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School-based research centres: one school's exploration

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Abstract

School-based research centres are growing in number and have potential to amplify school students' voices in research through activities within the school. This paper explores how one research centre in an independent school in Australia, in a financially and socially privileged context, is using tertiary-type structures (namely, an ethics committee, research journal and conference) to engage students in research activities and give them voice about research in their school. Writing as centre director and practitioner researcher in the school, I explore these activities which position research as a skill with potential to further students' academic capital, as well as their ability to challenge their understanding of privilege in the world. A core motivation for this paper is consideration of the transposition of structures designed for adults into the school context and exploring how students engage with these structures in order to have a voice as researchers and in research.

Keywords School-based research centres · Research in schools · Practitioner researcher · Student voice

Introduction

This paper examines how one school-based research centre is working to build skills in research and develop a research culture in a K to 12 independent (private, fee paying) school. After placing the research centre in context, consideration is given to its potential to nurture and amplify school students' voices in research and possibly influence educational research practice more broadly. A core motivation for the inquiry is the relationship between the school environment and the adult-based, tertiary-level structures the school research centre is employing and the extent to which these structures (namely, an ethics committee, research journal and conference) have a place in schools. In relation to this

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questioning, I inhabit the roles of research centre director, secondary teacher and practitioner researcher. I have also worked as a casual academic in university schools of education but have been an employee of the school where the research centre is housed for the past seven years and the founding director of the centre for three. My positionality is relevant in the following discussion as it influences what I attend to and how my ways of seeing are shaped (Bukamal, 2022). These include me being employed within the school and the school's situation in an economically and socially privileged location in Sydney, Australia. My positionality blends my current role as research director in the school-based research centre and my past experience as a full-time secondary teacher, PhD student and part-time casual academic. These positions afford me a range of boundary-crossing perspectives (Hatcher & Bringle, 2012).

In the school, when implementing research-related activities with students, I apply my mixture of secondary and tertiary learning, teaching and research experiences in student-focussed ways. This means I prioritise student learning needs over formalised research 'ways of doing'. This has enabled me to move student research skills learning beyond the limitations found in mandatory curriculum and into more fluid co-curricular learning experiences (Kincheloe, 2012), thus giving 'research', usually a tertiary-level activity, a place in the school. As a member of the school's leadership team, I can introduce initiatives relatively quickly and often do so in conjunction with student requests. I recognise, however, that I act in a somewhat isolated environment as I am not working formally in research in the tertiary sphere and there are few schools with research centres. As a practitioner researcher, I seek to understand what the outcomes for my researching students could be as they build identities as researchers. Many hope their skills will be recognised by the universities they will progress into in a few years' time.

To collect student feedback for this article, I use open-ended response items from a short survey emailed to ten students from Year 9 to the first year post-school. I asked the group about their motivations for getting involved in research activities, highlights of their involvement, how their involvement in the research centre influences their thinking about scholarship, universities and research, and how it feels to be treated like a researcher. I ask these questions from my blended identity as teacher and researcher as it is regular practice in my school to ask students for their feedback, experiences and opinions. I draw on a small set of survey responses from students, as well as my reflections with the aim of providing insights into the research culture developing in the school. The survey I conducted was a tool specifically designed to bring student voice into this article. As such, it was not part of a larger research project and as it was not part of a wider study was not submitted to a university ethics committee. In using both students' written responses and my own reflections and observations in this paper, however, I follow the principles of the Australian Code for the Responsible Conduct of Research (2018), especially in relation to the survey respondents who are school students. All research participants and their communities must be treated with fairness, care and respect, and consequences and outcomes be considered before research is published. These research principles mesh with my responsibilities as a teacher with a professional duty of care. Thus, as both a school-based researcher and a teacher, all care has been taken with the ways

students engaged with the survey and how their responses are represented in this paper.

