laid back, relaxed manner and you do not have to answer a question if you feel uncomfortable. The questions are prepared to cause as little concern for you as possible and allow you to provide some detail about your preferred learning styles.

What happens after the interview?
I will record the answers and use the results in the project I am working on. Your comments and thoughts may be seen by others but no-one will know they are yours. Any answers you give or direct quotations used will be anonymous.

Benefits
By having your say on your preferred teaching styles and the way in which you are being taught may help alter timetable or lesson formats in the future. If this does happen it could possibly increase average student grades and help future student achievement.

Any queries?
If you have queries or want to know anything else about the research please feel free to contact me (contact details as below) .

Confidentiality:
Your personal information will remain anonymous to all but my supervisor and myself. Your details will not appear anywhere in the analysis or reporting of this research. Following the study any information I hold about you will be destroyed except the consent forms which the University requires to be held for five years.

I would be grateful if you could complete the enclosed consent form and return it to me so that I may arrange the research interview. Please let me know of any dates that should be avoided.

Many thanks for your co-operation

Alex Beecham
@outlook.cardiffmet.ac.uk

Supervisor: Kevin Morgan
Email: KMorgan@cardiffmet.ac.uk
Tel:

Appendix C – Interview Guide

Questions

Greet the participant and engage in general conversation to help build rapport.
- Thank you for taking part in the study
- How are you finding university this year?
- How is your dissertation going?

Lectures
What is your opinion of learning within a lecture setting?
- Group size
- Engagement level
- Teaching
- How do you feel attending a lecture?

Seminars
What is your opinion of learning within a seminar setting?
- Group size
- Engagement level
- Teaching
- How do you feel attending a seminar?

What is your opinion of working as part of a group?
- Ability and willingness of the group
- Is meeting up outside the classroom a problem?
- Rather do all the work yourself?

Practical setting
What is your opinion of learning within a practical setting?
- Engagement level
- Teaching
- How do you feel attending a practical lecture?

General questions applying to all learning environments
What is your preferred learning environment and why?
- Problem solve/given the information and learn later

Is this the place you also learn best? If not why?
Do you feel inclined to attend a certain learning session than the others?

APPENDIX D – Ethics

When undertaking a research or enterprise project, Cardiff Met staff and students are obliged to complete this form in order that the ethics implications of that project may be considered.

If the project requires ethics approval from an external agency such as the NHS or MoD, you will not need to seek additional ethics approval from Cardiff Met. You should however complete Part One of this form and attach a copy of your NHS application in order that your School is aware of the project.

The document *Guidelines for obtaining ethics approval* will help you complete this form. It is available from the Cardiff Met website.

Once you have completed the form, sign the declaration and forward to your School Research Ethics Committee.

PLEASE NOTE:

Participant recruitment or data collection must not commence until ethics approval has been obtained.

PART ONE

Name of applicant:	Alex Beecham
Supervisor (if student project):	Kevin Morgan
School:	School of Sport
Student number (if applicable):	St20040427
Programme enrolled on (if applicable):	Sport & Physical Education
Project Title:	The learning preference of Cardiff Metropolitan Sports students in teaching environments
Expected Start Date:	01/09/2015
Approximate Duration:	6 months
Funding Body (if applicable):	Click here to enter text.
Other researcher(s) working on the project:	N/A
Will the study involve NHS patients or staff?	No
Will the study involve taking samples of human origin from participants?	No
In no more than 150 words, give a non technical summary of the project	
The aim of this project is to establish what the learning preference of Cardiff Metropolitan sports students is in teaching environments. The study will be investigated used semi-structured interviews. The interviewees will be six Cardiff Met students who are currently studying at the school of sport. The hope of this study is to clarify if there is a pattern amongst student views of what is the most effective teaching environment.	

