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Insights from Senior-Secondary Physical Education Students on Teacher-Related Factors they Perceive to Influence Academic Achievement

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Abstract: This research aimed to explore student perceptions of teacher-related factors that may influence academic achievement in the context of Victorian Certificate of Education (VCE) Physical Education. This qualitative study involved 23 VCE Physical Education students from three government and one independent secondary school in Victoria, Australia. Focus groups utilising a semi-structured interview schedule explored student perceptions of teacher-related factors on academic achievement. The importance of teachers having a good 'attitude', a broad repertoire of teaching strategies, making real-world connections, developing positive student-teacher relationships and facilitating access to themselves outside of scheduled class time were perceived by students as important influences.

Introduction

Exploring student perceptions may provide valuable insights into teacher-related factors that students perceive increase the likelihood of learning and ultimately influence their academic achievement. Maximising academic achievement enhances student opportunities to access tertiary or vocational educational pathways and employment opportunities and therefore students are key stakeholders in senior secondary courses for certification. The factors that affect student achievement beyond the student themselves include the home, school, principal, peers and most importantly the teacher (Hattie, 2003). Previous research (Whittle, Telford, & Benson, 2015) identified student perceptions of what constitutes the 'Perfect' senior-secondary physical education teacher to include the teacher being: i. knowledgeable, ii. caring, iii. enthusiastic, iv. having strong verbal ability (communication skills) and v. being accessible to their students beyond the classroom. This research builds on these findings and further explores student perceptions of teacher-related factors that students perceive may influence academic achievement in the final year (year 12) of senior-secondary physical education in the Victorian Certificate of Education (VCE).

The Context: VCE Physical Education

Physical education has been a part of the examinable senior-secondary landscape since the 1970's (López-Pastor, Kirk, Lorente-Catalán, MacPhail, & Macdonald, 2013). A recent review of senior-secondary physical education courses (Whittle, Benson, & Telford, 2017) reported similarities in the rationales, aim and objectives, content and assessment of

senior-secondary physical education internationally. Specifically, in Victoria, Australia, senior-secondary physical education is offered through the suite of subjects in the VCE. The VCE is one of three post-compulsory pathways that students may take in their final two years of senior-secondary school education in Victoria. VCE Physical Education focuses on the biological, physiological, psychological, social and cultural influences on performance and participation in physical activity (Victorian Curriculum and Assessment Authority, 2010). VCE Physical Education comprises of four units of study (Table 1), each equating to one semester or 50 hours of classroom instruction. Students may elect to study all four units across two years or complete only Units 1 and 2 or Units 3 and 4 in a single year.

Unit 1	**Unit 2**	**Unit 3**	**Unit 4**
Bodies in motion • Body systems and human movement • Biomechanical movement principles	Sports coaching and physically active lifestyles • Effective coaching practices • Physically active lifestyles	Physical activity participation and physiological performance • Monitoring and promotion of physical activity • Physiological responses to physical activity	Enhancing performance • Planning, implementing and evaluating a training program • Performance enhancement and recovery practices

Table 1: Structure of VCE Physical Education

Student academic achievement in Units 3 and 4 is determined through a combination of internally set tasks (50%) and an externally set and assessed end-of-year examination (50%). Practical skills or performance are not assessed in VCE Physical Education and it has been argued that the privileging of theoretical work devalues the importance of practical tasks (Bowes, 2010) in senior-secondary physical education. Creating rich learning environments is important for student engagement, and in physical education where learning *through* movement (Arnold, 1979) is (or at least should be) valued, practical experiences in VCE Physical Education should allow for the "integration of theoretical knowledge with practical application" (Victorian Curriculum and Assessment Authority, 2010, p. 7).

Teacher-Related Factors Associated with Increased Academic Achievement

Research has shown that teacher-related factors have a greater influence on student learning than school-level factors (Hattie, 2003; Kyriakides, Christoforou, & Charalambous, 2013; Rowe, 2003), and it is commonly accepted that excellence in teaching is the "single most powerful influence on achievement" (Hattie, 2003, p. 4). Influences on student performance, such as the students themselves; their family background, socio-economic status, prior learning and motivation (Ayres, Sawyer, & Dinham, 2004; Hattie, 2012; Kyriakides, et al., 2013), are not easily modified. Conversely, teacher-related factors, which are modifiable, account for 30% of the variance in student achievement (Hattie, 2003) and more effective teachers have greater positive effects on student outcomes compared with less effective teachers (Hattie, 2012). Effective teaching can be seen in teacher behaviours and actions (Caro, Lenkeit, & Kyriakides, 2016) and generic teacher behaviours have been previously identified in education research (Creemers and Kyriakides, 2015; Seidel and Shavelson, 2007; Stronge, 2007). Stronge (2007) identified many common elements of effective teaching, which he categorised into six broad terms. The first, 'prerequisites of effective teachers' included verbal ability, educational coursework undertaken by the teacher, level of certification, content knowledge and teaching experience. The second and subsequent

categories were ‘the teacher as a person’ (including caring, fairness and respect, social interactions, enthusiasm and motivation, attitude and reflective practice), ‘classroom management and organisation’, ‘planning and organising for instruction’, ‘implementing instruction and finally ‘monitoring student progress and potential’ (Stronge, 2007). However, what works in one educational setting may not work across all contexts (Caro, et al., 2016) and the adoption of a one-size-fits-all approach may not necessarily result in increased academic achievement for students. General teaching standards internationally are often linked with teacher accreditation and registration, but they may not align with content and pedagogical content knowledge required in senior-secondary education. In Australia, the National Professional Standards for Teachers comprise of seven standards which identify appropriate levels of professional knowledge, practice and engagement (Australian Institute for Teaching and School Leadership, 2014). Witte and Jansen (2016) suggest that for senior-secondary teachers, subject specific knowledge and skills are important when determining excellence in teaching and they have questioned the ecological validity of generic teaching standards.