The school's research centre and some concerns with established research structures

The school research centre examined in this paper is the Pymble Institute at Pymble Ladies' College, a K to 12 Uniting Church girls' school in Sydney, Australia. The school caters for over 2000 students (day and boarding students) and is located in an affluent area of suburban Sydney. The majority of parents at the school have tertiary qualifications and hold similar aspirations for their daughters, and most graduates of the school progress to university in a wide range of courses, locally and overseas. The Pymble Institute, known as the PI, was launched in 2021 as the school's hub of research and professional learning. The PI is responsible for all elements of research in the school, including that of student-run surveys, student research for course work, research with external academics, co-devised projects between students, teachers and academics, school-initiated research and teacher-led research for post-graduate courses. Students are developing research projects that take them beyond course curriculum. One example is a group (of now ex-students) who are researching the impact of an anti-racism education program designed and run by the school. They are using data generated by a survey instrument an academic partner helped the school to run. Student research also includes investigating the 'shadow economy' around the canteen and exploring students' views of academic success and whether external tutoring is part of this. One of the earliest projects of the PI was the establishment of the school ethics committee with student, staff and external membership. This was set up to facilitate the approval of internal and external research and to teach a broad group of students and staff how to discuss, make recommendations on and give feedback about research requests. A research conference and associated journal (both aimed at adults—teachers, parents and academic readers), and a research conference (for students) and associated journal (written, edited and designed by students) followed. The tertiary-based activities of the ethics committee, research conference and journal provide a recognised structure for research and make the concept of research accessible and tangible for students. Some students do see research as being 'for the smart girls' (Year 9 student) but students participating in the centre's activities are increasing in number and appear to be diversifying.

Ethics committees, journals and conferences are pillars in tertiary research practice. A core curiosity around the creation of a school-based research centre in my context is that whilst these activities were originally created for adults, they are working well in my school. If looking through a disruptive lens at the university as a neoliberal institution working to initiate researchers into 'the rush to win its own race against peer institutions', these activities, however, may be components of 'competitive finite games that pit individuals against each other' (Harré et al., 2017, p. 6). In this case, it is concerning if I am uncritically bringing activities into students' orbits without seeking to challenge or re-direct any damage they may cause. One concern relates to the calls of some within the tertiary sector who point to the

constricting nature of many conventional research paradigms. The Wellcome Trust (2020), for example, highlights serious problems stemming from poor academic culture, including bullying, over-competitiveness, unkindness and mental health issues at the expense of creativity, collaboration, interdisciplinarity and quality. Concerns relating to significant challenges around ethics, inclusion, workload and care in research and academia are articulated by others (see Berg et al., 2016; Berg & Seeber, 2016; Dwyer & Black, 2021; Henderson et al., 2020). As a secondary educator, I acknowledge the tension around introducing school students to 'the intricacies involved with conducting and presenting research' (Year 11 Student) and exposing them to activities which go towards 'playing the game' (Caretta et al., 2018) of performing in academia.

From the more empowering standpoint of opening space for research, which two Year 12 students describe as 'increasing student academic literacy' and 'familiarising myself with the process of tertiary research', school-based research activities can become stepping stones into an otherwise closed academy; something young people would not ordinarily get to be part of until they're older and formally credentialled. My aim with the research centre and its engagement with tertiary research structures is to establish a 'holding environment' (Berg & Seeber, 2016, p. 86) characterised by conversation and encouragement and breathing room' (Bosanquet et al., 2020, p. 17) for acknowledging, sharing and enjoying the challenges of research. The student survey feedback includes repeated use of the words 'opportunity', 'explore', 'understanding' and 'empowered' suggesting that dimensions of power and participation (Taylor & Robinson, 2009) and respect for and rights of students (Cook-Slather, 2014) have potential to challenge ways power runs between children and adults, students and teachers, and schools and universities.

What are school-based research centres more broadly?

School-based research centres are relatively uncommon in Australia and overseas, although numbers nationally appear to have been growing over the past two decades (Chilton et al., 2022). There are likely now over thirty centres in Australian schools which equates to around 2.5% of independent schools and around 0.3% of all Australian schools having a research centre. Research centres in schools are possibly located solely in independent (non-government) schools where they play a role in supporting these schools' strategic directions (Furze, 2022). Independent schools may fund roles relating to research, action research, practitioner research, participatory research and research collaborations as a strategy to attract and engage teachers and add to the scholarly culture of the school. School-based research centres can also fulfil the function of facilitating research being conducted in the school, such as that deriving from internal and external Masters and PhDs, and academics and institutions requesting gatekeeper permission for research. Whilst many schools have no interest in establishing a standalone centre, it is foreseeable that more research lead positions could be created in schools to provide internal guidance in the areas outlined above. It is also foreseeable that other leadership portfolios in schools could include responsibilities around research as teachers completing postgraduate

