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Rachael J. Whittle

RMIT University, rachael.whittle@rmit.edu.au

Amanda Telford

RMIT University, amanda.telford@rmit.edu.au

Amanda C. Benson

RMIT University, amanda.benson@rmit.edu.au

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The 'Perfect' Senior (VCE) Secondary Physical Education Teacher: Student Perceptions of Teacher-related Factors that Influence Academic Performance

Rachael J. Whittle
Amanda Telford
Amanda C. Benson

Discipline of Exercise Sciences, School of Medical Sciences, RMIT University,

Abstract: Improving student academic performance in senior-secondary education increases student opportunities for employment, training and further education. The aim of this research was to identify students', completing the Victorian Certificate of Education (VCE) Physical Education, perceptions of teacher-related factors that influence subject specific academic performance. Unit 3 and 4 VCE Physical Education students (n = 23) from three government secondary schools and one independent secondary school in Victoria, Australia completed poster annotations identifying their perception of the 'perfect' VCE Physical Education teacher. The de-identified data from the posters were transcribed verbatim, coded and analysed using NVivo software to explore student perceptions of teacher-related factors that influence academic performance. Emergent themes from the poster annotations suggested that student's perceptions of the 'perfect' VCE Physical Education teacher included the teacher-related factors of knowledge (of subject matter), verbal ability, caring, enthusiasm and teacher accessibility.

Introduction

An understanding of the teacher-related factors that affect student academic performance in senior-secondary physical education may lead to improved academic outcomes for students in senior-secondary physical education courses. Research into senior-secondary physical education is limited, and that which has been conducted has focussed on the analysis of the senior-secondary physical education curriculum documentation, its implementation (Thorburn & Collins, 2006a; MacPhail, 2007; Bowes & Bruce, 2011; SueSee & Edwards, 2011; Brown & Penney, 2012) and assessment (Thorburn & Collins, 2006b; Penney, Jones, Newhouse, & Cambell, 2012). What remains unclear is the specific teacher-related factors that influence student achievement in senior-secondary physical education. Successful performance in senior-secondary education, as demonstrated in the assessment of learning for certification, is a key enabler for young people to transition into further education, training or employment (Curtain, 2001; Pinquart, Juang, & Silbereisen, 2003). The Victorian Certificate of Education (VCE), administered by the Victorian Curriculum and Assessment Authority (VCAA), is one of three post-compulsory pathways available to students in their final two years of secondary schooling in Victoria, Australia; with the majority, 83% (VCAA, 2013a) of students selecting this course for their senior-secondary certificate. Senior-secondary education is characterised by greater subject specialisation (Dufaux, 2012) and student enrolments in senior-secondary physical education courses both

nationally (VCAA, 2003; 2013b) and internationally (Green, 2001; MacPhail, 2002; Thorburn, 2007) continues to increase. This paper will review the teacher-related factors within the context of the social-ecological model (Salmon & King, 2010) that may influence student academic performance in senior-secondary physical education. Enhanced understanding of student perceptions of the teacher-related factors that may influence student academic performance in VCE Physical Education could lead to improved academic outcomes for students within this subject and data could be used to inform the development of pre-service teacher education as well as in-service professional learning opportunities for practicing teachers.

Teacher-related Factors

There are a number of factors that may affect student academic performance, including the student themselves, home, the school, principals, peers and teachers (Hattie, 2003). Research has consistently demonstrated that the actions of the teacher and the activities conducted at the classroom-level, specifically what teachers know and what they do in the classroom, is more important than school-level factors as an influence on student learning (Hattie, 2003; Rowe, 2003; Kyriakides, Christoforou, & Charalambous, 2013). The factor contributing to the largest source of variance (50%) in student academic performance is the students themselves; what they bring to the table, including their family background, socio-economic status, prior learning and motivation (Ayres, Sawyer, & Dinham, 2004; Hattie, 2012; Kyriakides et al., 2013). Teachers account for a further 30% of the variance in student achievement; and this factor is potentially modifiable by teachers. Previous research that examined student achievement in the final year of secondary education in Australia, found that the class/teacher effects accounted for 59% of the residual variance in students' achievement (Rowe, 2004). What is not definitively known are the specific teacher-related factors that influence student academic performance and what it is that effective teachers do to maximise student academic performance within the context of senior-secondary physical education.

In the context of this research, teacher-related factors are classified as those factors that result from the teachers' behaviour (Morgan & Hansen, 2008) that may influence student academic performance. A social-ecological model can be used to describe the multiple levels of influence that may affect an individuals' behaviour (Salmon & King, 2010). The social-ecological model allows for analyses of a particular problem in a given setting. Student perceptions of the 'Perfect' VCE Physical Education teacher are explored within the context of a social-ecological model which can be used to provide a conceptual framework to understand the many factors that influence teacher behaviour at the individual, social, physical environment or policy level (Elder, Lytle, Sallis, Young, Steckler, Simons-Morton, Stone, Jobe, Stevens, & Lohman, 2007). The social-ecological model allows for the multiple influential factors on teacher behaviour to be categorized and used to inform strategies that target different levels of influence to be designed and implemented to increase student academic performance. Individual and social factors that influence teacher behaviour that may influence student academic performance are more readily modified compared with those influences at the physical environment and policy/organisational level. The physical environment, policy and organisational factors, including timetabling, VCE policy and access to facilities such as a gymnasium and weights room for example, are beyond the control of the individual teacher.

