



*Values into Action - A Brighter Future*

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*ACHPER (SA) - Promoting Active and Healthy Living*

# **Flipping Research: A model for Future-Focused Research making learning visible in Health and Physical Education**

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*This paper reports on a future-focused model for practitioner-led inquiry (PLI) in secondary Health and Physical Education (HPE). As a future-focused model this paper draws the notion of the Flipped Classroom (Tucker, 2012), where teacher's front end the development of their inquiry questions with the support of tertiary academics who review the literature and suggest appropriate methodology to support the teachers' research, while simultaneously addressing the tension for teacher educators to conduct research as a significant output of academic work. The purpose of the study is to make student learning more visible to students, their families (whānau) and to make this learning as explicit to both of these groups as it was to their teachers. The paper describes concerns raised by teachers that students found it difficult to identify their learning in Health and Physical Education (HPE) and consequently the students could not recognise next steps for future learning. This concern became the focus of the inquiry approach in two large metropolitan city schools; a traditional subject specific HPE delivery school and a school with a future-focused integrated subject curriculum. The study used a collaborative action model where both students and their whānau were asked what students actually learn in HPE, how they learn and how they know they are learning? As co-researchers with teachers, the authors believe that if students and their whānau are able to recognise what they are learning and how they are learning it becomes a more realistic goal for them to jointly consider, where are the next steps in their learning are. This puts students more on the path to being self-regulating and lifelong learners. As the co-researchers we argue that by making the metacognitive process of learning visible in HPE contexts, beyond teachers to students and their whānau, the Vision of the New Zealand Curriculum (NZC) (Ministry of Education, (MOE), 2007) of Twenty First Century (21C) learners as highly confident, connected, actively involved, lifelong learners, may be better actualised.*

**Key Words:** visible learning, practitioner-led inquiry, metacognition, health and physical education (HPE), priority learners, integrated curriculum, students, whānau

## **Introduction**

Educational success is a priority for the New Zealand government and our society. The first of the national educational goals seeks, “the highest standards of achievement, through programmes which enable all students to realise their full potential as individuals, and to develop the values needed to become full members of New Zealand's society” (Ministry of Education, (MOE), 2015, para. 3).

HPE is recognised as one of the 8 learning areas of the New Zealand curriculum (MOE, 2007) that can contribute to this, yet historically the perception of Physical Education (PE) as a ‘play’ subject is widespread in New Zealand (Hardman & Marshall, 2000, Sallis, McKenzie, Kolody & Curtis,

1996). Students, parents and whānau have not necessarily understood the richness or the potential of learning that can be developed through this subject. As an example of practitioner-led innovation this project has the potential to ensure that the HPE learning area is making a valuable contribution to the NZC Vision, by making what students are learning, why they are learning it and how they know that they are learning explicit and visible to students and their whānau. This takes the focus off teaching placing it explicitly onto learning. This project also had the potential to compare and contrast how two quite different delivery models for Year 9 and 10 physical education could make learning for all, more visible.

## **Background**

Two secondary schools are participating in this project. Prior to the study, Secondary School 1 inquired into the process of collecting ongoing evidence of student learning in HPE. As part of this inquiry process, student voice highlighted that many students in physical education found it difficult to identify their learning and therefore could not recognise next steps for future learning. Essentially, the inquiry suggested that students were not recognising or being able to articulate what they learned from a physical education unit of work despite the use of many strategies focusing on such learning, including sharing learning intentions and developing success criteria. Furthermore, the initial inquiry suggested that students struggled with the relationship between learning and achievement, often only identifying that learning had taken place once they had received a summative grade.

