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Secondary teachers' perceptions of the importance of pedagogical approaches to support students' behavioural, emotional and cognitive engagement

Megan L. Kelly[1] · **Tony Yeigh**[1] · **Suzanne Hudson**[1] · **Royce Willis**[1] · **Megan Lee**[2]

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Abstract

This article reports on original research investigating the pivotal role that teachers play in student engagement, using a tri-dimensional framework. This framework identifies how teachers' pedagogical choices impact student engagement in ways that influence students' external behaviours, internal emotions and internal cognitions. A questionnaire was developed to explore secondary teachers' ($n = 223$) perceptions of pedagogies that support students' behavioural, emotional and cognitive engagement in the classroom. Findings revealed that female participants placed higher importance on pedagogies that support students' cognitive and behavioural engagement, and participants with leadership roles placed higher importance on pedagogies that support students' cognitive and emotional engagement. Also emerging from the research was a negative correlation between the importance teachers placed on pedagogies that support cognitive and behavioural engagement and their school's ICSEA value (the measure of socio-educational advantage in Australian schools). Overall, results support the tri-dimensional framework of student engagement utilised in this study and provide a robust framework for future research to further explore teachers' pedagogical choices and how these choices impact student engagement.

Keywords Student engagement · Secondary schools · Behavioural · Emotional · Cognitive · Quantitative

✉ Megan L. Kelly
megan.kelly@scu.edu.au

Extended author information available on the last page of the article

Introduction

Student engagement is central to the teaching and learning process, and the pedagogical decisions made by teachers can be critical to students' experiences of engagement (Skinner & Belmont, 1993). This is because teachers' selection of classroom activities and the implementation of effective pedagogies provides a significant opportunity to influence student engagement and motivation (Collie et al., 2016; Skinner & Pitzer, 2012). Teachers face constant challenges in efforts to engage students in learning, with nearly one quarter of Australian students passively disengaged (Goss et al., 2017), and teachers more stressed about student behaviour in low socio-economic schools (Goss et al., 2017; Sullivan et al., 2014). Despite these daily challenges, the teacher makes an essential contribution to the conditions within the classroom (Van Uden et al., 2013). In this respect, the Commissioner for Children and Young People (CCYP, 2018) found that "the role of teachers in providing a stimulating and positive learning environment was, unsurprisingly, critical to students' school and learning experiences" (p. 44). It therefore comes as no surprise that teachers play an instrumental role in student engagement and subsequent outcomes (Goldspink et al., 2008).

Many of the variations found between levels of student engagement in the classroom can be explained by the differing approaches of teachers (Hospel & Garland, 2016; Jang et al., 2016), as these approaches influence a student's immediate learning environment in ways that scaffold for student engagement (Shernoff et al., 2016). Indeed, Cothran and Ennis (2000) posit that teachers mediate, or "build the bridge" (p. 115) to student engagement, and that teachers' communication, care, respect, and inclusion of active learning mediates students' sociocultural conditions and personal situations, social membership, and engagement, leading ultimately to student achievement.

As a construct, student engagement is recognised as having three dimensions: behavioural engagement (including participation and the absence of disruptive behaviour), emotional engagement (including students' affective reactions and sense of belonging), and cognitive engagement (including students' investment and interest in their learning) (Fredricks et al., 2004). The challenge exists for teachers to understand and employ pedagogies that effectively support the behavioural, emotional and cognitive dimensions of student engagement. It is therefore important to investigate how teachers understand and implement pedagogies that foster engagement in relation to these three dimensions.

In this regard, research concerning teachers' understandings of student engagement is limited. Extant research includes nine studies that have investigated teachers' perceptions of student engagement internationally across primary, secondary, vocational and tertiary education. This research provides insight into teachers' perceptions of barriers to student engagement (Cothran & Ennis, 2000), the divergent nature of students' and teachers' perceptions of student engagement (Jonasson, 2012; Ravet, 2007; Zepke et al., 2014) and professional learning for teachers to improve student engagement (Melbourne Graduate School of Education, n.d.). It also proposes a new qualitative self-reporting instrument to measure

levels of student engagement (Fredricks, Filsecker, et al., 2016; Fredricks, Wang, et al., 2016), and new ways to conceptualise student engagement (Berry, 2020; Harris, 2008; Zyngier, 2007).

Of these nine studies, however, only four were conducted with secondary school teachers, with all of these using qualitative methods only (Cothran & Ennis, 2000; Fredricks, Wang, et al., 2016; Harris, 2008, 2011; Zyngier, 2007). Additionally, only two of these studies were completed with Australian secondary school teachers (Harris, 2008, 2011; Zyngier, 2007), using a similar sampling demographic to the current study. These investigations confirmed the significant role teachers play in student engagement, thus supporting the current investigation into the teachers' role as pivotal because their decisions and behaviours impact student engagement in the classroom (Berry, 2020; Harris, 2011).

Of specific interest to the current study, research has demonstrated that teachers do not have similar understandings of student engagement (Berry, 2020; Harris, 2008). This is evident as teachers prioritise pedagogies that support different dimensions and/or describe student engagement in different ways (Berry, 2020; Cothran & Ennis, 2000; Harris, 2008; Melbourne Graduate School of Education, n.d.; Zepke et al., 2014). This is important because teachers may need to focus on improving specific dimensions of engagement to support student outcomes and success (Wang & Eccles, 2011). A teacher's level of experience and the demographic of the students in a school may also influence how teachers prioritise pedagogies that support student engagement. For this reason, considering demographic information such as teachers' gender, leadership roles in a school, and the school's Index of Community Socio-Educational Advantage (ICSEA) are all variables that merit investigation.