Of the limited research into effective teaching in senior-secondary education, senior-secondary physical education, has received little, if any attention. Teachers of high performing students, across a diverse range of subject areas at the senior-secondary level, were found to establish a classroom environment that encouraged deeper understanding rather than being ‘exam-driven’ (Ayres, et al., 2004). Similarly, Horsley (2012) found that teachers who facilitated high academic achievement in an array of subjects in the Year 13 Scholarship examinations in New Zealand had deep content knowledge, passion for teaching and held high, yet realistic expectations for their students. High teacher expectations have been associated with effective teaching, with much of the research focussed on teachers having high expectations for their students to improve learning outcomes (Stronge, Ward, & Grant, 2011; Wentzel, 1997). In the context of senior-secondary physical education there has been much discourse surrounding authentic assessment practices (Penney, Brooker, Hay, & Gillespie, 2009; Penney, Jones, Newhouse, & Cambell, 2012; Thorburn and Collins, 2006a), curriculum design (Brown and Penney, 2013; Scanlon, MacPhail, & Calderón, 2018; Thorburn, 2007; Thorburn and Collins, 2006b) and pedagogical approaches (Bowes, 2010; Bowes and Bruce, 2011; Penney, et al., 2009). Teacher-related factors that influence student academic achievement may include teacher enactment of curriculum, pedagogical choices and assessment strategies. However, those factors that students perceive as important in improving their academic achievement in this context are unknown. A study that explores student perceptions of effective teaching in senior-secondary physical education may provide valuable insights and offer useful additional knowledge to the current literature on teacher effectiveness.

Student Perceptions

Amidst calls for student voice to be included in the conversation around effective teaching (Muñoz, Scoskie, & French, 2013), educational research has tentatively embraced consultation with senior-secondary students, however few studies have sought student perspectives on learning and teaching (Baroutsis, McGregor, & Mills, 2016; Brekelmans, Wubbels, & Créton, 1990; Cothran and Kulinna, 2006; Wanzer and Frymier, 1999). Asking students for their perspective, allows those who are the key-stakeholders in this scenario to have a voice in determining how teacher behaviour can be modified to increase academic achievement (Bourke and Loveridge, 2016), thus increasing the ecological validity of teaching standards (Witte and Jansen, 2016) in senior-secondary education. Hattie (2009)

suggests that student perspectives are a key factor when aiming to understand what learning 'looks like' and 'feels like'. Student perspectives may not be a widely used method because they offer what McIntyre, Pedder, & Rudduck (2005) call 'uncomfortable learnings' for teachers. Yet students have something significant, useful and insightful to offer (McIntyre, et al., 2005) and have shown to be quite capable of identifying quality teaching (Irving, 2004). Of the few studies where student perceptions of teacher behaviour have been researched, (Brekelmans, et al., 1990), providing leadership and displaying strict or disciplinary behaviours were found to be beneficial in eliciting high cognitive outcomes in the teaching of physics. When affective outcomes for these same students were measured, leadership was still important, however, teacher behaviour also needed to be helpful, friendly and understanding (Brekelmans, et al., 1990). Final year secondary school students in Ireland identified exam focussed teaching methods such as 'teaching to the test' as 'good teaching' but this kind of pedagogy was seen as 'inauthentic' (Smyth and Banks, 2012) by lower secondary students. Similarly, final exam year students in the Netherlands attached greater value to exam orientated teaching strategies, yet a clear characteristic of excellent teachers in this context was the use of a wide range of teaching approaches that engaged a broad range of students (Witte and Jansen, 2016). Student perceptions of influential teachers in New Zealand aligned closely with the identified characteristics of effective teachers (Horsley, 2009); that is they had high expectations for students, strong content knowledge, provided constructive feedback, facilitated discussion, used higher-order questioning, linked content to authentic contexts, explicitly taught exam strategy, provided support and time to mentor students and demonstrated a passion for the subject they were teaching. It is unclear from the literature if student perceptions of effective teaching are context specific, or if teacher-related factors that influence student academic achievement differ across contexts. The aim of this research therefore was to explore student perceptions of teacher-related factors that may influence academic achievement in the context of senior-secondary physical education.

Theoretical Framework and Methodology

The exploratory nature of this research allowed for insights into student perceptions of the teacher-related factors that they believed influenced academic achievement in senior-secondary physical education and to identify if student views of teacher effectiveness in this context were aligned with the generic qualities of effective teachers. Influences on teacher behavior that may influence student academic achievement can be considered through a social-ecological model. Underpinning the social-ecological framework is the core concept that specific behaviors have multiple levels of influence (Sallis, Owen, & Fisher, 2008) and social-ecological models can provide a conceptual framework to understand these numerous influences (Elder et al., 2007; Salmon and King, 2010). Specifically, in this context, a social-ecological framework allowed for evidence on teacher behaviour at the individual, social, physical environment or policy level to be explored. Teacher behaviour at the individual and social level that may influence student academic achievement is more readily modified than influences at the physical environment and policy/organisational level (for example timetabling, VCE policy and access to facilities such as a gymnasium and weights room) as these factors are generally outside the control of the individual teacher.