By contrast, Secondary School 2 has a future focused integrated subject curriculum. This school that opened in 2014 has a focus on learning projects that, “draw on a wide range of curriculum areas applied to an authentic situation, with a focus on innovation and entrepreneurship” (School Prospectus, 2015). Their integrated curriculum model includes three main parts. Firstly, specialised learning modules that were collaboratively taught, cross-curricular, and integrated modules. Secondly, ‘big projects’ that are integrated projects that involve taking action in the community. Thirdly, ‘Hubs’ that have a dispositional curriculum, one that Hart (2013) describes as “the H School Habit” (para. 2) and also the systems and structures for truly personalising learning at this school. Their teacher-led inquiry asked if the integrated curriculum and collaborative teaching modules facilitated a focus on metacognitive learning threshold concepts such as critical thinking, learning how to learn and visible learning. Due to the integrated nature of the curriculum delivery at this school, making learning visible was identified as a priority focus. To achieve this, it became pertinent to investigate the difference between intended and actual outcomes; specifically, with a focus on where HPE was located in this integrated approach and whether or not HPE learning was visible to the learners.

Based on their initial inquiries, teacher’s from both schools and thus representing both curriculum models are included in a professional learning community, set up to include teachers, teacher educators, students and whānau. Collectively, the research aims to find out if students and their whānau actually recognise that they *are* learning in, through and about movement (Arnold, 1979), if they know *what* they are learning and, if they know, *how* they are learning in through and

about movement? Researching these questions could better seek to understand what sense students and their whānau are making of their learning in HPE contexts.

This study is innovative in three ways. Firstly it is focused on HPE, a subject area that in New Zealand is rarely included in school discussions on students learning (Hardman & Marshall, 2000; Stroot, Collier, O'Sullivan & England, 1994). Secondly, the study seeks to compare and contrast the concept of making the learning visible in two very different HPE situations (one in a more traditionally based physical education class and one in an integrated and project based learning, module system). Thirdly, this research project aims to include students, teachers and whānau working together to develop more authentic ways of capturing the metacognitive processes of learning. By making the learning more visible in HPE, beyond teachers to students and their whānau, we aim to make available those processes to other learning situations and to other aspects of the students' lives more effectively.

While the project is focused explicitly on student learning and whānau understanding of that learning, the teachers play a critical part by developing teaching strategies and ways of gathering evidence of learning so that the students and their whānau are clearer on what they have actually learned. In the experience of one of the teachers in this project, when whānau inquired into their children's learning by asking, "What did you learn today?" the reply was too frequently was reported as, "Nothing!". By involving whānau in the learning journey we aim to uncover if this cycle can be disrupted and changed. The research also aims to reveal if an initial inquiry into whether or not integrating HPE learning with other learning areas helps to make learning more visible for students and more transferrable than in the traditional curriculum construction that separates knowledge into subject disciplines and thus siloes HPE from the other learning. Finally, by 'flipping' the research model, that is to a teacher-led inquiry supported by academics providing literature reviews, methods and data collection and analysis, this research may better meet the inquiry cycle and research outputs of both teachers and tertiary educators, and may serve to promote the uptake of further post graduate study by the practicing teachers involved in the study.

### **Visible Learning**

The teachers in the two schools have begun inquiring how visible learning is that is happening in their HPE classes. They are using pedagogies with a focus on teacher- learner narrative, ongoing dialogue, verbal debrief, peer teaching and self and peer assessment to see if students know about and are able to recognise their learning and next steps? As Hattie (2009) suggests, "what teachers do matters' (p.22) and suggests that deliberate intervention is needed in order to develop student learning. He suggests that visible learning is not just about student learning being more visible to teachers, but that making teaching visible to students is just as important. Zimmerman and Schunk (2004) suggested that students' developing the skills to become their own 'teachers' is an important attribute in the process of becoming self-regulating, a disposition needed in order to becoming a lifelong learner. Rather than teaching becoming something that is done to students, Hattie (2012) highlights the importance of students and teachers working together on deliberate practice; or as he states, "teachers seeing learning through the eyes of students and students seeing teaching as the key

to their ongoing learning” (p.18). This statement captures the importance of the focus on a shared responsibility, one in which both student and teacher work to develop deeper learning; however, it is the teacher who needs to set the direction for learning and in doing so will know where each and every student is in relation to that learning in order to support students to their next steps in learning. Visible teaching is therefore evident when a student knows what to do and how to do it, and when teachers and students know learning has occurred. This is a central aspect in this research project that is, students knowing that learning has occurred and that they know how it occurred.