The ICSEA value of a school provides insight into the school demographic, specifically the socio-educational advantage of a school (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2015) to enable meaningful comparisons between schools. It is worth noting that the use of ICSEA has been contested in Australian education and media (ACARA, 2017), however, it provides a standard measure suitable for use in the current study. ICSEA values are calculated on a scale which has a median of 1000 and a standard deviation of 100. ICSEA values typically range from approximately 500 (representing schools with extremely disadvantaged student backgrounds) to about 1300 (representing schools with extremely advantaged student backgrounds) (MySchool, 2020).Thus, further research into teachers' perceptions of effective pedagogies pertaining to each of these three dimensions with consideration of contextual variables is required, as teachers need to understand the importance of supporting students' behavioural, emotional and cognitive engagement (Melbourne Graduate School of Education n.d.).

Though there are existing surveys which seek to establish teachers' perceptions of students' engagement in the classroom, these explore the importance teachers place on a limited number of pedagogical practices to support student engagement (Zepke et al., 2014) and explore teachers' perceptions of (dis)engaged students (Fredricks, Wang, et al., 2016). As there was no existing survey to measure teachers' understandings and prioritisation of effective teaching strategies as they align with the dimensions of student engagement, a questionnaire was developed. The aim was

to build on existing knowledge and contribute new information to the field of student engagement with a specific focus on teachers' understandings and prioritisation of effective teaching strategies as they align with each dimension of engagement (behavioural, emotional and cognitive), in order to enhance student engagement in the classroom.

Theoretical framework

A seminal review published by Fredricks et al., (2004) presented the evolution, and existing measures, of student engagement. This review, from grounded qualitative research, proposed a tripartite construct that included behavioural, emotional and cognitive dimensions of engagement (Eccles, 2016). This tri-dimensional construct endeavours to bridge the gap between theory and practice by providing a framework for research in the area of student engagement. These three dimensions, which are considered to be malleable and responsive to contextual change (Fredricks et al., 2004), essentially represent doing, feeling and thinking. However, the distinctions between each dimension can be "actually quite subtle and … quite fuzzy" (Eccles, 2016 p. 72). Despite the challenge this "fuzziness" may present, the necessity to consider all three dimensions separately is generally acknowledged as necessary to provide a more detailed understanding and greater insight into learners' experiences, and to support positive outcomes (Department for Education and Child Development, 2016; Fredricks et al., 2004; Goldspink et al., 2008). These dimensions are depicted below in Fig. 1, which also includes a definition for each dimension.

To build on this multidimensional perspective in the current study, and gain insight into teachers' perceptions of the practices that are most important for supporting students in the classroom, pedagogical approaches outlined in the literature investigating teachers' influence on student engagement were utilised (Fig. 2) (Pedler et al., 2020). This model delineates pedagogies identified in literature that support students' behavioural, emotional and cognitive engagement. For example, 'ensure clarity of instruction' is beneficial to support students' behavioural engagement through the avoidance of poor behaviours by providing clear instructions. Teachers who provide constructive feedback, strong guidance during lessons, and clarity in expectations and instructions have students who are more behaviourally engaged (Connell & Wellborn, 1991; Jang et al., 2010; Skinner & Belmont, 1993; Wang & Degol, 2014). Thus, 'ensure clarity of instruction' in this model is categorised as a teaching strategy that supports students' behavioural engagement.

This model aligns with prior research exploring specific pedagogical approaches to support student engagement. For example, Zepke et al. (2014), who specifically investigated nine teaching pedagogies in their evaluation of teacher perceptions of engagement, included teacher feedback, teacher enthusiasm, making the subject interesting, caring about students, and teacher encouragement. However, the authors did not align these pedagogies with specific dimensions of engagement as in the model below, rather simply including them as a list of items in a quantitative survey. The model depicted in Fig. 2 lists the pedagogical approaches that support each dimension of student engagement according to the literature and provides