Focus groups have been shown to be useful tools for research in educational settings (Bourke and Loveridge, 2016; Tiberius, 2001) with the questioning and interaction between participants within the group stimulating discussion (Barbour, 2005) and providing robust data and insights (Freeman, 2006). By identifying student perceptions of teacher-related factors that influence academic achievement, the evidence could contribute to improved

academic learning outcomes for students. A limitation associated with the use of focus groups in educational settings is the use of convenience samples, however it was deemed appropriate in this research context (Berg and Latin, 2008) to ensure that participants met the inclusion criteria (Thomas, Silverman, & Nelson, 2015) of currently completing Unit 3 and 4 VCE Physical Education.

The research questions that guided this study and formed the basis of the semi-structured interview scheduled used were: What are the teacher-related factors that students perceive to influence academic achievement? Are the teacher-related factors that student perceived to be important similar or different to the generic qualities identified in the literature?

Method

Participants

Following approval from the University College Human Ethics Advisory Network (CHEAN) for this study, students undertaking VCE Physical Education were invited through physical education teacher professional networks to participate in a semi-structured focus group. All students who responded to the advertisement and met the specific requirements for participants were provided with a participant and parental information letter. Those who agreed to be involved in the study returned an individual and/or parental consent form. Students were instructed to attend the focus group at a specified time and location. Recruitment of students occurred in early October and focus groups were conducted over a two-week period in mid-October. This time period was considered appropriate, as all students had completed the face-to-face teaching component of their studies and were commencing a period of revision before the final external VCE examination period.

Focus Group Discussions

Focus groups were facilitated by a trained facilitator, with Units 3 and 4 VCE Physical Education students until no further emerging themes were identified. Five focus groups were conducted, which consisted of four to five students from the same school; the homogeneous groups provided a supportive environment where individuals were more likely to feel comfortable to share their views (Sim, 1998). Each group were asked a series of questions, using a semi-structured interview schedule, to explore their perceptions of the influence of the teacher and teaching they had experienced on their learning in VCE Physical Education during that year. Focus groups were conducted in private rooms, where participants could not be seen or heard by those not participating in the study. Clear rules were articulated by the facilitator to ensure the environment was conducive to participants feeling comfortable to disclose information, question, clarify or disagree with the responses of others (Freeman, 2006; Sim, 1998). Focus group discussions ranged from 25 – 40 minutes in duration. Discussions were recorded using a digital voice recorder, downloaded and transcribed verbatim by one researcher to ensure consistency and accuracy of the data prior to analysis (DiCicco-Bloom and Crabtree, 2006). Additionally, written notes were taken as a means to record non-verbal interactions (such as nodding or shaking of the head) of participants and provide contextual details to assist with voice recognition of individual participants in the transcribing process (Sim, 1998).

Data Analysis

Prior to the focus group discussion, participants completed a brief questionnaire to self-report basic demographic information (age and sex) and educational context (Units of VCE Physical Education completed, participation in a transition program, size of VCE Physical Education class, school sector and the sex of VCE Physical Education teacher). All de-identified data (transcribed discussions and questionnaires) from the student focus groups were analysed using NVivo (Version 10) software package. An inductive content analysis (Elo and Kyngäs, 2008) was performed to identify themes in the data. The coding process was iterative and recursive (Grbich, 2013; Green et al., 2007) to ensure familiarisation with the data and what it contained. A four step process was utilised (Green, et al., 2007). Firstly, data immersion was achieved through listening to the recordings multiple times prior to transcription and then reading and re-reading of the transcribed data. Transcription errors were identified and corrected at this point, during the data cleaning process. During this process, text was highlighted; underlined and descriptive annotations were made in the margins. Open coding (step two) was conducted by the lead author asking questions of the data, making comparisons and looking for similarities and differences (Cope, 2009). An analysis of the data underpinned by the social-ecological theory (Elder, et al., 2007) and Stronge's (2007) framework of effective teachers was conducted to explore the students' perceptions of teacher-related influences on student academic achievement in VCE Physical Education. Initial coding identified commonalities in the data through frequency and content of student comments. Codes that shared similar features were clustered together to reflect patterns in the data and those patterns that were relevant in addressing the research question were identified as dominant themes in the data (Braun, Clarke, Hayfield, & Terry, 2019). The third step involved categorising each theme at the individual, social, policy and physical environment levels of influence using the social-ecological model (Salmon and King, 2010) as a framework.

Findings

A total of 23 Unit 3 and 4 VCE Physical Education students (Female=16, Male=7) from government (n=3) and non-government (n=1) schools in Melbourne, Australia's east and south-eastern suburbs participated in the student focus groups.

To begin to explore the teacher-related factors that may influence academic achievement, students identified areas of the VCE Physical Education course that they found most challenging to understand (Table 2). Reported reasons for difficulty included unfamiliarity with the material or context, limited time devoted to covering the content, volume of information required to be retained, lack of engagement with content and the subjective nature of the content. From the student responses on challenging content, further discussion followed in how teachers were able to help students overcome these difficulties.