studies seek to use their skills without leaving the primary and secondary education sector. Visits to independent schools with research centres in North America revealed different purposes for different centres and institutes according to the goals and culture of the school. These include conducting and using research to support a whole-school approach to learning, and conducting and communicating research to assist in educating, raising and parenting girls, as two examples (Loch, 2020). With the power to decide which research is taken up, initiated and promoted, it is worth understanding the growth of school-based research centres in independent schools. Their approaches could have some impact on educational research in this sector and shape academics' engagement with some independent schools and other schools with their own research hubs into the future.

When schools invest in a research centre, the question of students emerges. Will the centre also work with students, and if so, in what ways and to what ends? Upon committing to the research centre in my school, the board and leadership team established expectations that benefits of engaging in research would extend to students. My experience is that engaging academically minded students in research activities has not been difficult and it is this which leads me to the ethics of engaging school students in university-type research activities. Are the experiences I am facilitating re-shaping power within the school (are they genuinely transgressive (Pearce & Wood, 2019))? Am I enabling students to bring voice to and question their learning in ways that lead to learning and empowerment (Lodge, 2005)? What role is the research centre in my school playing in these areas?

Writing from practitioner enquiry

In this paper, I adopt a reflexive stance enhanced by students' feedback gathered through a typical feedback survey. Practitioner-based research supports an 'authentic desire to understand a particular phenomenon, problem or challenge', especially when paired with the drive to act upon the knowledge being explored (Groundwater-Smith & Mockler, 2005, p. 11). This combination leads to 'deep and rich field-based' experiences (Levitan et al., 2020, p. 337) accumulated through practice, observation, conversation and student feedback through formal and informal means. This approach draws on 'accidental ethnography' where researchers 'find revelation in the mundane' (Fujii, 2015, p. 526). I am drawing on 'post hoc practitioner data and experiences … not collected within a planned research study' (Levitan et al., 2020, p. 337), as well as six survey responses to stimulate an inquiry stance in relation to my daily work.

Using 'reflective practices and actively inviting critique and feedback' as teachers are recognised as 'practices not necessarily embedded in the approaches of our teaching colleagues' by teachers/academics/teachers, Pressick-Kilborn and Fitzgerald (2021), in their blogging. The pair explores the differences between school and academic work during career journeys which saw both women leave academia for a return to employment in schools. Being a practitioner and researcher in the space of my own research centre is a lumpy combination and I, too, may use reflective practice unevenly. It feels awkward and self-serving to explore my practice in leading

research in a privileged school when the examples being shared are working well and the students who opt to be involved are enthusiastic participants. Due to my positionality and responsibility for the progress, I present to school leadership on the work of the PI (including numbers of students participating, anecdotal student and parent feedback, number of events and activities being held), I am conscious of writing a paper which is celebratory, a recognised limitation of practitioner-based research (Casey, 2013; Groundwater-Smith & Mockler, 2005). However, I am constantly surprised by the enthusiasm and energy students bring to the optional, co-curricular research activities the PI offers and have a responsibility to accurately convey students' voices in this aspect.

In this context, I am decidedly 'embedded', a situation recognised by Jennifer Petschler (2012), herself a researcher in an independent school, as being rich in both challenge and opportunity. In her own writing, Petschler (2012) asks what happens when the embedded researcher stays on at the school once the research is over. She notes this is very different to most educational research which sees the researcher leave upon conclusion of the data collection or project. In my context, I am embedded not only in the school, but also in the research project as it is a project in the broadest sense—it is ongoing, whole-school and structured by key performance indicators which I report on to the school board. Through my inquiry stance I attempt to see and critically consider 'the trees' whilst being aware of ways they form 'the wood' (Casey, 2013). Ashley Casey (2013) encourages teacher action researchers to '[explore] the learning that occurred beyond the initial intervention but before the journey's end' (p. 147) and to pause over 'the steps of [the] journey' (p. 161). The 'steps' discussed in this paper focus on the school's ethics committee, research journal and research conference to understand how they enable students' understanding of and engagement in research in relation issues of privilege, school education and student voice.