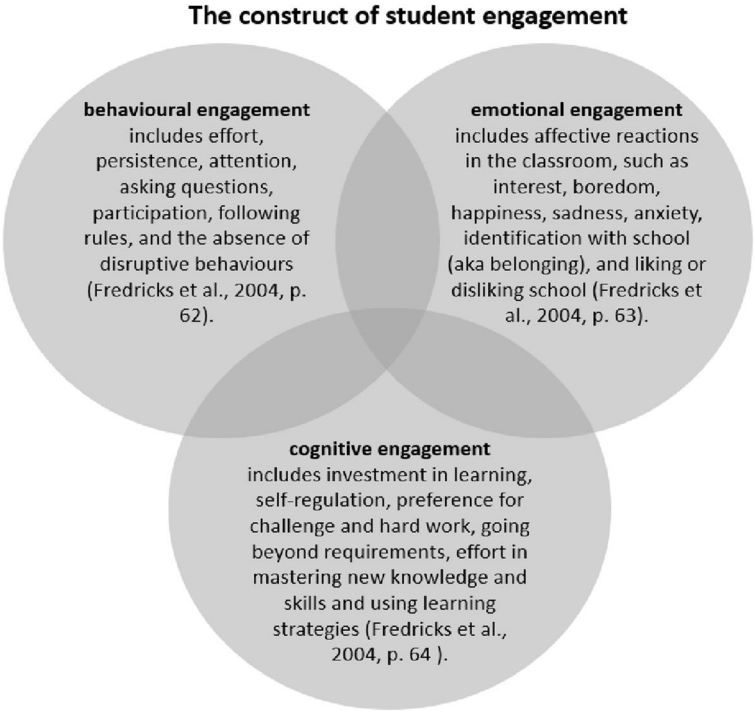

Fig. 1 Tri-dimensional construct of student engagement

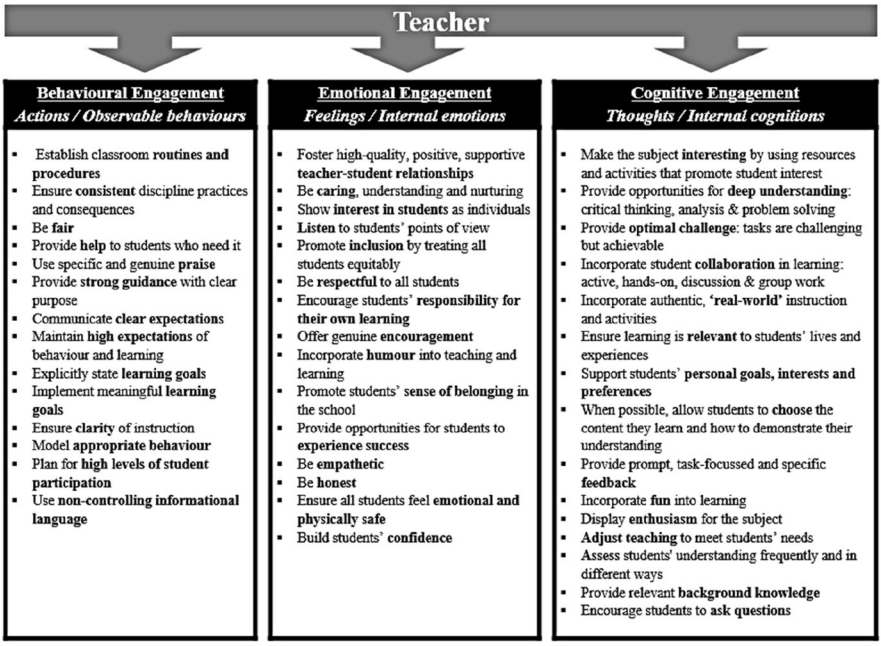

Fig. 2 The teachers' role in promoting each dimension of student engagement (Pedler et al., 2020)

the theoretical perspective for the current study which informed data collection and analysis. It is acknowledged that some of these teaching pedagogies may also indirectly support other dimensions of student engagement, as this is the "fuzzy" nature of the dimensions of student engagement identified by Eccles (2016).

The current study aimed to address a gap in existing research by examining the importance teachers place on specific pedagogical approaches that align with each dimension of student engagement (behavioural, emotional, and cognitive). This examination was considered particularly relevant for understanding the relationship between teachers' understandings of student engagement and their actual classroom practices.

Methods

Participants

The survey was distributed to 1505 secondary schools in Australia inviting principals to distribute the survey to teaching staff. Schools received follow up emails a few weeks later. The questionnaire was attempted by 331 participants. 108 questionnaires did not include any demographic data or were left completely blank. These were deemed to lack sufficient data to be included in the analysis and removed from the data set (cf. Field, 2013). The questionnaire was completed in full by 223 secondary school teachers and the data analysis is based on this data set. Of the sample, 80% were aged between 30 and 60 years and 65% were female. An average ICSEA value is 1000 (ACARA, 2015), indicating that 28% of respondents taught in secondary schools with a higher level of socio-educational advantage than the average, and 41% taught in schools with a lower level of socio-educational advantage than the average. Secondary schools represented in the data were varied in relation to the number of students in the school and the ICSEA values for each school (ACARA, 2015). An overview of participant characteristics is provided in Table 1.

Materials

As there is no current measure designed to examine teachers' perceptions of pedagogical approaches as they support the three dimensions of student engagement in the classroom, an original instrument was designed specifically for this study. Following a review of student engagement literature, the teaching pedagogies and teacher qualities/behaviours that were found to impact positively on student engagement (see Pedler et al., 2020) were collated into a questionnaire using a 7-point Likert scale from 1—not at all important to 7—extremely important (Appendix A). Participant demographics including age, gender, teaching experience, number of students at the school and school's ICSEA value were also included. A pilot study and cognitive interviews were conducted with the questionnaire prior to formal data collection.

Table 1 Participant characteristics

		Frequency	Percent
Age	20–29	26	11.66
	30–39	61	27.35
	40–49	58	26.01
	50–59	59	26.46
	60 +	19	8.52
Gender	Female	146	65.47
	Male	75	33.63
	Other	1	0.45
	Prefer not to answer	1	0.45
Leadership role	Yes	127	57.0
	No	96	43.0
No. students in school	< 50	2	0.90
	51–200	20	8.97
	201–500	25	11.21
	501–1000	76	34.08
	1001–1500	62	27.80
	1501–2000	33	14.80
	> 2000	3	1.35
	Not Sure	2	0.90
ICSEA	850–900	14	6.28
	901–950	30	13.45
	951–1000	47	21.08
	1001–1050	26	11.66
	1051–1100	15	6.73
	1101–1150	14	6.28
	1151–1200	7	3.14
	Not sure	70	31.39
Years teaching experience	First year	4	1.79
	1–5 yrs	37	16.59
	6–10 yrs	40	17.94
	11–15 yrs	36	16.14
	16–20 yrs	30	13.45
	21–25 yrs	17	7.62
	26–30 yrs	27	12.11
	31 + yrs	32	14.35

The survey started with three open-ended questions to establish teachers' understandings of student engagement by defining student engagement ("In relation to the classroom, what does 'student engagement' mean to you?"), and then describing a student with high engagement ("Describe a student with high engagement in the classroom") as well as a student with low engagement ("Describe a student with low

engagement in the classroom"). This was followed by 28 items (teaching pedagogies, teacher qualities and behaviours) where participants indicated their response to the statement "I believe this item is important for teachers to promote student engagement in the classroom" on a 7-point Likert scale (1—not at all important, 7—extremely important). The current article presents the inferential analysis from the quantitative responses on the Likert Scale.