Governments, accrediting bodies and schools acknowledge that quality teaching is imperative for student achievement and seek to define quality teaching across the teaching

profession. The term quality is used in educational policy documents without clear definition. The qualities, characteristics and teaching practices that enhance student learning, and what it is that constitutes quality and/or effective teaching has been extensively researched (Darling-Hammond, 1999; Goe, 2007; Stronge, 2007; Dinham, 2011; Wang, Lin, Spalding, Klecka, & Odell, 2011), and commentary on quality teaching, particularly from policy makers, have and continue to struggle to reach a consensus about what constitutes quality teaching (Dinham, 2013). After decades of research, and constant shifts in how effective teachers are viewed, (Cruickshank & Haeefe, 2001) there is little agreement, and possibly more conjecture over what quality teaching looks like. There is no 'one-size-fits-all' definition. Findings are inconsistent across curriculum areas, school year levels and school settings, and while it is assumed that quality teaching is imperative to student academic performance, the concept of quality is often defined differently (Wang et al., 2011). Defining quality teaching in a physical education context "may be neither appropriate nor helpful" (Penney, Brooker, Hay, & Gillespie, 2009, p. 423) and what constitutes quality physical education may need to differ in different settings to account for contextual factors such as local and school culture, timetabling, facilities and resources. Teacher-related factors that may influence student academic performance are likely to be specific to a given context. The differences in teacher-related factors that exist between subjects and those that exist within the subject suggest that there is a case to support differentiated teacher effectiveness (Muijs, Campbell, Kyriakides, & Robinson, 2005).

Despite these differences, what is commonly accepted is that excellence in teaching is the "single most powerful influence on achievement" (Hattie, 2003, p. 4). Teachers, in the most part, have a positive effect on student learning (Hattie, 2009). The size of this effect will vary; more effective teachers have greater positive effects on student outcomes than less effective teachers. The findings from Hattie's (2009) comprehensive meta-analysis on influences on academic achievement showed 20 of the 29 positive effects on student performance were teacher-related.

Factors that affect student academic achievement in senior-secondary education have received little attention in the past 10 years. Effective strategies and practices used by teachers of high performing students (top 1% of the state of New South Wales), established that a classroom environment that encouraged deeper understanding rather than being 'exam-driven' was significant in successful teaching at the senior-secondary level (Ayres et al., 2004). And yet, students with high aspirations in Ireland showed preference for a more narrow focus on exam preparation in the lead up to their final exam (Smyth & Banks, 2012). Teachers themselves attributed success to their relationship with their students, their classroom practices (individual factors), faculty cooperation (social factors) and the students themselves (Ayres et al., 2004). Similarly, Horsley (2012) found that teachers who facilitated high academic performance in Year 13 Scholarship in New Zealand had deep content knowledge, passion for teaching and held high yet realistic expectations for their students.

Teacher Effectiveness

Although a strong link has been consistently demonstrated between teacher effectiveness and student achievement, (Darling-Hammond, 1999; Hattie, 2003; Stronge, Ward, & Grant, 2011) there is no consensus about quantifying teacher effectiveness. Student achievement on standardised tests is commonly used as an indirect measure of teacher effectiveness. Student academic performance in VCE Physical Education is determined through a series of internal assessment tasks that are moderated against an external examination, set by the VCAA. It is not the intention of the authors to dismiss student

educational outcomes that are not measured via academic performance as less important, however, the specific focus of this study is on VCE physical education whereby success is measured via academic performance and therefore our focus. Student performance, as argued by Cruickshank and Haefele (2001), is only one outcome of effective teaching. However, at the senior-secondary level, academic performance is used extensively to determine certification. Student study scores in VCE subjects are used to calculate an Australian Tertiary Admission Rank (ATAR) that is then used by the Tertiary sector and industry to inform decisions in relation to entrance into higher education, TAFE or a range of employment and training opportunities. At the senior-secondary level, student academic performance is therefore often used as an indicator of teacher effectiveness.

Increases in student achievement have previously been attributed to teacher effectiveness (Hattie, 2003; Stronge, 2007; Horsley, 2012). When effective teaching is defined by increases in student academic performance, comparisons between more and less effective teachers can be made. There have been a number of reviews and meta-analyses that have attempted to find a suitable framework to investigate teacher effectiveness. Effective third grade teachers in the US were found to score higher across the four dimensions of teacher effectiveness: instructional delivery, student assessment, learning environments and personal qualities (Stronge, Ward, Tucker, & Hindman, 2007). More effective teachers, (based on student achievement gains in English, Mathematics, Social Sciences and Science) in this context (third grade) placed greater emphasis on meaning versus memorisation, asked their students more higher order (for example application, analysis, synthesis, evaluation), questions, used a broader range of instructional strategies, provided differentiated assignments, were more organised, had higher expectations of their students and had fewer incidences of off task behaviour (Stronge et al., 2007). It has been argued that a generic approach to teacher effectiveness is counter-intuitive and Muijs and colleagues (2005) suggested that there is evidence for differentiated definitions of effectiveness for different curriculum areas, student backgrounds and ability, students' personal characteristics and different teacher roles such as pastoral and leadership. The fact that different curriculum areas have different content supports the notion that teacher effectiveness may well be inconsistent between curriculum areas. What is effective in teaching English to non-English speaking junior-secondary students is unlikely to be effective in teaching Physics to gifted students in their final year of secondary education. There is some evidence to suggest that effectiveness within subjects may also differ as a result of the desired learning outcome (Muijs et al., 2005). For example, effective teaching of locomotive skills to Year 1 students in physical education is not likely to be the same as the effective teaching of acute physiological responses of physical activity to senior-secondary physical education students. Multiple contextual factors including subject, setting and students provide support for differentiated teacher effectiveness, rather than a 'one-size-fits-all' approach.

Subject specific research into teacher and teaching effectiveness has often focussed on English and Mathematics, perhaps due to the availability of standardised test results in these areas. It is unclear if results from one subject area can be applied to other subjects. The results from a meta-analysis conducted by Donker, de Boer, Kostons, Dignath van Ewijk, and van der Werf (2014) found that the strategies that were effective in improving academic performance differed across primary and secondary education in writing, science, mathematics and reading. It stands to reason that different subject areas contain knowledge and skills that will require different and specific teaching approaches for effective delivery.