### **Practitioner-Led Inquiry**

Cochran-Smith and Lytle (2009) suggest that Practitioner-Led Inquiry (PLI) is a well-recognised and well developed method for researching teaching and learning, but note that it is highly ‘complex and dynamic’ (p. 37). The authors of this paper believe that applying the notion of ‘flipped’ research to PLI, through teacher educators supporting and scaffolding PLI, can reduce this complexity and increase the vibrancy of this type of research. PLI as an international movement, rather than as a teaching method, is at the forefront of teacher professional learning and inquiry. Cochran-Smith & Lytle (2009) suggest the PLI has its purposes in educational and social change and can be considered as an ‘umbrella’ term for action research, the Scholarship of Teaching and Learning (SoTL), Teacher Research, Self-Study and using Practice as a Site for Research. Amongst a number of shared features in these methods is a focus on the practitioner in the research role and the professional context as the research site. Cochran-Smith and Lytle (2009) argue that this is quite different from traditional research where the teacher, school and students are often the object of outsider’s inquiry. Flipping the inquiry from researcher to teacher-led inquiry, while capturing the student voice and the voice of whānau as educational stakeholders, is a possibly powerful and unique feature of this type of research. In this study, the practitioners are best described as, ‘knowers, learners and researchers’ (Cochran-Smith & Lytle, 2009, p.43) engaged in inquiry beyond the normal requirements of teaching. In this form of inquiry, the practitioners theorise that while the findings may be transferable in some form to a wider audience, the emphasis of PLI is on local action and social change instead of knowledge generation in the public domain.

PLI is subject to a number of critiques of intention and validity (Cochran-Smith & Lytle, 2009). The critique surrounding intention draws on purpose, while validity relates to the quality of evidence for the ontological and epistemological underpinnings of interpretative inquiry. Most relevant to teacher-led inquiry is an ethical critique around the inclusion of student voice and political motive. Positional power created through the student- teacher relationship and/ or the potential use of data for alternative motives, such as increased resourcing and promotion, need to be considered and addressed by the research design and ethics application. Shared values and vision, collective responsibility for student learning based on achievement data and reflective inquiry are identified as critical aspects of PLI (Cochran-Smith & Lytle, 2009).

PLI frequently involves the use of Educational and Collaborative Action Research. The following table provides an overview of recent PLI studies that have used this approach in HPE.

Casey, A. Dyson, B. & Campbell, A. (2009)	This study focuses on the process a practicing teacher undertook in order to shift from a teacher led pedagogical approach in physical education to a more student centred pedagogy using co-operative learning. The use of Action Research (AR) allowed the practitioner to ‘build a complete picture’ by combining practice and research to “find solutions to real problems” (p. 408).
Casey, A. and Dyson, B. (2009)	This study used AR to “generate knowledge about teaching and learning” (p. 175). This involved the teacher letting go to give more control to the students as they used co-operative learning and Teaching Games for Understanding (TGfU) in a unit of work. AR encouraged the practicing teacher to implement “academic discourse” (p. 175) into practice with the support of a critical friend or debriefer.
Petrie, K., Burrows, L., & Cosgriff, M. (2014).	This study describes a project whereby teacher practitioners and university researchers, with a common interest in the young people and HPE, worked together to collectively ‘re-imagine’ what HPE practice might look like in primary schools. The AR method allowed them to explore possibility and practice in a way that led to collaborative problem posing and problem solving combined with meaningful dialogue on the assumption that inquiry was an essential, rather than as a disparate part of practice.