Working and researching from privilege

Koh and Kenway (2016, p. 2) point to the spaces 'elite' schools occupy and I identify many alignments with the category as outlined by Kenway and Fahey (2014), including the school being over a century old, achieving success in external examinations and having people in its community with powerful connections. The privilege at my school in relation to the research centre comes from financial, marketing, publishing and leadership resources, as well as from parental expectation and support, students' academic motivations and staff role modelling and engagement. The observer may see the research centre as a function arguably aiding to 'advantage the advantaged' (Kenway & Fahey, 2014, p. 177). I can agree with this but need also put forth for consideration my beliefs of research having good potential to contribute to social justice. There is potential that students' engagement with and exposure to a range of research projects could also help the advantaged learn more about the disadvantaged and establish enduring mindsets of interest in doing something about inequalities as students graduate into university courses which will take their learning and action further. A further provocation about the definition of

'elite' in relation to education comes from Katy Swalwell (2021, p. 10) who frames 'an "elite school" [as one that] connotes an educational institution aiding and abetting in the production of "elite status"'. I pause over this definition in relation to the school research centre within the elite school to further explore how the research skills students are learning will be received or perceived. Is the teaching of research skills to university-bound students contributing to the production of the students' 'elite status' which will be further honed upon enrolment at the educationally-elite university? Does the school add to its own elite status through doing this type of non-conventional, co-curricular, value-add education? Does the university hold the mantel of 'elite status' and school students, eager to gain entry, seek out opportunities to improve their likelihood of access?

There are many privileges in being an educator and drawing on ways boundary riding has shaped my career. I specifically acknowledge three privileges in relation to this paper and my current context. As a teacher, I work in a school which is 'well resourced in comparison to the majority of other schools in the national education system' (Kenway & Fahey, 2014, p. 178) and has allocated financial resource to salaries for staff and resources in the centre. Secondly, the existence of the research centre gives constant recognition to the place of research in the school and serves to continually grow literacies around it, which is a significant privilege in a K to 12 education environment. Thirdly, the research centre gives me influence in relation to broadening and deepening the experiences and perspectives of my students using research lens to 'cultivate in students the necessary awareness, knowledge, and skills to be thoughtful and active citizens' (Connors et al., 2021, p. 104). A privileged student undertaking an innovative and resourced program in an elite school can also be a critical decision maker and socially just young citizen. By engaging in well-designed research skill-building, her opportunities for extended and deepened awareness of injustice and inequality have potential to be ignited in a drive to contribute to change. A Year 11 respondent to the feedback survey highlights this entanglement of privilege and potential; 'The PI is a very unique and valuable opportunity given to students at my school to broaden their horizons and expand their knowledge of research. I am very grateful for it for helping me to find my voice as a researcher'. It is my privilege as an educator to be part of her voicing and a contributor to the critical awareness she brings to this responsibility.

How is the research centre contributing to student voice around research in the school?

Students connecting with the PI number approximately 250 (9% of the student body) and all participate on an optional basis with no course credit offered. The increasing number of students engaging with the research centre is, I believe, due to the relevance of skills which students see as useful in both their school curriculum and tertiary preparation, and enjoyment they find in being part of research activities and scholarly interests. One student (Year 11) reflects on this, noting, 'A highlight of my experience with the PI was when I was involved in editing [the journal]. It was so inspiring to see the high quality of work that my peers were producing and I

was able to get an understanding of what it would be like to be an editor'. Another explains how she now sees research 'in everyday scenarios' where she almost automatically starts thinking about, 'what are the risks', 'what should the method be'. Which she thinks is, 'a good mindset to have and carry into university research' (Year 12 Student). I acknowledge the celebratory tone amongst the students' comments in my paper, but these students' comments are typical of the ones collected in the survey and anecdotally through emails and verbal communication.