Procedure

Teachers who opted to participate in the research were directed to the online Qualtrics survey via a link in the email invitation. Teachers responded to three qualitative questions, followed by 28 items that measured the importance they attributed to pedagogies supporting each of the three dimensions of student engagement. Finally, teachers completed demographic information. Participation was confidential and voluntary. Teachers were able to withdraw at any time without implication.

Data analysis strategy

Quantitative data analyses included descriptive and inferential procedures using SPSS v. 21. Principal Component Analysis (PCA) was used to investigate the three dimensions of student engagement (behavioural, emotional, and cognitive). Non-parametric tests (Kendall's tau-b and Mann–Whitney test) were used as the data were negatively skewed.

Results

The questionnaire was designed to establish the importance that teachers place on pedagogical approaches that support student engagement (behavioural, emotional and cognitive engagement). To investigate the underlying structure of the 28 items, data collected from the 223 participants were initially subjected to Principal Component Analysis (PCA) with Varimax rotation. The data set was negatively skewed, though this was not considered problematic given the robust nature of factor analysis. Items with similar strength loadings on multiple components (within 0.100 and over 0.320), with communalities below 0.400, and component loadings below 0.450 were identified (Tabachnick & Fidell, 2013). Items were removed one at a time until the above criteria were met. Of the 28 items in the questionnaire, seven items did not load into the factor analysis, these were: Provide prompt, task-focussed and specific feedback; Promote students' sense of belonging in the school; Display enthusiasm for the subject; Adjust teaching to meet students' needs; Provide help to students who need it; Model appropriate behaviour; and Listen to students' points of view. We report these here as a matter of possible interest for further research in the area. The results of PCA for the remaining 21 items are reported below.

The Kaiser–Meyer–Olkin Measure of Sampling Adequacy (KMO) was 0.912, identifying the data as appropriate for EFA. Four factors were identified using

PCA. In total, these components accounted for 58.7% of the variance in the questionnaire data. Component loadings are shown in Table 3. In this table, the first three components have been identified as aligning with behavioural, emotional, and cognitive engagement, as outlined in the model (Fig. 2). The importance of this alignment is that it supports the dimensional engagement structure utilised as a framework in the current study. Factor 4 was unexpected, however, and contains pedagogies that support both emotional and cognitive engagement. It is of interest that the three items included in this fourth factor are pedagogies that support students' internal motivation to engage. For this reason, the fourth factor could be identified as representing those elements of student engagement that are highly student-centred and may be explained by literature exploring intrinsic motivation (e.g. Fried & Chapman, 2012; Whitney et al., 2020) or *agentic engagement* (see Reeve, 2013; Reeve & Tseng, 2011). There were no significant findings related to this fourth factor in the inferential statistical analysis outlined in this section.

Chronbach's Alpha was also run as a measure of internal reliability (Table 4). According to Cohen (1988), a reliability score over 0.8 is very good and a measure over 0.7 is acceptable. Thus, internal reliability was very good for factors 1–3, with cognitive ($\alpha = 0.83$), behavioural ($\alpha = 0.81$), and emotional ($\alpha = 0.84$)

Table 3 Four-factor PCA structure of the questionnaire data

	Factor loadings			
Item	Factor 1 (*cog.*)	Factor 2 (*beh.*)	Factor 3 (*em.*)	Factor 4
Relevance	**0.75**	0.14	0.22	0.19
Choice	**0.75**	0.00	0.10	0.16
Authentic & real-world	**0.69**	0.27	0.17	0.05
Personal goals and preferences	**0.66**	0.12	0.26	0.22
Interesting	**0.60**	0.15	0.14	0.16
Collaboration	**0.55**	0.34	0.26	0.28
Routines and procedures	0.23	**0.77**	0.15	− 0.00
Clear expectations	0.12	**0.74**	0.33	0.20
Consistent	0.27	**0.70**	0.21	− 0.10
Learning goals	0.14	**0.62**	0.10	0.20
High expectations	0.04	**0.62**	0.30	0.25
Clarity	0.05	**0.57**	0.02	0.36
Teacher-student relationships	0.21	0.09	**0.73**	0.11
Be respectful	0.02	0.09	**0.653**	0.29
Be caring	0.42	0.24	**0.65**	0.11
Encouragement	0.36	0.20	**0.64**	0.10
Be fair	0.175	0.359	**0.620**	0.038
Students as individuals	0.268	0.362	**0.586**	0.176
Optimal challenge	0.293	0.260	0.142	**0.743**
Responsibility for own learning	0.205	0.120	0.220	**0.709**
Deep understanding	0.284	0.168	0.177	**0.685**

Table 4 M and SD of four factors

Factor	M	SD
1 cognitive	6.05	0.64
2 behavioural	6.44	0.50
3 emotional	6.49	0.50
4	6.39	0.56

respectively. Factor 4 had a lower but still acceptable measure of internal reliability ($\alpha = 0.76$).

Due to the negatively skewed data, non-parametric Mann–Whitney U Tests were also used to compare groups within the four factors. The effect size used is *r*, with 0.1 considered small, 0.3 medium, and 0.5 large (Cohen, 1988). As depicted in Fig. 3, a Mann–Whitney U test indicated that the importance placed on pedagogies that support students' cognitive (factor 1) and behavioural (factor 2) engagement was significantly higher for female participants ($n = 146$) than for male participants ($n = 75$), with pedagogies to support cognitive engagement (factor 1) U = 3965.50, z = -3.37 (corrected for ties), p = 0.001, two-tailed and pedagogies that support students' behavioural engagement (factor 2) U = 4425.50, z = -2.36 (corrected for ties), p = 0.018, two-tailed. These effects can be described as "medium" (r = 0.23) and "small" (r = 0.16) respectively.