Area of study[a]	Perceived reason for difficulty
Monitoring and promotion of physical activity	"the measuring physical activity stuff I guess, cause it can be this or it can be that, it's kind of grey." (Female, non-government school)
	"…measuring physical activity and the social ecological model, cause I probably had never been exposed to something like that and it was quite a different way of looking at physical activity and things like that so that was probably the hardest thing for me to understand. And also, it is not quite as direct as an answer, like something like energy systems or acute responses might have." (Female, non-government school)
	"I think I was having trouble distinguishing what the subjective and objective methods used were….because they are pretty similar in my mind." (Male, government school)
Physiological responses to physical activity	"For me, I sort of found energy systems quite confusing when it was new,……because I had never been exposed to something like that in areas of science." (Female, non-government school)
	"I didn't do unit one and two so there were some areas (energy systems) that were covered in unit one and two that I struggled to pick up on." (Female, government school)
Planning, implementing and evaluating a training program	"I think some of the areas that we just brushed over quickly so chronic adaptations to exercise." (Male, government school)
	"It was chronic adaptations that we didn't have, it wasn't actually on a SAC at all, but it is coming up to the exam and it is on the exam, so we kind of had to learn it." (Female, government school)
Performance enhancement and recovery practices	"For me it was remembering all the effects of the drugs like positive and a negative so like diuretics and narcotics and all that and also a bit of the sports psychology, there was a lot of things like the goal-setting to remember." (Male, government school)
	"Probably the sports psychology one because, especially in the SAC when I was answering questions, I would be thinking that sounds really basic and I'm not sure if that is too basic or if that is just right or not." (Male, government school)

Table 2: Student perceptions of challenging areas of content

[a]Victorian Curriculum and Assessment Authority (2010)

Emerging themes did not vary between sex or school sector. The key themes, which were generated from the data, were primarily associated with the social-ecological model's individual and social levels of influence. While students identified factors at the policy level (transition programs) and physical environmental level (access to facilities and resources), those that related specifically to teacher behaviour are emphasised and discussed in this paper. The four key themes identified in this study as teacher-related factors that influence student academic achievement: teacher attitude, teacher attributes, student-teacher interactions and student access to the teacher (outside of scheduled class time). These themes are categorised by level of influence using the social-ecological model as a framework in Table 3.

Level of influence within the social ecological model	Theme	Item description
Individual	Teacher attitudes	Passion and enthusiasm for teaching and learning
		Expectations for student success, commitment and behaviour
	Teacher attributes	Knowledge of students, content and teaching strategies
		Skills in communicating, organising and monitoring student progress
Social	Student-teacher interactions	Approachable, encouraging, supportive
		Uses humour to connect with students
	Access to the teacher	Physical and electronic availability to students outside of class time
Policy	Transition into VCE Physical Education	Structure, function and content of transition programs
Physical Environment	Access to facilities and resources	Teacher facilitated access to resources and equipment

Table 3: Themes from focus group data categorised by levels of influence of the social-ecological model

At the individual level of the social-ecological model, teacher attitude, defined here as the teachers manner of behaving toward learning and teaching in VCE Physical Education that reflects their disposition and teacher attributes, defined as the qualities or characteristics that students assigned their teacher, were derived as dominant themes.

At the social level, students identified the interactions between the student and teacher as a dominant theme. Teacher-related factors that influenced their behaviour in interacting with students included being approachable, use of humour, being encouraging and supportive and getting involved with the class. Additionally, access to the teacher outside of class time was a dominant theme.

Individual Level Factors

Teacher Attitudes

Students identified a number of different aspects related to their teachers' attitude or manner of behaving toward learning and teaching in VCE Physical Education. Passion and enthusiasm for teaching and for physical education were perceived to be important for students involved in the focus groups. A teacher's positive attitude was seen by a majority of students as an important aspect for enhancing their academic success. For example,

> *Just in the general style of what makes a good teacher I think just being really positive and you know that he wants to be there teaching you and he wants to see you do the best that you can and that makes me want to really try my best to try and make everybody happy and stuff. Just for me it doesn't really work for me when teachers come to class a bit you know they sort of don't really want to be there, you might think that, and they are not as engaging and positive. (Female student, non-government school)*

Teacher attitude to student success was reported by all focus groups as an important determinant of academic success. Students overwhelmingly reported that teachers held high expectations for students as the following examples demonstrate:

> *She expects us to put in the time and effort because it is our last year and we should try our best. (Female student, government school)*
>
> *…. it's in a way that you get that he wants you to do well and he's sort of able to direct that throughout the work that he does and sets it out and to a high standard and he expects you to reach that but if you can't you get as high as you can. (Female student, government school)*

For some students, the perceived expectations teachers had for them were in respect to completing work on time and handing it in, for others it was about expectations related to behaviour and for some it was to do well academically. For example,

> *Yeah, he has a pretty high standard of (us) bringing in the worksheets that he sets us on time. I don't think he would go as far as giving us a detention, but we never really give him reason to. Because he always communicates to us, you have got to get this in, you have got to keep a high standard for the class and generally we do hand them in on time. (Male student, government school)*

In terms of articulating teacher expectations, with the exception of students in focus group one, the terminology used by students was positive. Students referred to teacher expectations as 'constructive' and 'encouraging' and students felt that even though the expectations from their teacher were high, if students were 'doing their best' and working at the expected level then the teacher was happy with their performance. It is important to note that for one group of students, teacher expectation was not viewed as a positive influence. In this group, four of the five students were completing Units 3 and 4 while in their penultimate year (Year 11), as opposed to all other participants in the study who were in their exit year (Year 12). Interestingly students in focus group 1 noted that teacher expectations differed between Year 12 students and Year 11 students, despite them completing the same Unit 3 and 4 course, as shown in the following quote:

> *He has a different expectation of the year 12's than the year 11's. He expects us, well, he just thinks we are not as good as the year 12's and it's a bit like, down putting sometimes. (Female student, non-government school)*

Some students felt the expectation to be 'as good' as others in the class was unrealistic, however, as shown below, this competitive environment created by the teacher was perceived to be a motivator.