Bloemert et al. (2020) point to the importance of and value in having students involved in research in a multitude of ways. They assert that rather than privileging research which students initiate (which is happening at my school, but it is not the only way to connect with research); students 'bring unique insights' to research be they 'data source', 'in dialogue' or 'initiators' with regard to research opportunities. This provokes a generative and somewhat porous image of students coming at research from multiple angles relating to their age, experiences and interests, with structures of research providing useful and usable steps upon which to tread and balance as they learn more about it. The notion of student voice as an agent of radical collegiality between students and adults in a school is taken up by Charteris and Smardon (2019, p. 9) who highlight it as a way of 'positioning students efficaciously'. By literally making spaces for students in research, their views and voices are 'regarded as an essential component' (Bloemert et al., 2020, p. 434) and their presence in research in the school is woven into its fabric. That research has a valuable place in their school education is a stance enthusiastically supported by all students whose comments contribute to this paper. Albeit from academically inclined, studious types of students, the respondents are also sportswomen, library monitors, prefects, performers, volunteers and roboticists—they are regular students at my school. Their comments convey a sense of gratitude for having a research space in their school and excitement about coming across additional ways to make the most of their educational interests. A number of students make a connection between school and their planned university studies, for example, '[Doing research] has helped me consider what I might like to pursue at university' (Year 10 student) and another writes that she is 'more excited and clear about pursuing a degree centred around research' (Year 12 student). Their comments point to comfortable alignment with school education and research skill learning through the activities in which they have been involved.

I define a research culture in a school as one that uses research language and enables school students and teachers to apply it to their work and learning. One of the respondents refers to this as 'student academic literacy' (Year 12 student). Additionally, a research culture gives power over research-relevant decisions to students and teachers and creates opportunities for students and teachers to be researchers. A Year 11 student writes that 'it feels empowering for me to be treated like a researcher. I am encouraged to take responsibility for my own learning and challenge myself'. It also takes students beyond their grade-level curriculum to access skills typically not encountered until university, which a Year 12 student values for the chance to pursue 'an interest in academia beyond the classroom'. Additionally, when students engage in a research culture in their school, they can be more than simply subjects of and participants in research. They can also be more than just school students who are

subjects of the subjects they are required to learn. Students gain power and voice by going behind the scenes of structures to which they are more commonly organised by and through. They learn to assess and write applications, identify and comment on significance, critique researchers' claims and evaluate implementation. They learn to apply their own positionality and associated world view, including a deeper understanding of its privileges, to potentially transformative learning opportunities.

Such experiences can contribute to change-making in schools by foregrounding student voice, agency and action (Keddie, 2021; Rubin et al., 2017). Referencing cases in some elite schools in the United States, Keddie (2021) draws attention to authentic issues being addressed in schools through youth participatory action research. The outcomes and subsequent recommendations in these cases, however, became problematic for the schools to accept and utilise and were 'schoolified'; that is, ignored and buried by 'school hierarchies limiting or halting [youth participatory action research] projects' and, in the worst cases, allowed to backfire on student researchers themselves (Keddie, 2021, p. 391). Keddie (2021) calls for those working in educational research to create 'a context where action and research are tightly connected and enabled through a positioning of students, teachers and researchers as a 'community of activists' who can develop an approach to social change together' (2021, p. 391). I suggest that a school-based research centre offers students seeking to activate social change a range of critical and reflective tools with which to work and it keeps developing those skills beyond the initial project. In schools where research projects have not fulfilled the desired outcomes and have been an unsatisfying or even hurtful experience for students, such as those detailed by Rubin et al., (2017), the chance to use post-project learnings to work again on new research is a valuable way of 'intertwining research and action' (Rubin et al., 2017, p. 186) for ongoing community change.

Research centres in schools have potential to contribute to ways young people learn the languages of research which can extend and challenge their understanding of power, justice and privilege in the world. Incorporating students' voices in the development and delivery of research activities allows students to learn the languages and structures of research before it connects to their tertiary enrolment or employment. This may encourage openness which could strengthen students' vocalisation around research topics, activities, outcomes and outputs. Beyond having a voice, there is also the process of becoming part of the context and learning a new range of research languages to facilitate engagement, understanding and decision making. Maybin (2013) suggests the term 'voicing', meaning moving beyond a sole consideration of 'voice' into voicing as a dialogic process of addressing and responding within context and making use of the voices and language of others. Maybin argues this is a way for children to develop 'the freedom to have voice worth hearing', as well as 'the freedom to be heard' (Hyms, 1996, as cited in Maybin, 2013). The voicing of research in the ethics committee, research journal and research conference, outlined below, are ways of building up students' 'hearability' (Maybin, 2013, p. 384) as they learn the language/s of research in these contexts and recognise what is needed and valued by different audiences. The following descriptions of research activities in the school illustrate how the ethics committee, student journal and student research centre are contributing to this goal.