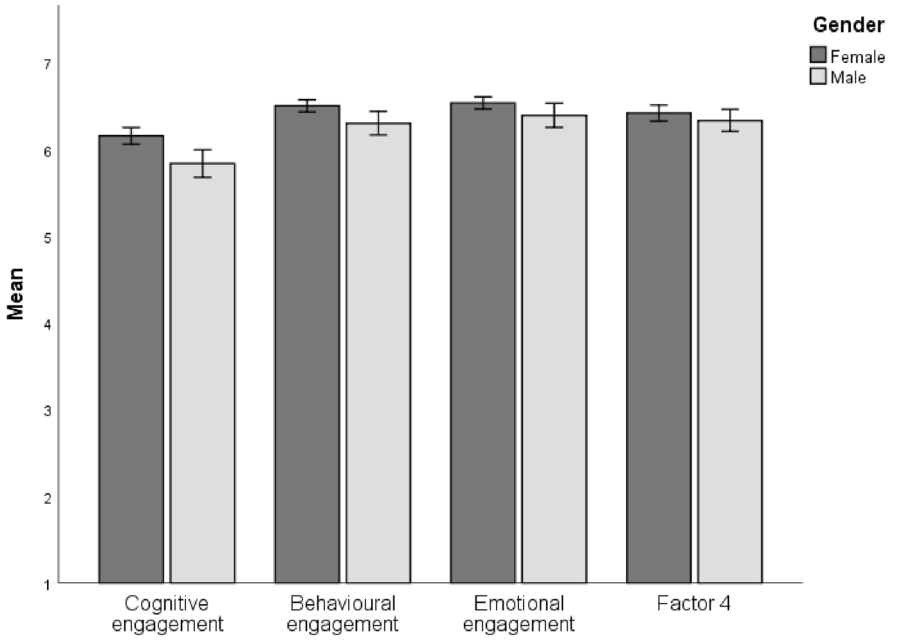

Fig. 3 Female and male mean ratings of importance on pedagogies to support students' cognitive and behavioural engagement (error bars represent 95% Confidence Intervals)

As depicted in Fig. 4, a Mann–Whitney U test indicated that the importance placed on pedagogies that support students' cognitive (factor 1) engagement ($U = 5146.5$, $z = -1.998$ (corrected for ties), $p = 0.046$, two-tailed) and emotional (factor 3) engagement ($U = 4838.5$, $z = -2.67$ (corrected for ties), $p = 0.008$, two-tailed) was significantly higher for participants who had reported that they held, or had held, a pastoral, managerial or academic leadership role in their school ($n = 127$), compared to those who did not ($n = 96$). These effects can be described as "small", respectively $r = -0.13$ (cognitive) and $r = -0.18$ (emotional), but nonetheless suggest that teachers who hold, or had held, such a position prioritise pedagogical approaches that support specific dimensions of student engagement in different ways to teachers who have not held such positions. There was no significant difference for Behavioural (factor 2) engagement ($U = 5792.5$, $z = -0.643$ (corrected for ties), $p = 0.520$, two-tailed) or Factor 4 ($U = 5748.0$, $z = -0.750$ (corrected for ties), $p = 0.4536$, two-tailed).

Due to negatively skewed data, and because some of the variables were ordinal, Kendall's tau-b was also used to explore correlations between the questionnaire factors and participant demographic data. As depicted in Table 5, Kendall's tau-b indicated that significant correlations existed between factor 1 (cognitive) and factor 2 (behavioural) and a school's ICSEA value. Both displayed negative correlations. This means that as a school's ICSEA (the school's community socio-educational advantage score) goes down, the importance that teachers

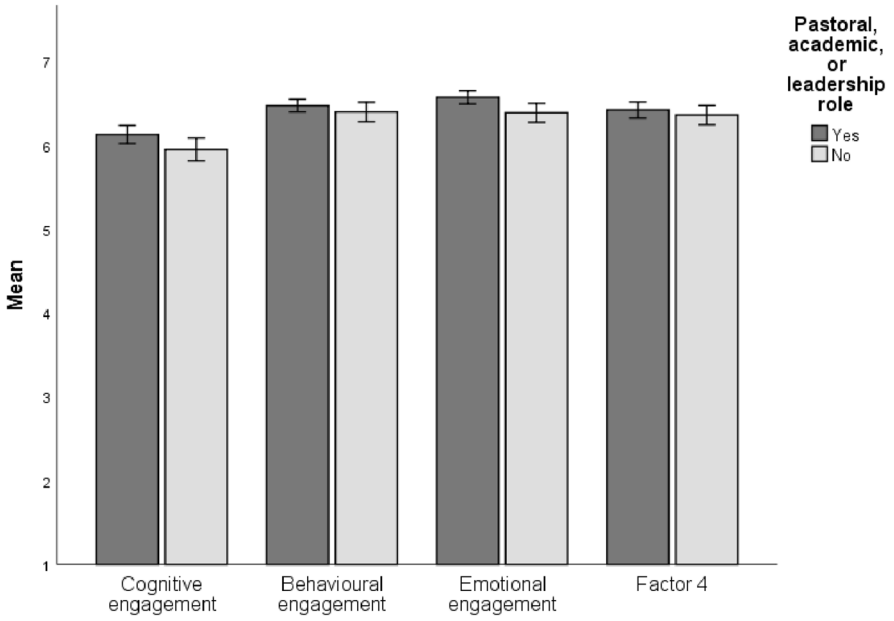

Fig. 4 Participants with and without pastoral, managerial or academic leadership roles mean ratings of importance on pedagogies to support students' cognitive and emotional engagement (error bars represent 95% confidence intervals)

Table 5 Correlations with four factors and ICSEA value using Kendall's tau_b

	ICSEA Value	F1_Cog_mean	F2_Beh_mean	F3_Em_mean
F1_Cog_mean	− 0.177**			
F2_Beh_mean	− 0.173**	0.377**		
F3_Em_mean	− 0.087	0.511**	0.438**	
F4_CEC_mean	− 0.022	0.461**	0.422**	0.430**

**p < 0.01 (2-tailed). Correlations including ICSEA scores did not include 'Not sure' responders ($n = 153$). Otherwise ($n = 223$)

place on pedagogies to support cognitive and behavioural dimensions of student engagement goes up, and vice versa.