> *Yeah like I think that is the main point throughout the year, there is one particular girl, but you know he kind of gives us a nudge, you know you could be like Student X you know, and that is in itself a motivator like he doesn't have to say much more because you try to beat, not beat, but be on the same level as someone. (Female student, non-government school)*

Despite the differing perceptions of teacher expectations all students identified that their teachers had high expectations for them in VCE Physical Education.

Teacher Attributes

The qualities and characteristics that students assigned their teachers included 'dedicated', 'organised', 'knowledgeable' and a 'good communicator'. VCE Physical Education students consistently identified teacher knowledge as an important teacher attribute. Knowledge in this context was multifaceted: knowledge of the students as

individuals, knowledge of teaching strategies and content knowledge (*'He's also really knowledgeable about the subject.' (Female student, non-government school)* were seen as important influences on academic achievement. A majority of the students provided specific examples that ranged from teachers' knowledge of sports they played, preferred learning styles and strengths and weaknesses. Students recognised that with this knowledge, teachers were able to provide suitable examples, vary their teaching styles to accommodate all learners and to use appropriate questioning techniques. For example,

> *One thing that has been helpful for me and probably other people is when he is talking about sport and he will relate it to someone and what they do, so if someone plays soccer, he'll relate it to that and I know that helped me a lot. (Male student, government school)*
>
> *I guess like he uses lots of sports and relates to the energy systems and whatever, and cause I guess he knows what sports we all do its easier for people who do sports to like relate to it. (Female student, non-government school)*

Teacher knowledge of students preferred learning styles and how the teacher then linked this knowledge to a specific strategy to enhance understanding was identified as a positive influence on student understanding, as shown in the examples provided below. Students perceived teacher knowledge of teaching strategies to be extensive and furthermore, teachers were equipped to determine the most appropriate strategy to use based on the content and context in which they were teaching.

> *He also accommodates to all of our learning types so he tries to target the visual learners, I'm more of a visual learner so when he tries to explain having lactate tolerance he'll get up and get a volunteer to explain what it would be like at the end of a race and then all the other types of learners just to make sure that everybody really understands, it's really helpful. (Female student, non-government school)*
>
> *Realistically he uses every single one of those (teaching strategies) at different stages at different times when they are needed. He is obviously able to determine which one is appropriate at the time. (Female student, government school)*

Students in this study very specifically emphasised that teachers had a broad repertoire of pedagogical approaches that they utilised. Students identified a number of different teaching strategies used by the teacher that they perceived to be beneficial to their academic success in VCE Physical Education. Some examples include:

> *He looks at different styles of like how we absorb information. I know that I like visual, that's how I learn, and he always does like (student demonstrates) vasoconstrict, vasodilate and that like really helps me and he likes to target different learners, that's what I think. (Female student, non-government school)*

Students believed that questioning, demonstrations and the linking of content to 'real world' or everyday situations was a positive influence on academic achievement.

> *He always keeps it interesting; he always has something interesting, some examples from the real world, which helps us. (Female student, government school)*

Students identified that practical activities aided retention and understanding of key concepts, reinforced learning, and provided concrete examples to draw on.

> *I think it's easy to understand the theory with prac work behind it because if you are sitting there just writing the whole time you kind of go OK, I understand but I don't sort of get the actual component of it and then by doing it, it gives you more of an outlook on it. (Female student, government school)*
>
> *I know when learning about fatigue and especially we could actually feel what was happening it made us understand better what was going on when we were writing it down because we have actually felt it before. (Female student, government school)*

It was evident that the purpose of the practical activity was clear to these students, they understood that the task had a purpose, often to reinforce key concepts, and that the practical activity was underpinned by theoretical concepts:

> *We never did anything (practical work) that wasn't related to like the content (of VCE Physical Education). (Female student, non-government school)*

Students provided multiple examples of how 'doing' (practical work) influenced their learning, provided concrete examples for them to draw upon and provide a prompt to help students remember.

> *We did a prac on that (domains of physical activity) which really stuck with me. I remember them really well. That helps me, prac, doing it physically what we've learnt in theory. (Female student, government school)*
>
> *So, he did like physical stuff that made us remember. And like when he was explaining plyometrics he made us all stand up and we tried to jump without bending our knees. (Female student, non-government school)*

The perceived benefit associated with linking practical activities to the way theoretical concepts are learned was not a consistent perception across all focus groups. In direct contrast, students from one focus group reported the role and value of practical work in VCE Physical Education quite differently to all others:

> *I think with him it's more, it's almost like he doesn't need to (do demonstrations) when he explains things it is very detailed but there will be things like in the book or the handout, so he doesn't really need to be like, let's go outside and (I'll) show you how this is done, its detailed enough that you don't really need to. (Female student, government school)*
>
> *It was good to have a break (from theory) and do something different. (Female student, government school)*

Organisational skills of the teacher were identified consistently across all groups as important factors influencing academic achievement. Students also commonly reported teacher attributes of monitoring student progress and the provision of feedback, both written and verbal, to be important factors affecting academic achievement.