School ethics committee

Members of the ethics committee come from the student body (mainly Year 8 to 11), teachers and administrative staff. The student-led, monthly lunchtime meetings attract around twenty people and are guided a by teacher with research skills. The committee has its own application form but university researchers or school staff undertaking postgraduate research can share their HREC applications and, as they are written in plain English, students usually have no difficulties understanding them. Standard subcategories in ethics applications help build students' field of knowledge around key terminology, for example, 'literature', 'participants', 'consent', 'data collection', etc. These terms come to life when explained in context which is an example of voicing (Maybin, 2013) as students engage in dialogue using language not often used in regular communication. Using specialised language encourages students to take on 'social values and positions through appropriation … and also personal agency … which is socioculturally shaped, dialogically emergent and incrementally layered in situated, distinctive ways' (Maybin, 2013, p. 384). A new approach was taken recently where two academics attended the meeting in person to supplement their paper application on a technology-based project. They answered students' questions directly as a different way of 'going through ethics'.

Students bring a blend of lived experience and research language to pick apart commonly used phrases in applications such as, 'the survey will be administered in a study period' and 'a random selection of students'. Whilst the researcher may be trying to minimise disruption by indicating a survey or focus group can take place 'in a study period' or 'during wellbeing time', students may not want to give up this time for a survey and have the option to reject it. When researchers plan ways to select participants, students are highly attuned to the resulting outcomes. 'Random selection' means that one of their friends may be selected for something she was not interested in and an interested student misses out. Who makes the better participant for the study? Concerns about recruitment and participation can weaken the results of a study in students' minds. Knowing that many researchers ultimately present neatly packaged reports with percentages of people in graphs and charts, students learn what it means if data have been compromised or biassed in some way. Students look very carefully at how researchers design tools and instruments and they activate their growing research citizenship by interrogating the ethics application.

Students are also attuned to ways research can be of service to others. Examples of recently reviewed applications include topics covering mental health, osteoporosis, concussion in women's sport, student wellbeing and artificial intelligence in online learning. One student commented, 'I liked participating in the Ethics Committee because it made me feel that I was contributing to the [school] community and broader society by evaluating the ethical safety of research applications' (Year 11 student). In the student voice literature, a focus falls on how student voice initiatives are often 'oriented to action, participation and change' (Taylor & Robinson, 2009, p. 163) and research applications elicit discussion around balancing considerations such as convenience and comfort with impact and contribution. Discussion about privileges within the school community also arise, including the ability to travel to participate in medical research at a hospital. The decision to promote

participation in a medical-based study was given because, although somewhat inconvenient and intrusive, the committee identified the contribution students could make to medical research to benefit the wider community in the longer term.

Research conference

Following a couple of years of running an annual research conference aimed at adults and attended by staff, visiting teachers and academics, some students asked if they could hold their own. The PI's student research conference attracted students from other schools, attending online and in person. The event was student-led through setting the theme, interviewing possible presenters, creating the program, organising the foyer display, planning the catering and hosting the event. The student leaders wanted a social way to bring researching students together and paid attention to making the conference fun. The foyer display included activities to write definitions and experiences of research, and places to vote on different ideas about research. The convenors let the attendees know they were conducting their own research into student research through the foyer activities and planned to use this material in future research.

The student convenors commenced their own research journeys in some years earlier by reading academic journal articles for a project they were doing where I was their mentor. In explaining how academic journals worked and the process for papers reaching publication, the students were fascinated by the knowledge held in journals and concerned by their (limited) ability to access it (Clark & Hartin, 2021). They became aware of how many people are locked out of the world of research and academia through paywalls, a lack of school library account access and through no knowledge of the existence of this type of information. The conference they designed was one way of opening students' eyes to research and to the skills used in the broader world of academia which they believed should be accessible to students. It also worked with the students' strong feelings about concerns over equity of access and a growing sense of their privilege as school students with the digital and educational resources to locate, read and use the information.