With so much research conducted into teacher and teaching effectiveness, and additionally the number of meta-analyses combining the results of these studies, there is some common ground across the different studies. Stronge (2007) identified common attributes that exemplify effective teachers and these categories are used in this study to

compare VCE Physical Education student perceptions of teacher-related factors that influence academic performance with generic characteristics of effective teachers. The danger however, in compiling a list of generic effective teacher and teaching characteristics that have been shown to influence student academic performance is that there is little consistency across the studies in methodology or frameworks used for determining effectiveness. These limitations give support to research that is contextualised in subject specific areas and seeks to identify teacher-related factors that influence student academic performance in those contexts.

Quality Physical Education

Quality teaching and teaching effectiveness have been researched extensively (Rowe, 2003; Stronge & Hindman, 2003; Rowe, 2004; Stronge et al., 2011; Hattie, 2012; Horsley, 2012), and it is clear from the research that teachers are the most influential school-based factor on student achievement. However, much of the research looks at compulsory education, and none to our knowledge have focused on senior-secondary (post-compulsory) physical education. Of those that have specifically looked at physical education, all have concentrated almost exclusively on the delivery of programs where the focus is motor skill development and performance, primarily within practical classes (Behets, 1997; Stirling & Belk, 2002; Boyle, Jones, & Walters, 2008; Kyriakides & Tsangaridou, 2008; Morgan & Hansen, 2008). Perceived barriers to the delivery of quality physical education with this focus have been identified in previous research (Kulinna & Cothran, 2003; Barroso, McCullum-Gomez, Hoelscher, Kelder, & Murray, 2005; Rink, 2013). Boyle and colleagues (2008) suggested that the delivery of a quality physical education program in schools is “constrained by many institutional, teacher- and student-related barriers” (Boyle et al., 2008, p. 4) and Morgan and Hansen (2008) suggested that the perceived barriers to the delivery of a ‘quality’ physical education program in schools can be categorised as either teacher-related or institutional. Much of the research has focussed on primary school level where the barriers to delivering a quality physical education program are often associated with non-specialists teaching physical education, lack of time, physical education being considered a low priority in a crowded curriculum, large class sizes and lack of facilities and resources (Barroso et al., 2005; DeCorby, Halas, Dixon, Wintrup, & Janzen, 2005; Morgan & Hansen, 2008; Jenkinson & Benson, 2010). There are some similarities and some differences in the barriers identified to delivering effective physical education in both primary and secondary educational settings. However, it is more likely that in secondary-school settings physical education is taught by a specialist teacher, whose training may allow them to overcome the perceived barriers more readily (Jenkinson & Benson, 2010).

As stated earlier, teacher effectiveness has been clearly linked to student outcomes, particularly academic outcomes, however, in physical education a major component of effectiveness has been engagement, and time on task (Tinning, 1994). The notion of teaching physical education effectively is considered ‘muddled’ (McKenzie & Lounsbery, 2013). Teacher effectiveness in secondary physical education may be measured through student achievement, and this has been closely associated with time, which is a measurable variable used for predicting student improvement (Parker, 1995; Manross & Templeton, 1997; Barroso et al., 2005; Caprara, Barbaranelli, Steca, & Malone, 2006; Morgan & Hansen, 2008; Aktop & Karahan, 2012; Moy, Renshaw, & Davids, 2013). When comparing more and less effective teaching behaviours in secondary physical education gymnastics classes, Behets (1997) identified five characteristics of effective teachers; four of which related to time: higher activity *time*, lower instructional *time*, more *time* spent observing students in activity,

spent less *time* and attention on providing information for students. While time practicing a motor skill does not guarantee the learning of the skill, it is unlikely for learning to occur if students are not provided with enough appropriate practice time. The fifth characteristic that is consistent across much of the research into effective teaching is feedback (Behets, 1997; Manross & Templeton, 1997; Rink, 2013). Effective physical education teachers provide more corrective feedback than less effective teachers. Again these findings are specific to the context of practical physical education classes and not senior-secondary courses where primarily instruction is classroom-based with student achievement based on a student's understanding of and application of theoretical knowledge to hypothetical or scenario based situations.

Effective Teaching in Senior-secondary Physical Education

Generic qualities of effective teachers (Stronge, 2007) and those characteristics specific to the context of teaching practical physical education have been considered in previous research. In the context of senior-secondary physical education it is unclear if the specific teacher-related factors that influence student achievement are unique to the context of senior-secondary physical education.

High ability students' perceptions of effective teachers are more likely to pertain to a teacher's knowledge of the subject and content taught when compared to low ability students (Muijs et al., 2005; Horsley, 2012). In establishing the difference between expert and experienced teachers, Hattie (2003) suggested that pedagogical content knowledge was more important than subject specific content knowledge; that is the way in which knowledge is used in teaching situations to facilitate student learning. Pedagogical content knowledge in physical education has previously been identified (You, 2011, p. 104) to include knowledge of:

- Physical education as a subject
- Physical education curriculum
- Teaching methods in physical education
- Students' learning of physical activity
- Physical education assessment
- Instructional environments in physical education

To facilitate student learning, Ayvazo, Ward, and Stuhr (2010) argued that a teacher must first have an in-depth understanding of the subject specific content.

Further research has sought to determine the most effective pedagogical approaches to teaching physical education. With the shift towards teaching games for understanding and games sense approaches in practical physical education, a more constructivist approach may enhance student learning. While little is known about the use and perceptions of these various styles of teaching (Kulinna & Cothran, 2003), the current understanding is that effective teachers should use a number of different styles; this is consistent with other subjects that are classroom-based. Effective teachers are able to differentiate their mode of delivery depending on the needs, capabilities, learning styles and backgrounds of their students and the desired learning outcome (Kyriakides, Campbell, & Christofidou, 2002; Wenglinisky, 2002; Muijs et al., 2005; Stronge et al., 2011).