Discussion

This study explored the results from a novel quantitative instrument designed to establish the importance teachers place on pedagogies as they align with the tripartite model of engagement. A benefit of aligning the pedagogical approaches with each of the three dimensions of this model (Fig. 2), is that it provides insight into teachers' understandings of student engagement on two levels: the pedagogies they believe are important for supporting student engagement in the classroom; and their underlying perceptions of which dimensions are the most important for improving student engagement. Thus, these findings add to research that aims to develop self-report measures of student engagement (Fredricks, Wang, et al., 2016). Previous measures qualitatively evaluated teachers' perceptions of students' engagement in learning environments (see Berry, 2020; Cothran & Ennis, 2000; Fredricks, Wang, et al., 2016; Harris, 2008; Jonasson, 2012; Melbourne Graduate School of Education, n.d.; Ravet, 2007; Zyngier, 2007), with only one other study using a quantitative instrument to evaluate teachers' perceptions of pedagogies that support student engagement (Zepke et al., 2014). None of these measures, however, investigated pedagogical approaches as they align with the multi-dimensional construct of engagement to support students in the classroom.

In terms of unpacking these analyses, PCA demonstrated that the majority (18 of 28 items) of the online questionnaire loaded onto three distinct factors that align with behavioural, emotional and cognitive engagement, as in the engagement model (Fig. 2). In addition, and unexpectedly, three items loaded onto a fourth factor, which may be associated with intrinsic motivation or agentic engagement. Non-loading items and the unexpected fourth factor indicate that the current instrument requires further refinement for ongoing use. However, with respect to the tripartite model itself, analyses did show that significant relationships of interest existed between various participant demographics and the behavioural, emotional and cognitive factors, whilst no significant relationships were found for the smaller fourth factor.

Female teachers and student engagement

The key findings from these analyses contribute to existing knowledge concerning the teacher's role in student engagement in a number of different ways. Of interest, it was found that female participants placed significantly higher importance on pedagogies that support students' cognitive and behavioural engagement. In respect to cognitive engagement, an activity that gains a student's attention, no matter how briefly, can stimulate both interest and engagement (Renninger & Bachrach, 2015). Importantly, the enthusiasm of the teacher (Watson et al., 2010) and how topics are presented by the teacher, not just the topics themselves (Newmann et al., 1992), can spark this interest and students' willingness to learn. From this perspective, research suggests that learning opportunities which promote students' intrinsic motivation, provide a sense of ownership, are authentic and hands-on, fun (CCYP, 2018; Newmann, et al., 1992) and relevant, support students' autonomy and promote students' cognitive engagement (Department of Education and Training, 2018; Jang et al., 2010; Skinner & Pitzer, 2012). This, in turn, develops students' sense of responsibility, self-directed learning skills and self-efficacy (CCYP, 2018).

Teaching pedagogies that support behavioural engagement are those that teachers generally associate with, and use to judge, student engagement (Klem &Connell, 2004). When teachers model and reinforce appropriate behaviours they are able to reduce behavioural issues and support a positive learning environment where students are more likely to learn content as teachers allow them more opportunities to participate in class (Goss et al., 2017). Indeed, students of teachers that maintain high expectations and implement effective pedagogies can be up to seven months ahead of their peers (CESE, 2017). Thus, teachers taking into consideration the behaviours that support engagement in learning are crucial (Sullivan et al., 2014).

Regarding gender, research has found that female gender is influential on teachers' instructional decisions (Ross, 1998), and is a positive predictor of student engagement, classroom management, and teacher efficacy for instructional pedagogies (Rubie-Davies et al., 2012). Sarfo and Adusei (2015) found that female teachers on average have higher efficacy in relation to instructional pedagogies than male teachers. These findings emerged from research into teacher efficacy and demonstrate that differences exist between genders in relation to having the confidence to implement effective teaching pedagogies. However, none of these studies specifically explored student engagement through the lens of the tripartite construct of student engagement used in the current study (behavioural, emotional, and cognitive). Rather, findings are based on the teacher self-efficacy scale (Tschannen-Moran & Hoy, 2001), of which student engagement is a subscale. To the current authors' knowledge, there is no literature to explain why female teachers may place more importance on these pedagogies to improve students' cognitive and behavioural engagement than their male colleagues. The relationship between gender and tripartite pedagogy preference is, therefore, a point that merits investigation in future research.

School leaders and student engagement

Another key finding was that participants with a pastoral, managerial or leadership role (e.g. pastoral Head of Year, Head of Curriculum, and Deputy Principal) placed significantly higher importance on pedagogies that support students' cognitive and emotional engagement. This finding builds on previous research that has found that leaders in schools are critical in developing a culture of support for teachers to effectively foster student engagement in the classroom (CESE, 2017; Jennings & Greenberg, 2009; Newmann & Wehlage, 1992). It can thus be posited that school leaders who place more importance on pedagogies that support students' cognitive engagement and emotional engagement would support their teachers to do the same. Thereby creating a school culture that emphasises aspects such as students' sense of belonging and the implementation of interesting lessons that provide optimal challenge, rather than maintaining a focus on student behaviours.