> *His organisation is really helpful…he was so organised, it kept us all on the ball. (Female student, government school)*
>
> *He has given us lots of practice papers to do and then if I do one I'll give it to him that day and he will have it back to me by the end of the day. He's pretty good! (Female student, non-government school)*

Social Level Factors

Student - Teacher Interactions

Students in all four focus groups identified the relationship between student and teacher as an influential factor in regard to academic success. Students reported that their teacher being approachable and caring and being able to relate to their teacher as a 'person' or 'friend' was important. Students often referred to the teacher attribute of being approachable and that they were able to ask the teacher a question without fear or embarrassment.

> *I think that we are able to be friends with the teacher, so it makes going to ask a question really easy and you are not concerned that they don't want to answer your question. (Female student, non-government school)*

Students reported other important relational aspects of the student-teacher interaction including the use of humour. Students consistently across all groups indicated that they were

able to ‘have a few laughs’ with their teacher and that contributed to a positive learning outcome for the students. The following quote was indicative of student comments.

> *Sometimes he like cracks a few jokes and we all (laugh) and he explains it in a way that incorporates into every day movements and motions so that it's easy to understand because we can relate to it. (Male student, government school)*

Access to the Teacher

Teacher accessibility was an important factor for four of the five groups of students. It was evident in the responses from students in one focus group that the teacher did little beyond the classroom to help with their learning. In contrast, students in the other focus groups reported that their teachers made themselves available to their students beyond the scheduled class time. Students conveyed that access to the teacher through one-on-one meetings, tutorial sessions with peers, email and text messaging were perceived to be important influences on their academic achievement. The primary reason that students required access to the teacher either via direct contact or via electronic media, outside of scheduled classroom time, was to ask questions and clarify understanding.

> *Even if we don't use it (accessing the teacher) we know that it’s there. I know that sometimes I haven’t always gone to see him, but you still know that he will be always there like if you have a question or anything. (Female student, government school)*
> *He gives us his mobile number so that he says we can text him like if we are having trouble with something. (Female student, non-government school)*
> *And we can also email him so that way if we email him on a weekend, like Saturday morning we can then text him and say can you please check you emails, I emailed you, so that he knows that there is an email there. (Female student, non-government school)*
> *We can come and see her in our spare periods or at lunchtime or before school. (Female student, government school)*

Discussion

Overall, student perceptions of teacher-related factors that influence academic achievement in VCE Physical Education are similar to those that reflect effective teaching in general. The social-ecological model provided a useful conceptual framework (Reeves, Albert, Kuper, & Hodges, 2008) to explore multiple influences on teacher behaviour and allowed for identification of the teacher-related factors that students perceived to be important for their academic achievement in VCE Physical Education. Student’s predominantly identified factors within the individual and social levels on teacher behaviour as those they perceived to be most influential on their academic achievement. Individual level factors included teacher attitudes and attributes. The dominant themes identified by students as influential at the social level were relational aspects of the teacher and access to the teacher beyond scheduled class time.

Teacher Attitudes

Students in this study viewed passion and enthusiasm as highly desirable for effective teaching in senior-secondary physical education which is not dissimilar to previous findings

in other subject areas (Ayres, et al., 2004; Horsley, 2012; Rowan, Chiang, & Miller, 1997; Smyth and Banks, 2012; Walls, Nardi, von Minden, & Hoffman, 2002). Teacher enthusiasm has been previously identified as having at least two dimensions: enthusiasm for teaching and enthusiasm for the subject (Kunter et al., 2008). Teacher enthusiasm and passion for the subject can spark interest and a desire to learn in students. This enthusiasm 'factor' has been shown to increase student achievement (Darling-Hammond, 1999). Teacher enthusiasm and passion can engage students in their learning and those who do not demonstrate a positive attitude toward the subject and teaching are less likely to engage students. The extent to which students are motivated and engaged in their learning by the interactions with their teachers is one of the largest potential mediators of academic outcomes (Allen, Pianta, Gregory, Mikami, & Lun, 2011) making this an important teacher-related factor when considering academic achievement.

Teacher expectations were perceived by students in this study as a motivator to ensure completing and submitting on time, that classroom behaviour was acceptable and for academic achievement or success. Teacher-related factors that reflect expectations of student behaviour, including setting of rules has been positively associated with cognitive outcomes of Physics students (Brekelmans, et al., 1990). Students in this study voiced their understanding of how appropriate levels of behaviour impacted positively on learning outcomes. Effective class management and organisation are qualities of effective teachers (Muñoz, et al., 2013; Stronge, 2007) that allow teachers to maximise instructional time. Students in focus group four often referred to time and how their teacher had certain practices in place to 'save time' so that they didn't 'run out of time'. Within the context of this study, teacher-related expectations of students' commitment to their studies, behaviour and success were identified as influential on academic achievement

Consistent with previous research (Horsley, 2009), students in this study also perceived the teachers' ability to communicate their belief that students are capable of, and will do well, as an important influence on their academic achievement. It was interesting to note that in one focus group, student commitment to their studies and the desire to achieve academic success differed between those students in their exit year and those in Year 11, indicating that a student's level of maturity may influence their commitment toward achieving academic success. Students in lower secondary school in Ireland perceived both the Junior and Leaving (upper secondary) Certificate exams as high-stakes yet recognised the greater consequences performance on the Leaving Certificate exam had on post-school pathways.