Does your project fall entirely within one of the following categories:	
Paper based, involving only documents in the public domain	No
Laboratory based, not involving human participants or human tissue samples	No
Practice based not involving human participants (eg curatorial, practice audit)	No
Compulsory projects in professional practice (eg Initial Teacher Education)	No

If you have answered YES to any of these questions, no further information regarding your project is required.
If you have answered NO to all of these questions, you must complete Part 2 of this form

DECLARATION:	
I confirm that this project conforms with the Cardiff Met Research Governance Framework	
Signature of the applicant:	Date:
FOR STUDENT PROJECTS ONLY	
Name of supervisor:	Date:
Signature of supervisor:	

Research Ethics Committee use only		
Decision reached:	Project approved	☐
	Project approved in principle	☐
	Decision deferred	☐
	Project not approved	☐
	Project rejected	☐
Project reference number: 14/3/02r		
Name: Click here to enter text.	Date: Click here to enter a date.	
Signature:		
Details of any conditions upon which approval is dependant: Click here to enter text.		

PART TWO

A RESEARCH DESIGN	
A1 Will you be using an approved protocol in your project?	No
A2 If yes, please state the name and code of the approved protocol to be used[1]	
Click here to enter text.	
A3 Describe the research design to be used in your project	

Aim
    -To investigate the learning preference of Cardiff Metropolitan Students in teaching environments.
 	
Methodology
    - In this study a qualitative approach is going to be used as the study is all about the students own opinions and beliefs.
Design	

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[1] An Approved Protocol is one which has been approved by Cardiff Met to be used under supervision of designated members of staff; a list of approved protocols can be found on the Cardiff Met website here

- A descriptive design will be used in this study as it is not an experimental study and is based on the opinions of a particular group of people.

Sample
- The research is going to be based in the university, with all interviews being on the school of sport campus in a comfortable controlled environment. The students will be recruited by sending out emails asking for volunteers if they wish to take part in the study.
- Information sheets will be created including all of the research studies details. It will include the benefits that it could provide the university and that the students have the right to withdraw at any stage of the study and the reassurance that their names will not be published or released in connection with the work. Due to participants being over the age of 18 consent forms will be made that they themselves can sign.

Method
-A semi-structured interview will be used in the study. Participants once they have completed their consent forms will be interviewed in a controlled environment with no noise distractions. Also the interviews will not interrupt or clash with the participants lectures, they will take place whenever the participant has free time. The interview will be recorded and notes taken whilst it is taking place, once the 6 interviews have taken place a data analysis will be completed and results wrote up in my dissertation.

Data Analysis
Descriptive statistics will be used to analyse, this will allow me to identify patterns and trends in the data. Descriptive statistics will be used due to the flexibility of my interviews and the wide range of answers that could be provided. This will allow me to identify trends and patterns in the data and come to conclusions based on all answers provided during the interview.

A4 Will the project involve deceptive or covert research?	No

A5 If yes, give a rationale for the use of deceptive or covert research
No

B PREVIOUS EXPERIENCE

B1 What previous experience of research involving human participants relevant to this project do you have?
During my time in university I have been involved in research process seminar labs both qualitative and quantitative. I have created and took part in lots of interviews and have learnt how to properly prepare and conduct an interview. This will be very beneficial when conducting my research. Also I have taken part in physiology and biomechanics labs where using human participants you have to conduct an experiment and follow certain procedures.

B2 **Student project only** What previous experience of research involving human participants relevant to this project does your supervisor have?
Dr Kevin Morgan has significant experience of conducting and supervising research projects involving human participants in PE and Sport Coaching settings at undergraduate, master's and doctoral levels.

C POTENTIAL RISKS

C1 What potential risks do you foresee?

A potential risk of my investigation could be my participants not understanding what my research is about and getting confused when engaging. They may not fully understand that their identities will not be cc D-3 | in this study. Another possible risk is the university could unexpectedly close on an interview day or the participant may be ill. Also it may be difficult to find a free room at certain times to conduct the interview. Participants may feel uncomfortable during the interview.

C2 How will you deal with the potential risks?
To help prevent these possible risks occurring the participants will receive a information sheet with all the necessary information about the study and assurance that they will remain anonymous within the study. Also participants will be made fully aware that they have the right to withdraw at any time and should not feel obliged to finish the interview once they have started. A room will be booked in order for the interviews to take place in the university and it will be booked on various occasions in order to allow the participants to come in their free time. The interview will be done in a laid back manner as if it was a chat between two friends in order for the participant to feel at ease.

Refer to the document *Guidelines for obtaining ethics approval* for further details on what format these documents should take.