A link is developing between the conference and student journal whereby those writing for the journal can consider visual and verbal ways of presenting their research to reach broader audiences and further their skills. Those who begin through a presentation at the conference will be encouraged to expand their impact by writing a paper. The relationship between these two platforms is a novel approach for school students who are more familiar with completing one form of assessment after another and there not being threads to connect different tasks.

Research journal

The school produces an annual journal of research stemming from students' class assignments and co-curricular academic inquiry, including personal interest projects. A group of twelve students have formed a student editorial board. The group see the journal as an important publishing opportunity for students but have added

a less-formal, social media approach to communicate different sorts of research content and opportunities. The annual journal will encourage academic writing and attention to formal scholarly conventions, such as referencing and essay structure, skills which prepare students well for careers in academia. A Year 11 student noted, 'that writing a research article takes time and patience, and that unlike a term-based school assessment, it could be a lengthy project that requires large amounts of effort and dedication'. Blog posts and newsletter items can focus on research writing which aims to engage and excite people (especially fellow students) and let them know of the research in their community.

Student voicing in the school-based research centre

> To be treated like a researcher is almost to be treated like a sage. After all, they are experts in their own field and have built up an exquisite tower of intellect from scratch. That being said, researchers are also subject to questions 24/7. The mechanisms behind this, the ethics behind that and all the logistical nightmares that encase it will all be interrogated by others, but researchers keep going at it with tenacity and grit.
>
> (Year 10 student, survey comment).

The above comment is in response to the question of what it feels like to be treated like a researcher. In her comment, the student both looks upon someone else and sees *herself* as potential-future-researcher by sharing her evolving understanding of research practice, culture and identity. She works with the messiness and difficulties researchers encounter as she identifies both the privilege and power of the researcher position, where one is 'almost to be treated like a sage', and how researchers are also enmeshed in 'questions', 'mechanisms', 'ethics' and 'logistical nightmares'. In this response, the student is voicing her understanding of and empathy with researchers' work through her experience of how the ethics committee, conference and journal tie together, and, in addition, an appreciation of the effort and resilience required to 'keep going at it with tenacity and grit'. The above comment foregrounds ways the ethics committee, conference and journal provide opportunities for 'developing dialogue' (Lodge, 2005, p. 139) in ways that students manage, even if the structures are usually adult-focussed.

Assuaging my anxieties about the ethics of transposing these structures in the school, the research centre's activities appear to be aiding students' engagement, knowledge and skills in research, as well as allowing for modifications. The structure inherent in the ethics committee, research conference and journal simultaneously convey to students that they do not know of this world, yet, whilst it piques their curiosity to know more, now. 'Curiosity. An urge to peer into every niche, every possible field or subject', a Year 10 student writes; 'there is always something to inquire about and something to be gained'. The students note the newness of their learning through comments such as 'the ethics committee and its reviews of university-based research have opened my eyes to this realm' and 'prior to joining the Pymble Institute and its sub-branches [ethics committee, conference, journal],

I had zero clue about what ethical research encapsulated and the principles behind research'. It is perhaps the newness of this space that allows students to bring their voices to their own starting points.

The school-based research centre is a space where all are learning and no one is expert—even the academics who visit the ethics committee, as they have sometimes never spoken to school students before, can be curious and unsure. This is a hybrid and collaborative space where the university academics are outsiders, yet experts in their 'exquisite tower of intellect'; where the school students are experts in doing school, which is knowledge so many adults seem to want, but beginners in 'how research is conducted'. Involving students in a range of ways through a school-based research centre creates a space where students' voices are integral to 'future knowledge construction' (Bloemart, Amos & Jansen, p. 447) in the school. Schools with research centres are positioned to contribute to 'a longer and deeper dialogue' in student voice work in this area (Taylor & Robinson, 2009, p. 173) and to 'developing together more enriched understandings about the central purpose of the school: the learning of its members' (Lodge, 2005, p. 144). The school-based research centre brings openness, exploration, curiosity and student-centredness to this goal, in a way that powerfully enables [students] to *talk'* (Hall, 2017, p. 189, emphasis in original) and many adults to listen. Building a research culture in a school, I argue through my experience in this school and its research centre, is one way of working towards a collaborative and transformative purpose for schools, learners and researchers.

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