While high expectations have been associated with increased achievement levels and effective teaching (Horsley, 2012; Stronge, et al., 2011), teacher expectations can impact both positively and negatively on student self-esteem and ultimately academic achievement (Muijs, Campbell, Kyriakides, & Robinson, 2005). From the current research it is clear that students perceived teacher expectations to be influential to their academic achievement. However, the manner in which teachers articulate these expectations can have either a positive or negative impact on their students. Comparable to previous research (Pomeroy, 1999) students in this study who felt devalued or who perceived that more able students receive preferential treatment, reported that teacher expectations negatively impacted on their academic achievement and may in fact, limit their achievement (Muñoz, et al., 2013).

Teacher Attributes

Student perceptions of the value of practical tasks in this study reinforce the importance of teaching in and through movement as well as about movement (Arnold, 1979).

Most students in this study saw practical learning as beneficial. Students reported that the experience of 'doing' provided them with valuable knowledge that they could apply in high-stakes written assessment tasks. It has been suggested that the value of play and enjoyment in physical education should not be underestimated (Bowes, 2010). The perception of pleasure in participating in sport and physical activity as reported by one group of students in this study related to students having a break from the classroom and enjoying a practical based lesson. Teachers determine student experiences by making judgements on what are 'worthwhile' (Thorburn, 2001) practical experiences. It may be that for some teachers of senior-secondary physical education, the valid reasons for incorporating practical based learning activities were beyond pleasure and enjoyment, yet the reasons for their choice of practical activities were not apparent to the students or reflected in their responses.

Direct instruction (Metzler, 2005) emerged as the dominant teaching approach employed by VCE Physical Education teachers. Consistent with the dominant model reported by primary and secondary level physical education teachers (Cothran and Kulinna, 2008) direct instruction has been identified as a strategy of effective teaching (Zahorik, Halbach, Ehrle, & Molnar, 2003). However, students need opportunities to learn in multiple ways (Jess, Atencio, & Thorburn, 2011) and effective teachers must have the ability to draw on their pedagogical repertoire and use a variety of teaching styles to meet the varying learning needs, backgrounds, abilities and interests of students (Cothran and Kulinna, 2006; Duffy and Elwood, 2013; Jaakkola and Watt, 2011; Kulinna and Cothran, 2003; Stronge, 2007). Students expressed a clear view that effective teachers are able to recognise when students did not understand a concept and were willing to utilise an alternative teaching approach. The ability of teachers to use diverse and flexible teaching strategies was perceived to be an important teacher-related factor when considering academic achievement of senior-secondary physical education students. Studies in the Netherlands (Witte and Jansen, 2016) have also shown that students value teachers who employ a broad range of teaching approaches that can engage a diverse range of students. Lessons that lack diversity in teaching approaches and/or methodology have been reported by senior-secondary students to be 'off' putting' and 'boring' (Duffy and Elwood, 2013). The ability of the teacher to identify and select the most appropriate approach based on the content being delivered and the learning style of the students was perceived as paramount to student learning and their academic achievement. This supports the findings of McIntyre, et al. (2005) and proponents of complexity pedagogy (Jess, et al., 2011; Ovens, Hopper, & Butler, 2013). The importance of the connected experience was clearly articulated by the majority of students in this study. Providing students with authentic learning contexts allows for meaningful learning to occur by connecting and aligning new ideas with familiar and authentic settings. It may be that the use of demonstrations or the link to the real world provides students with a 'hook' that makes the learning more memorable and therefore more effective (Garrett and Wrench, 2016).

Recognising the type of learners students were and being able to deliver material in a manner that allowed students to optimise their learning was closely associated with teachers' aptitude of knowing their students and knowing the most appropriate strategy for individuals and the content being taught (Ward and Ayvazo, 2016). It has been previously reported that high-stakes examinations can lead to narrowing of the curriculum and teaching to the 'test' (Macdonald, 2011; Rink and Mitchell, 2002). While students in this study talked about preparing for their exam by doing practice exams for revision, only one group of students referred directly to the teacher 'teaching to the exam'. The students reflected on an area of study they had found difficult and the fact that it wasn't on any of their internal assessment tasks so they hadn't covered the content in class. However, as the final exam approached, time was devoted to covering the content. Senior-students in Ireland (Smyth and Banks, 2012) reported exam-focussed teaching strategies as 'good teaching' yet in contrast, Chinese

teachers reported that exam-driven pedagogy is only one aspect of effective teaching (Chen, Brown, Hattie, & Millward, 2012). In a context not dissimilar to this study, Ayres, et al. (2004), found that teachers of high-stakes external exit examinations in New South Wales, Australia, focussed on 'generating interest in and understanding of the subject' (Ayres, et al., 2004, p. 141). VCE Physical Education students perceived that their teachers' methods for preparing them for the end of year examination were separate to the learning and teaching that had taken place throughout the year. All students reported the use of practice papers in their examination preparation. This approach of 'teaching to the test' can be a useful tool for students to practice examination style questions, or to provide clarification of the depth of knowledge required for different concepts (Brown and Penney, 2017). However, there were differences reported between schools in student access to practice paper solutions and feedback on their performance. Teacher attributes of monitoring student progress and the provision of feedback, both written and verbal were commonly reported by students in this study, which supports previous research (Hattie, 2009; Stronge, 2007) into teacher effectiveness and ultimately student academic achievement.