Research investigating student perceptions of practical physical education and in senior-secondary education is not new (Cothran, Kulinna, & Garrahy, 2003; Cothran & Kulinna, 2006; Horsley, 2010; Smyth & Banks, 2012; Lamb & Lane, 2013). In a comparison of the 'Higher Still Physical Education' course in Scotland with the 'Senior Physical

Education' course in Queensland, Australia, Thorburn and Collins (2006b) analysed the consequences on student learning, assessment experiences and analytical abilities of teacher's decision-making within an integrated senior-secondary physical education curriculum through student interviews and assessment. From their research, Thorburn and Collins (2006b) suggested that evidence of student achievement in senior-secondary physical education should be included in any evaluation of curriculum integration and teacher effectiveness. However, to our knowledge, student perceptions of teacher-related factors that may influence academic performance in the specific context of senior-secondary physical education in Victoria has not been investigated.

The purpose of this study was to explore student perceptions of the teacher-related factors that may influence student academic performance in the VCE Physical Education course and identify the teacher-related factors that students perceive to be effective in senior-secondary physical education teaching.

Method

Participants

Students completing Units 3 and 4 VCE Physical Education were invited through professional physical education networks to participate in the study. Ethical approval was obtained from the University Human Research Ethics Committee. All students who responded to the advertisement received a plain language statement outlining the research and a dual (parental and participant) consent form.

Unit 3 and 4 VCE Physical Education students from Melbourne's east and south-eastern suburbs (n=23; female=16, male=7) from government secondary schools (n=3) and an independent secondary school (n=1) provided informed consent to participate in the study. In total, five groups of students participated in the poster annotation sessions. The groups met in October 2013, just prior to the end of the academic year but before the external VCE examination period for Year 12 students. This window of time was considered appropriate, considering the constraints afforded to students completing courses for certification where the stakes are high in terms of outcomes for the students. Students had completed the face-to-face teaching component of their studies and were commencing a period of revision before the final examination.

The groups consisted of four to five students from the same school and same VCE Physical Education class. The homogeneous nature of the groups provided an environment for students to record their thoughts and experiences of their perception of the 'perfect' VCE Physical Education teacher within a peer group, while still providing individual responses.

Students were asked to annotate an A3 poster of a super hero figure with characteristics of what they perceived to be the 'perfect' VCE PE teacher. Students were instructed to consider those teacher-related factors that they considered to be the ideal in helping improve their academic performance in VCE Physical Education. Students were requested to consider behavioural rather than personal characteristics of their perceived 'perfect' teacher and were asked to comment on teacher behaviours and not the teacher as a person. For example, students were encouraged to consider what the 'perfect' teacher does to help improve academic performance. This ensured that student responses reflected teacher-related behaviours and not personal characteristics.

Data analysis

The poster annotation data were de-identified, transcribed and analysed systematically using NVivo Version 10 (QSR International, 2014) software package. Immersion in, and familiarisation with the data were originally achieved through reading and re-reading, highlighting and annotating the transcribed data (Grbich, 2013). The coding process was then recursive and iterative (Cope, 2009), initially codes were identified a priori. Potential codes were classified from the theoretical framework guiding the study; the social-ecological model (Salmon & King, 2010), where the theoretical understanding of the existing constructs of the study determined the development of codes. A code book (DeCuir-Gunby, Marshall, & McCulloch, 2011) was developed to include the code title, a description of content to be coded, with an inclusion and exclusion criteria and an example from the data to ensure accuracy and rigor throughout the coding process. A simple word frequency query was performed to gain some insight into the key themes emerging from this initial coding of data. Further coding and analysis to identify emergent themes and explore student perceptions of teacher-related factors on student academic performance in VCE Physical Education was performed in-vivo where categories were named directly from the words of the participants (Bringer, Johnston, & Brackenridge, 2004). This process allowed sub-categories of the dominant levels of influence, namely the individual and social level of the social-ecological model to be identified as further themes emerged. The sub-categories were then compared with the profile of an effective teacher as described by Stronge (2007).

Results

The 23 (F = 16, M = 7, 16 – 18 year olds) Unit 3 and 4 VCE Physical Education students from government secondary schools (n = 14) and independent secondary school (n = 9) reported many characteristics of the 'perfect' teacher and teaching practices. Students identified elements of teacher behaviour in and outside of the classroom that may impact on their academic performance. Examples of the student's annotated posters are presented in Figure 1.