With respect to emotional engagement, it has been demonstrated that school leadership is pivotal in modelling interpersonal relationships in a school (Collie et al., 2016) and influences how teachers model socio-emotional skills and manage their classrooms (Jennings & Greenberg, 2009). Indeed, teachers that are supported effectively by the school leadership can strengthen students' emotional development, which can have lasting effects in students' adult lives (Jennings & Greenberg, 2009). This is because supportive adults at school create a learning environment in which students feel connected to their education and experience a greater sense of school belonging (Seelman et al., 2015). Thus, the prioritisation of pedagogies that support students' emotional engagement by school leaders is important, as these have very positive effects on the teaching staff and students' learning and long-term outcomes.

School socio-educational advantage and student engagement

Another important finding was that a negative correlation exists between the importance teachers place on pedagogies that support cognitive and behavioural engagement and the ICSEA value of their school. The ICSEA value of a school provides both educators and the community with insight into the school demographic. It was developed by the Australian Curriculum, Assessment and Reporting Authority (ACARA) to assist the interpretation of the National Assessment Program Literacy and Numeracy (NAPLAN) scores to mediate the impact of socio-educational factors on teaching and learning (ACARA, 2014). Grouping these scores within distinct levels of socio-educational advantage allows for equitable comparisons to be made between school achievement (NAPLAN) outcomes (ACARA, 2014). This finding means that the lower the school's ICSEA value, the higher the importance placed on pedagogies that support these dimensions and vice-versa.

This finding provides a valuable insight because previous research suggests that students from low socio-economic areas may be at risk of disaffection and negative outcomes in school (Moreira et al., 2020) and students' lower socio-economic status have been related to lower initial levels of achievement in Grade 7 (Engels et al.,

2021). In addition, research in Australia has found that productive pedagogies are inequitably distributed in schools, with secondary schools in low socio-economic areas generally exposed to lower levels of productive pedagogies (Queensland Department of Education, 2001), often resulting from the uneven distribution of newly qualified teachers in these areas (Goss et al., 2017). Thus, this finding contributes to an understanding of how teachers prioritise pedagogies that support student engagement in relation to their school demographic and other contextual factors.

Low socio-economic schools have been found to have higher rates of disengagement and low-level disruption (passive disengagement), with a negative correlation existing between teachers' stress levels related to challenging student behaviours and the ICSEA value of the school (Goss et al., 2017; Sullivan et al., 2014). This relationship is of particular interest because findings in the current study and previous research may appear, at first, to be at odds. In the current study, teachers in low socio-economic schools placed higher importance on pedagogies that support behavioural and cognitive engagement, whilst previous research reports a lack of productive pedagogies in low socio-economic schools (Queensland Department of Education, 2001). This apparent juxtaposition raises an interesting point as it exemplifies that the pedagogies that teachers perceive as the most important in fostering student engagement may not be the pedagogies that are actually implemented in practice due to the daily challenges present in their teaching and learning context.

With this in mind, the finding in the current study that teachers in schools with a lower ICSEA value placed higher importance on the pedagogies that support behavioural engagement may be perceived as logical. Students who exhibit engagement behaviours such as preparedness for class, paying attention, participation in academic activities, and homework completion have higher achievement than their less engaged peers, indicating that these behaviours are especially important for the success of low-income students (Finn & Zimmer, 2012). Goss et al. (2017) state that nearly one in four Australian students is compliant yet disengaged (i.e., passively disengaged), which means that teachers face constant challenges in managing and maintaining learning engagement in the classroom. Thus, engagement challenges for teachers exist on many fronts in low socio-economic schools, with teachers being more stressed about behaviours (Goss et al., 2017; Sullivan et al., 2014) and, as a result, employing stricter disciplinary practices more often, and thereby likely contributing to elevated disengagement and lower achievement (Fredricks, Filsecker, et al., 2016; Fredricks, Wang, et al., 2016). This demonstrates that teachers can influence student engagement both positively and negatively. For example, if teachers hold low expectations of their students, then students achieve less, but when teachers maintain higher expectations, students achieve more (CESE, 2017).

The finding that teachers in schools with a lower ICSEA value placed more importance on pedagogies that promote cognitive and behavioural engagement is also important because engagement in secondary school has been related to students' postsecondary outcomes, with variations in students' behavioural engagement (i.e., attendance and participation) seen as especially significant for at-risk and low socio-economic students (Reschly & Christenson, 2012). As such, classroom practices identified as important to support students' behavioural engagement include being calm, fair and consistent in expectations and the enforcement of rules

(CCYP, 2018), and providing students regular opportunities for class participation (Goss et al., 2017). Prioritising learning and engagement over achievement (Taylor& Parsons, 2011), and shifting from a focus on punishment for poor behaviour to an emphasis on behavioural pedagogies that support student engagement (Sullivan et al., 2014; Yeigh, 2020) also support students' behavioural engagement.

Equally, the finding that teachers from low socio-economic schools place more importance on pedagogies that support students' cognitive engagement is also important. From a cognitive perspective, as discussed above, the enthusiasm and presentation of topics by the teacher, not just the topics themselves (Newmann et al., 1992), can ignite students' willingness to learn. Overall, this finding provides researchers useful insights into the different levels of importance teachers place on the pedagogies that support student engagement, as influenced by the socio-economic background of the school and their students. It also suggests that context may play a mediating role in terms of teachers' prioritisation and implementation of effective teaching pedagogies in the classroom, which merits further research in the future.

Limitations

A limitation of the current study is in the use of an unvalidated quantitative measure. The lack of an existing scale to measure teachers' prioritisation of teaching strategies as they align with the tri-dimensional framework of student engagement meant that an original scale had to be developed. Future research and refinement of the tripartite model of engagement scale is intended, aimed at validating the scale to allow for the generalisation and increased robustness of findings.