Student-Teacher Interactions

Teacher-related factors that may influence student academic achievement at the social level featured teacher behaviours associated with student-teacher interactions. This research supports previous findings which highlighted the importance of student-teacher interactions on academic achievement (Allen, et al., 2011) regardless of the content area of instruction. Improved student-teacher interactions have also been shown to reduce off-task behaviour (Marzano, Marzano, & Pickering, 2003) and result in fewer discipline problems. When considering the teacher-related factors that influence academic achievement, it is not possible to isolate teacher-related attitudes and aptitudes from the relational aspect. For example, the teacher who has good knowledge of their students as individuals develops a good rapport with their students which makes the teacher more approachable, so the students are more comfortable asking questions and are keen to access their teacher more readily.

Humour has previously been positively associated with students increased perceptions of learning (Duffy and Elwood, 2013; Wanzer and Frymier, 1999), and students in this study provided numerous examples of experiences in class where their teacher had made them laugh which facilitated learning. In this context, humour was used to create a positive classroom environment where students felt more comfortable with the teacher, were motivated and engaged in their learning.

Access to the Teacher

Access to the teacher was an important factor identified by all five focus groups. It was evident in the responses from students in one focus group that the teacher did little beyond the classroom to help with their learning. In contrast, teachers from the other focus group made themselves available to their students beyond the scheduled class time. Teacher availability has been previously linked to student–teacher relationships (Ayres, et al., 2004) and teacher support has been shown to facilitate high academic success (Horsley, 2012). The access to the teacher through one-on-one meetings, tutorial sessions with peers, email and text messaging were perceived to be important influences on their academic achievement. Findings from this study clearly identify student ubiquitous learning needs and expectations with the desire to access their teacher anywhere at any time. The support gained from the

access to the teacher via direct contact or electronic media, outside of scheduled classroom time was generally reported to be used by students to ask questions and clarify understanding. As learning and teaching shifts to keep up with the dramatic developments in technology, electronic access to the teacher may well be the key to supporting effective learning (Hwang and Tsai, 2011), as will the need for the development of effective policy concerning electronic communications between teachers and students.

The close alignment of the findings of this study with others that have looked specifically at senior-secondary education (Ayres, et al., 2004; Horsley, 2012) suggest that teacher-related influences on student academic achievement are likely to be specific to the context of senior-secondary school education rather than the subject specific context. Furthermore, the perceptions of students provide more specific information on what teachers can do to improve academic achievement than what is provided in general teaching standards. Unique to the VCE Physical Education context is teacher attitude toward the integration of theoretical and practical learning tasks and how teachers utilise physical activity, exercise and sport as a learning medium. Student access to their teacher, particularly through electronic media, was also seen by students in this specific context to be highly desirable.

Limitations and Further Research

A limitation of this study is the timing of the data collection; students at this time had not sat their final examination or received their final grade for VCE Physical Education. Knowledge of actual academic achievement rather than perceived academic progress based on the years internal assessments may have yielded different responses from students. Further research is needed where high achieving students reflect on the important influences on that outcome. Furthermore, only a small sample of students participated, and the sample was drawn from the eastern suburbs of Melbourne in Victoria, Australia. It would be interesting to compare the views of senior-secondary physical education students across Victoria, Australia and other countries internationally. The limitations of the study are acknowledged, and some degree of caution is required when any attempt to generalise the findings is made. However, in the specific context of VCE Physical Education, little research has been conducted into the teacher-related factors perceived to influence academic achievement, especially from the student perspective. The data presented gives the perspective of students and this is an important aspect in determining influences on academic achievement, yet it is only one side of the story. An understanding of the alignment between student perceptions of teacher-related factors that may influence academic achievement and the reality of those influences based on student final results warrants further research.

Conclusion

The focus group discussions held with VCE Physical Education students allowed for robust insight that may be useful in improving the teaching of VCE Physical Education. The importance of having a good ‘attitude’ to teaching of VCE Physical Education, a broad repertoire of teaching strategies, making strong connections with student experiences and the real world, developing positive student-teacher relationships and a students’ ability to access their teacher outside of scheduled class time were seen as key teacher-related factors influencing achievement by VCE Physical Education students. Many of the teacher-related influences on academic achievement identified within each focus group were consistent with previous research on different senior-secondary school subjects and are closely associated

with characteristics of effective teachers previously identified. Unique to the context of senior-secondary physical education, was the importance for students to learn through 'doing', the practical activities that reinforced the key concepts and the ability of the teacher to relate real-world examples to aid understanding. The student lens has provided a perspective from those with the most to gain; the students. In addition to professional standards, this study provides additional information from the student perspective for teachers to consider when evaluating teacher effectiveness within this context. Both in-service and pre-service teachers could incorporate student perceptions into their ongoing professional learning. Asking students what it is the teacher can do to help students learn may help shape what teachers do in the classroom, their interactions with students and the teaching strategies they use.

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