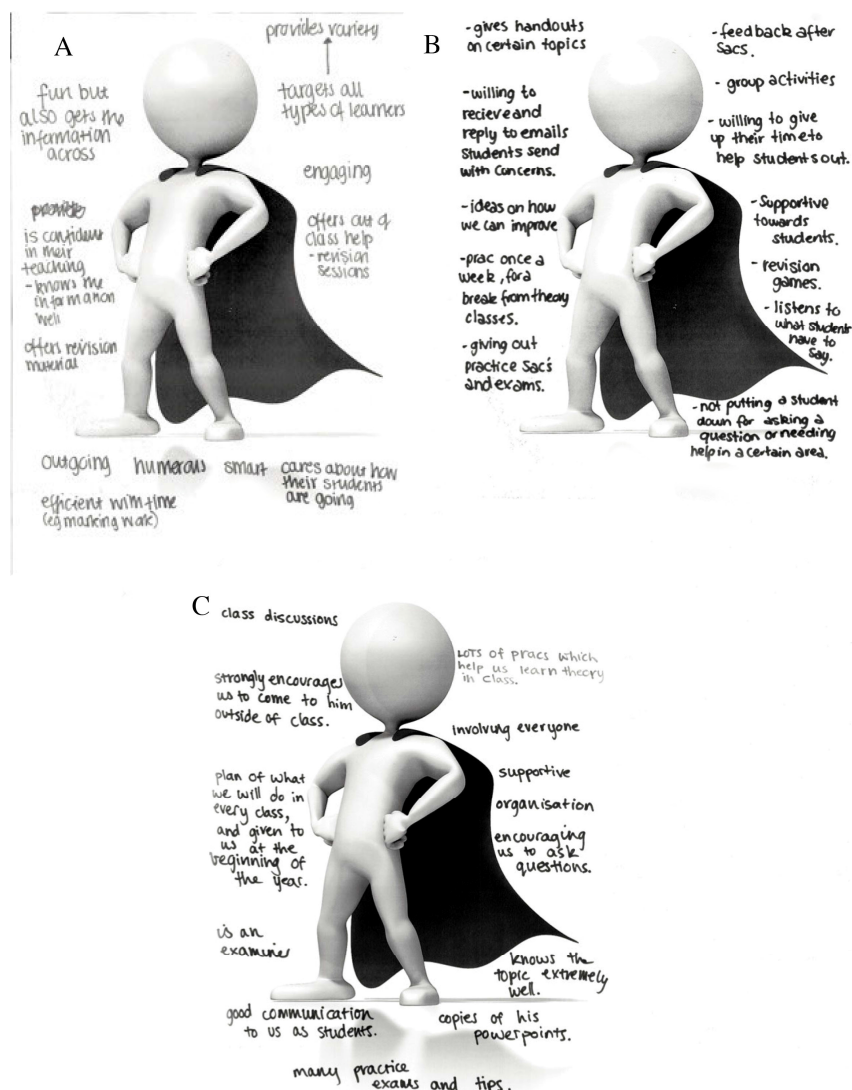


Figure 1: Annotated posters of student perceptions of the ‘Perfect’ VCE Physical Education teacher: A. Female student, (18 years), independent school; B. Female student, (18 years), government school; C. Female student, (17 years), government school.

Common patterns were identified both between and within groups with a high level of consistency. The identified themes were consistent between government and independent school students and both male and female students. Initial analysis identified factors at the individual and social level of the social-ecological model to be the most prominent influences from the students’ perspective. Students did not identify factors at the physical environment or policy level of influence in their poster annotations of the ‘perfect’ VCE Physical Education teacher. The dominant themes that emerged from the poster annotations at the social and individual level of influence on teacher behaviour were found to be:

- Knowledge of content (individual)
- Verbal ability (individual and social)
- Caring (individual)
- Enthusiasm (individual)
- Access (to the teacher) (social)

Students consistently reported teacher knowledge of content, specifically course content in VCE Physical Education, as an important teacher-related factor that may influence

academic performance. Students clearly articulated that their perception of the ‘perfect’ VCE Physical Education teacher would be one who is knowledgeable (Table 1).

Many students spoke of the importance of communication. Student perceptions of their ‘perfect’ VCE Physical Education teacher included numerous references to the teachers’ ability to communicate. This included communication with the student and also their ability to communicate or convey ideas clearly and compellingly (Table 1), as well as providing detailed examples and explanations. Students clearly articulated the importance of using different forms of communication including visual stimulus, using actions and physical demonstrations, relating concepts to real life examples, and by relating new concepts to old.

Students identified the importance of the ‘perfect’ VCE Physical Education teacher caring about them as individuals. Student poster annotations related to the ‘caring’ theme covered a broad range of teacher attributes such as being supportive, understanding, kind, friendly, listening to students, encouraging, patient, honest and fair, warm and having a sense of humour.

A strong theme to emerge as a characteristic of the ‘perfect’ VCE Physical Education teacher was enthusiasm with students regularly reporting enthusiasm and passion as important teacher-related factors influencing their academic performance (Table 1). Enthusiasm as a theme incorporated enthusiasm, passion and motivation for the subject matter and for teaching and learning overall.

The final theme to emerge from the student data was that of access. Student perceptions clearly identified the importance of having access to their teacher outside of class time (Table 1). This included both formal and informal meetings, electronic contact and communication as well as being available.

Student quote	Student characteristic
Knowledge of content	
<i>“Knows the topic (extremely) well”</i>	Female, government school
<i>“Well educated, smart”</i>	Male, government school
<i>“Is confident in their teaching – knows the information well”</i>	Female, independent school
<i>“Knows the topic well”</i>	Male, government school
<i>“Knowledgeable”</i>	Male, government school
<i>“At VCE level, knows what to teach in regards to the study design”</i>	Female, independent school
Verbal ability	
<i>“Offers different insights into the subject that can make it easier to understand”</i>	Female, independent school
<i>“Able to convey knowledge”</i>	Male, government school
<i>“Good communication to us as students”</i>	Female, government school
<i>“Using visuals/actions for certain concepts”</i>	Female, independent school
<i>“Incorporating knowledge into everyday life activities”</i>	Male, government school