Another limitation to this study included the number of participant responses to the quantitative questionnaire. Substantial time was taken in the early stages of the development of the study to obtain ethics approval from all states and territories in Australia so that the questionnaire could be distributed nationally. Unfortunately, the response rate to this nation-wide distribution was not as substantial as the authors had hoped, resulting in a smaller sample size than desired when it came to analysing the quantitative data. Though the sample size is sufficient for the current analysis, a larger sample size would have been more representative of the Australian secondary school teacher population. It is hoped that further relationships between demographic subgroups can be explored in future research based on a larger sample, to create more specific profiles of teacher attributes in relation to the contextual variables that may influence teachers' understandings and choices around the pedagogies they implement to support student engagement.

Finally, self-reported data are often seen as a limitation in research. They rely on participants' views and recollections on a given day. However, for the purpose of this study, self-report data were in fact the most desirable form of data to collect, because a key objective of the study was to establish practicing secondary teachers' understandings of student engagement. In this respect, collecting self-reported data provided a significant amount of data that allowed for the exploration of relevant themes and understandings, of which the quantitative findings are presented in the

current article. Similarly, social desirability bias could be considered a limitation, as participating teachers may have selected socially desirable responses instead of selecting responses that reflect their true feelings (i.e. feel that they should indicate all positive pedagogies are highly important) (Grimm, 2010). However, the collection of data via an anonymous questionnaire that did not require the presence of the researcher (i.e. online questionnaire) should have negated this effect to some extent, if it was present at all.

Future research

The current authors maintain that the tri-dimensional framework presented by Fredricks et al. (2004) is a robust framework through which to explore the construct of student engagement. As such, the current study has provided clear operational definitions of each dimension and utilised a model to clearly present how pedagogical approaches align with each dimension, in order to guide the current investigation into teachers' perceptions of student engagement. This model has been supported by the findings of this current investigation, and it is hoped that future research will continue to focus on using this pedagogically-centred model to examine the teacher's role in fostering engagement in the classroom.

Further exploration of the difference in perceptions of student engagement in relation to gender, and the role of school leaders in promoting student engagement in their schools would also be beneficial. Delineating the influence of school leaders on teachers' use of specific engagement pedagogies could further identify how school leaders affect student engagement in both direct and indirect ways. Questionnaires and interviews could be used to collect leadership attitudes, values and understandings of student engagement pedagogies for such research, which could then be analysed in relation to both the tri-partite model and the attitudes, values and understandings of teachers to define this influence in relevant terms.

The possible role of schools' ICSEA value for explaining contextual pedagogy use represents an additional avenue for future research. This research could seek to identify specific reasons teachers prioritise various pedagogies across ICSEA levels, and then analyse these reasons by ICSEA level, in comparison to the dimensions and pedagogies of the tri-partite model of engagement. Such research has the potential to support educators' ability to improve their teaching practice in relation to the dimensions of students' behavioural, emotional and cognitive engagement, and provide insights that could influence whole school practices, as well as teacher professional development and educational policy.

Conclusion

Student engagement continues to be of high importance in educational research globally as it provides an opportunity for researchers, institutions, schools and teachers to better understand the behavioural, emotional and cognitive needs of their students and how to support those needs. This article has presented an analysis of

the quantitative findings from a questionnaire, exploring the underlying structure of the questionnaire to ascertain the relative importance teachers place on pedagogies identified from the literature as supporting student engagement. Significant findings in the current study aligned with behavioural, emotional and cognitive engagement from the proposed tri-dimensional framework used to operationalise student engagement. These analyses presented novel findings that provide further clarity about teachers' prioritisation of pedagogies as they support student engagement. As such, future research is encouraged to continue exploring the crucial role of the teacher on students' engagement, as a pivotal influence for creating and fostering engagement in the classroom.

Appendix A: Items included in survey with dimension of student engagement

Survey Item	Dimension
Be respectful to all students	*Emotional*
Provide prompt, task-focussed and specific feedback	*Cognitive*
Ensure clarity of instruction	*Behavioural*
Make the subject interesting using resources and activities that promote student interest	*Cognitive*
Promote students' sense of belonging in the school	*Emotional*
Display enthusiasm for the subject	*Cognitive*
Explicitly state learning goals	*Behavioural*
Adjust teaching to meet students' needs	*Cognitive*
Be fair	*Behavioural*
Offer genuine encouragement	*Emotional*
Communicate clear expectations	*Behavioural*
Be caring, understanding and nurturing	*Emotional*
When possible, allow students to choose the content they learn and how to demonstrate their understanding	*Cognitive*
Provide help to students who need it	*Behavioural*
Incorporate authentic, 'real-world' instruction and activities	*Cognitive*
Support students' personal goals, interests and preferences	*Cognitive*
Foster high-quality, positive, supportive teacher-student relationships	*Emotional*
Ensure learning is relevant to students' lives and experiences	*Cognitive*
Maintain high expectations of behaviour and learning	*Behavioural*
Establish classroom routines and procedures	*Behavioural*
Ensure consistent discipline practices and consequences	*Behavioural*
Show interest in students as individuals	*Emotional*
Provide opportunities for deep understanding: critical thinking, analysis and problem solving	*Cognitive*
Encourage students' responsibility for their own learning	*Emotional*
Provide optimal challenge: tasks are challenging but achievable	*Cognitive*
Model appropriate behaviour	*Behavioural*

Survey Item	Dimension
Listen to students' points of view	*Emotional*
Incorporate student collaboration in learning: active, hands-on, discussions and group work	*Cognitive*

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Declarations

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Authors and Affiliations

Megan L. Kelly[1] · Tony Yeigh[1] · Suzanne Hudson[1] · Royce Willis[1] · Megan Lee[2]

Tony Yeigh
tony.yeigh@scu.edu.au

Suzanne Hudson
sue.hudson@scu.edu.au

Royce Willis
royce.willis@scu.edu.au

Megan Lee
melee@bond.edu.au

[1] Southern Cross University, Gold Coast, Australia

[2] Bond University, Gold Coast, Australia