<i>“Relates content to student experiences”</i>	Male, government school
<i>“Uses examples to clearly explain concepts”</i>	Female, independent school
<i>“Relate new concepts to old ones”</i>	Male, government school
<i>“Using and relating to real life examples”</i>	Female, independent school
Caring	
<i>“Considerate of other workloads and commitments”</i>	Female, government school
<i>“Provides support so that I’m not afraid to ask a ‘stupid’ question”</i>	Female, independent school
<i>“Able to have a laugh, not always serious”</i>	Male, government school
<i>“Supportive towards student”</i>	Female, government school
<i>“Sense of humour”</i>	Female, government school
<i>“Tries to make the lesson fun and engaging”</i>	Female, independent school
<i>“Cares about how their students are going”</i>	Female, independent school
Enthusiasm	
<i>“Being confident and enthusiastic about all areas of the course”</i>	Female, independent school
<i>“Motivated and interested in teaching and student success”</i>	Female, government school
<i>“Passionate about the subject”</i>	Female, government school
<i>“Enthusiastic about the content”</i>	Male, government school
<i>“Energetic, enthusiastic”</i>	Female, government school
Access (to the teacher)	
<i>“Makes time to see students individually and help answer questions”</i>	Female, independent school
<i>“Willing to receive and reply to emails students send with concerns”</i>	Female, government school
<i>“Strongly encourages us to see him outside of class time”</i>	Female, independent school
<i>“There to help at all times”</i>	Male, government school
<i>“Allows access outside of class”</i>	Male, government school

Table 1: Student Perceptions of the ‘Perfect’ VCE Physical Education Teacher

Discussion

Students involved in this study provided valuable insight into their perceptions of the teacher-related factors that may influence academic performance in VCE Physical Education. Through the student lens, we can gain insight into the important influences according to the key stakeholders, the students (McIntyre, Pedder, & Rudduck, 2005). It should be noted that

students in this study were asked to report characteristics of the ‘perfect’ VCE Physical Education teacher; as a consequence they were unlikely to phrase their responses in the negative. Students were very specific in their views and clear in their expectations of the ‘perfect’ VCE Physical Education teacher. The dominant themes that emerged from the data were consistent across government and independent school students and across genders. We found few differences when comparing the poster annotations of all students.

The poster annotations of the ‘perfect’ VCE Physical Education teacher provided insight into what students perceived to be important for improving their academic performance. The students perceived five key teacher-related factors that they believed may influence academic performance in VCE Physical Education; content knowledge, verbal ability, care, enthusiasm and access. Teacher access is notably absent from previous research into teacher-related factors that may influence academic performance. Based on observations, the American Association of School Administration (AASA) identified 15 techniques and characteristics of effective teaching, published as a guide for classroom teachers (Demmon-Berger, 1986). One of these techniques or characteristics was teachers who ‘are accessible to students outside of class’. Students in our study reported that access to their teacher both electronically and face-to-face was an important teacher-related factor in improving their academic performance that has not been previously identified in research as a key characteristic of an effective teacher, and more specifically as a characteristic of an effective senior-secondary physical education teacher. From a teacher perspective it may be important to investigate the impact of students having access (electronically) 24/7 and how pre-service and in-service teachers can be prepared and supported to set clear boundaries and expectations for responding to students outside of ‘work time’.

Content knowledge has been associated with teacher effectiveness and consequently reported to improve academic performance in numerous studies about diverse subject areas (Darling-Hammond, 1999; Wenglinsky, 2000; Hill, Rowan, & Ball, 2005; Stronge, 2007; Horsley, 2012). There is evidence that suggests that teachers with greater subject-matter knowledge are able to ask higher order questions, involve students in lessons and allow more student-directed activities (Hattie, 2003; Stronge et al., 2007; Horsley, 2010; Hattie, 2012). Students in this study consistently reported teacher knowledge as an important factor influencing academic performance. They wanted the ‘perfect’ Physical Education teacher to be “*smart*” and “*knowledgeable*”. Reflecting on the work of Ward (2013), deep content knowledge is required for meaningful outcomes in physical education as it determines the quality of the tasks teachers set. He was specifically referring to the quality of task in practical based physical education classes and yet, the notion of “you get what you teach” (Ward, 2013, p. 437) suggests that high quality tasks designed by teachers who have greater depth in their content knowledge in senior-secondary physical education are more likely to improve academic performance compared with low quality tasks. In physical education, when subject content knowledge increases, so does pedagogical content knowledge (Shulman, 1987) and a teachers ability to transform the content they are delivering into meaningful learning for students (Chen, 2002; Ayvazo et al., 2010). Conversely, Hattie (2003) argued that when distinguishing between expert and experienced teachers, there is little difference in their subject area content knowledge; expert teachers differ in how they organise and use this knowledge. That is, content knowledge is important but what you do with that knowledge separates expert teachers from the others. Many of the students in this study expressed different ways in which the ‘perfect’ teacher would teach. The word pedagogy was not in the vocabulary of these students, however, their specific examples provided insight into how teachers could use content knowledge to enhance pedagogy that in turn, influenced academic performance. Students spoke of teachers being able to “*relate new concepts to old ones*” and “*uses examples to clearly explain concepts*” and “*using and*

relating to real life examples". Students suggested that when learning was contextualised in ways that were familiar to them it facilitated understanding and learning.

Verbal ability has been previously linked to increased student learning (Rowan, Chiang, & Miller, 1997) and a teachers ability to communicate and clearly convey knowledge is an important teacher-related factor that may influence academic performance. Students expressed the 'perfect' VCE Physical Education teachers' ability to convey knowledge across all key content areas as an important teacher-related factor that may influence academic performance. Some students stated very clearly that the teacher should be able to convey knowledge; others provided further insight into how they expect the 'perfect' teacher to be able to convey that knowledge. For example, "*detailed explanations and examples*" and "*incorporating knowledge into everyday life activities*". The student poster annotations provided regular comments on how the 'perfect' teacher would use 'real-life' examples or provide visual representation or actions to demonstrate elements of the content to help clarify student understanding. These students valued clear explanations and an ability to explain concepts in different ways to cater for different learning styles and the adeptness to provide further but alternative explanation or clarification if students did not understand an idea in the first instance.

Verbal ability and a teacher's ability to communicate in this context goes beyond conveying content knowledge. Students also implied that the teachers' ability to communicate information relating to organisational factors was important. Students reported that communication regarding changes to the program, homework, additional information such as handouts and where to access practice exams for example was also important in improving academic performance in VCE Physical Education.

When considering Stronge's (2007) 'prerequisites for effective teaching', students identified both content knowledge and verbal ability as being characteristics of the 'perfect' VCE Physical Education teacher. However, notably absent in their responses were comments associated with teacher certification (qualification), education coursework and teacher experience. This may be explained by the level at which students understand the requirements of teaching, that is, if a teacher stands in front of the classroom, the student expects that: i) they are qualified to teach; and ii) they have completed the required training, including educational coursework. One student identified teaching experience as a factor that may influence their academic performance, however, the majority did not identify experience as a relevant factor. Students did recognise the importance of the teacher being able to use a variety of teaching styles to convey information, and that the 'perfect' teacher would be able to use different instructional strategies when students did not understand a concept. Instructional practices of effective teachers vary (Ayres et al., 2004; Stronge et al., 2007; Hattie, 2009; Grieve, 2010; Stronge et al., 2011); they are skilful at using a variety of strategies and are able to select the most appropriate strategy for the context in which they are teaching. For students, the distinction between content knowledge and pedagogical content knowledge may not have been made. The expectation that a 'perfect' teacher is knowledgeable may indeed encompass all aspects of content and pedagogical knowledge. Teacher experience may only be a factor related to academic performance if the teacher is inexperienced. As a measurable variable, teacher experience has been associated with effectiveness, especially in studies in the US, however as Darling-Hammond (1999), suggested the differences in effectiveness between experienced and inexperienced teachers level off after five to eight years. It should be noted that neither general teacher experience nor VCE Physical Education experience were reported in this study as this is not a characteristic that students would typically know about their teacher.

Affective teacher attributes such as caring are difficult to measure (Stronge, 2007), however, previous research (Teven & McCroskey, 1997) suggested that student perceptions

of caring are strongly correlated to student evaluations of their teachers, their affective learning and their perceptions of their cognitive learning. Students who perceived that their teachers care are more likely to exert academic effort (Wentzel, 1997). Students in this study also reported that teacher-related factors associated with caring, such as being supportive, understanding, kind, friendly, listening to students, encouraging, patient, honest and fair, warm and having a sense of humour were positively associated with academic performance. Student perceptions of affective teacher-related factors influenced effective learning.

Students expressed that from their perspective, key characteristics of the 'perfect' VCE Physical Education teacher included many traits that related to the teacher treating them with respect, understanding and consideration. Teacher's who are able to respond to student needs and create a classroom climate of mutual respect and one where the common goal for both students and teachers is to improve student academic performance, were seen by these students as 'perfect'. Use of humour was categorised as a subset of caring, and was also seen to be influential by students. The 'perfect' VCE Physical Education teacher is "*Humorous*" and they "*Use humour to (help us) remember concepts*". Similar findings of student perceptions of good teachers were also reported by the National Association of Secondary School Principals, (National Association of Secondary School Principals (U.S.) NASSP, 1997) who found that a sense of humour was the most important characteristic of the 'best' teachers, followed by 'make the class interesting'. Humour and fun may be important vehicles to engage students in their learning. The idea that teachers needed to be "*able to have a laugh*", and to provide "*non-boring classes*", "*make classes enjoyable and can make the theory interesting*" and "*tries to make the lesson fun and engaging*" reflect the students need for their teachers to provide a learning environment that interests them. Similarly the high-ability senior-students studied by Horsley (2010), understood the need for the teacher to maintain control of the learning environment, as one student commented, they needed to be "*Fun, but also strict at the same time*". Students in this study also reported that staying on topic and remaining focussed, using time effectively and being organised may influence their academic performance. Maximising instructional time and focusing on the curriculum has been shown to increase student learning opportunities (Ayres et al., 2004). The 'perfect' VCE Physical Education teacher needs to be able to find the balance between using humour to engage students, make their classes enjoyable and to set clear classroom boundaries to ensure that content is covered and learning occurs.

Enthusiasm has been found to be an important teacher-related factor connected to teacher effectiveness across all levels of schooling (Bain & Jacobs, 1990), and it has been specifically identified as an important teacher-related factor with older students (Ayres et al., 2004; Horsley, 2012). Gage, in Peterson and Walberg (1979) suggested that enthusiasm is one of only two teacher behaviours that are generic across all content, year levels and types of student. Consistent with previous research, the students in this study identified factors of teacher enthusiasm, motivation and passion as important factors that may influence academic performance (Rowan et al., 1997; Walls, Nardi, von Minden, & Hoffman, 2002; Horsley, 2012). Teacher enthusiasm has been identified as having at least two dimensions: enthusiasm for teaching and enthusiasm for the subject (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011). While students elect to undertake physical education for certification at the senior-secondary level, it is not compulsory (in Australia), and teacher enthusiasm for the subject can contribute to developing a student's attitude toward the subject matter. This has been shown to increase academic self-concept, interest in the subject area and a desire to learn more (Stronge, 2007) with enthusiasm linked to student and teacher perceptions of higher instructional quality (Kunter, Tsai, Klusmann, Brunner, Krauss, & Baumert, 2008). In this study, it is enthusiasm for the subject, "*passionate about the subject*", "*enthusiastic about content*", for teaching, "*put a lot of thought and effort into designing every lesson*" and for

student success, “*motivated and interested in teaching and student success*” that students perceived to be important. To be an effective teacher, passion is not a luxury, but an essential element of all good teaching (Day, 2004) and students in this study identified that ‘perfect’ teachers are “*confident and enthusiastic about all areas of the course*”, and they are “*energetic and enthusiastic*”. Students appreciated teachers who exhibited passion for physical education, through words and actions. Teachers who involved themselves in lessons, who were encouraging and motivating towards their students and passionate about physical education the subject, were those who were perceived to be influential in improving academic performance.

Students identified teacher access as a central teacher-related factor that impacts on academic achievement at VCE level in Physical Education. In a digital age where students have expectations of ubiquitous learning opportunities and where access to information has few boundaries, students expressed that access to their teacher was imperative to their success academically. Students repeatedly reported that the teacher being available to them outside of class time was valuable. Students annotated the posters with multiple examples of how they would like the ‘perfect’ VCE Physical Education teacher to be accessible. “*Allows access outside of class time*”, “*always available to answer questions outside of class*” and “*willing to receive and reply to emails students send with concerns*”. The Victorian Curriculum and Assessment Authority (VCAA) stipulates that for each unit at VCE level, schools must schedule 50 hours of classroom instruction. This equates to 100 hours of teaching across the academic year. Descriptions of teachers who make time to see individual students outside of set class times and those who are willing to use time outside of the scheduled face-to-face teaching to assist students, answer questions, clarify understanding and offer extra revision classes were prevalent in the students perception of the ‘perfect’ VCE Physical Education teacher. In research conducted in New Zealand on gifted students, additional out of class support for students was illustrative of the level of commitment shown by teachers (Horsley, 2008). In this context, it was less about needing or wanting greater access to their teacher and more about acknowledging the level of commitment required to support students in their academic pursuits. While some students in this study commented that access to the teachers was to receive help, it is unclear why other students specifically identified access as a key component to their academic success. The reasons may go beyond simply supplying answers to questions and be a conduit for student success through support and the building of confidence and therefore warrants further research. In her article ‘Teacher behaviours for new millennium learners’, Collins (2012) suggested that effective teachers of the 21st century will need to be available to both students and parents through various electronic formats as well as in person. Further investigation to determine how students prefer to access their teacher (eg. in person, electronically) and what type of information or support they are seeking through this contact should be the focus of future research. The implications on teacher workload, face-to face teaching and the issues of professional interactions with students through private/personal mediums such as mobile phones and social networks will need careful consideration in teacher preparation, ongoing support for practicing teachers, research and policy development.

Limitations

Although there was diversity in the student cohort sample (government and independent schools from a range of SES backgrounds, schools with VCE mean study scores of 28 – 36 out of a possible 50, providing a range of low to high performing schools) all the students who participated in this study were from the eastern suburbs of Melbourne,

Australia. Future research may consider the inclusion of more geographically diverse student populations, including rural students. It is also relevant to note that students participated in this research prior to undertaking their end of year examination and receiving their final results for VCE Physical Education. Further research could include asking students to outline the notion of the 'perfect' VCE Physical Education teacher retrospectively, once they have received their external as well as their internal results and can reflect on those teacher-related factors that they believe influenced their final outcome in VCE Physical Education.

Implications for teacher education

An awareness of student perceptions of the 'perfect' VCE Physical Education teacher may be beneficial to both in-service and pre-service teachers. Implications for pre-service teachers aspiring to teach senior-secondary physical education and for in-service teachers wanting to improve the academic performance of their students, the findings of this study shed some light on what students perceive to be important teacher-related factors that may influence their academic performance.

Students identified 'perfect' VCE Physical Education teachers as those who:

- had strong subject specific content knowledge
- were able to clearly convey that knowledge through a variety of instructional strategies
- were caring, considerate, patient and kind, friendly, approachable, helpful and had a sense of humour but had good classroom management
- enthusiastic and passionate, about the subject and about teaching and learning
- were accessible to their students outside of the classroom, both face to face and via electronic mediums.

The findings of this study support the need for professional learning opportunities for in-service teachers to improve or update their content specific knowledge to assist them to increase student academic performance. In line with the Australian Institute for Teaching and School Leadership (AITSL) National Professional Standards for Teachers, '*4. Create and maintain supportive and safe learning environments*' (Australian Institute for Teaching and School Leadership, 2011) physical education teacher education programs may need to ensure programs have a strong emphasis on effective communication training, development of interpersonal skills (verbal and non-verbal) as well as '*2. Know the content and how to teach it*', subject specific content knowledge. In this way, the qualities of effective teachers as recommended by students can be combined with those skills already included in teacher training programs to assist teachers in increasing student academic performance in senior-secondary physical education.

Conclusion

This is the first study to our knowledge, which sought to investigate student perceptions of teacher-related factors that may influence academic performance in senior-secondary Physical Education. We found that students perceive the 'perfect' VCE Physical Education teacher to be knowledgeable; to have strong communication skills to convey this knowledge, care about their students, are enthusiastic about physical education and about teaching and are accessible to students outside of class time. The findings of this study are consistent with previous research but outline key factors through the lens of the senior-secondary physical education student, and highlight specifically the perception that access to their teacher beyond scheduled class time is perceived as important.

With increasing pressure on schools, teachers and students to continually improve academic performance in high stakes courses such as the VCE and other senior-secondary courses for certification and pathways to higher education, identifying teacher-related factors that may influence student academic performance may provide opportunities to improve student outcomes. Through increased understanding of what it is that students want from their teacher in this context, teachers can construct a learning environment that meets the needs of the student, and adapt to changes in that environment to capitalise on those 'teachable moments' that arise.

Student perceptions are only one perspective of what constitutes effective teaching and the investigation of teacher perceptions of teacher-related factors that may influence student academic performance would provide an opportunity to explore the similarities and differences to those of the student and warrants investigation.

While the notion of the 'perfect' physical education teacher may not be realistic, the key themes from this research indicate that to improve academic performance, teachers in senior-secondary physical education need to have good content knowledge, be able to communicate that knowledge clearly, care about their students, be enthusiastic about teaching physical education and be available to their students outside of class time.

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