Table 1:1 Contemporary PLI Action Research (AR) studies in HPE.

These studies highlight the potential the PLI that has to share knowledge, pose problems, seek solutions and to provide a critical eye if and when necessary in order to support teacher practice. In all of the studies the practitioners had insider knowledge, knowledge of the students, knowledge of the context, the environment and of the whānau. This knowledge allows the practitioner to be potentially more responsive to the learning environment as they seek to understand learning that is occurring. Outsiders have the potential to be the neutral face, one that is able to seek information from students in a way that students do not feel concerned about saying the ‘wrong thing’ to their teacher.

## **Methods**

### **Participants and Setting**

The PLI research group has formed a professional learning community consisting of curriculum leaders in HPE from two very different types of secondary schools and three lecturers from two different types of New Zealand tertiary institutions. Both of the curriculum leaders and all of the university lecturers are members of the national and regional branch of the subject association, Physical Education New Zealand (PENZ). Secondary School 1 is a co-educational state secondary school with a role of 1400 students and a decile rating of 5<sup>i</sup>.

This school has a Māori student cohort of 20% and Pasifika population of 13%. Māori and Pasifika are identified by the Ministry of Education in New Zealand as priority learners. Secondary School 2 is a new state decile 10 school established in a new community in West Auckland. Both the primary feeder school and the secondary school are governed by a single Board of Trustees as a public-private partnership. The secondary school currently has Year 9-10 students enrolled and will grow to include years 11-13 by 2018. Currently the school has a role of 250. Secondary School 2 has a Māori cohort of 8-10% and Pasifika population of 6-8%. Once ethics approval has been attained, a small group of Years 9-10 students and their whānau from both schools will be invited to join the professional learning community to conduct the research.

### **Research Design for Visible Learning Pedagogical Inquiry**

We argue that practicing teachers are best positioned to identify what it is that they want to know about their students and their practice and to instigate inquiry into teaching and learning. This clearly positions the study philosophically as PLI with the preference for a qualitative research design. This naturalistic approach is frequently employed in PLI in school settings as it has the potential to address both the ontological (what actually exists in these classrooms and schools?) and epistemological (methodology to answer the questions posed) tenants of this type of inquiry (Snape & Spencer, 2003).

To address the tenants of what students learn, how they learn and how they know they are learning (increased visibility of learning), both secondary schools will involve all their faculty members in this research: Secondary School 1 as part of a faculty wide inquiry and Secondary School 2 with their three teachers who have a focus on HPE, within the integrated learning modules. Due to the nature of collaborative teaching, there are additional teachers involved with the work at Secondary School 2. For the first half of the year HPE is integrated into modules including Science, Mathematics and English. The whole school is also involved in pedagogy attempting to make learning visible, where data may be drawn from multiple areas of the school curriculum. HPE and curriculum teacher educators from the two universities are providing expertise and advice around research methodology including reviewing the literature, collaborating on the research design and seeking ethics approval. They will co-research with teachers, students and whānau. There is also collaboration with PENZ Auckland Branch, to plan and to profile the potential of this teacher-led innovation for inquiry, learning and research-led practice for improving student

outcomes in Year 9-10 HPE.

### **Data Gathering**

Both schools will engage with their communities on multiple levels during 2015. This will include, students, whānau, and the wider school communities. Engagement will be through a variety of qualitative research methods with a focus on consultation and dialogue to gain multiple perspectives on the place, purpose and potential for learning making learning visible in the learning area of HPE. The research methods being used include regular professional learning meetings with the community of practice, field journals including key incident recording, teacher/ faculty unit evaluation, student and whānau focus groups and questionnaires. These will form individual professional inquiries. The research group has applied for teacher release funding through the Teacher-Led Inquiry Fund of the Ministry of Education to further support this project.

### **Data Analysis**

The data will be read using inductive analysis and the Constant Comparison Method (Lincoln & Guba, 1985). The success of the research will be measured by the degree to which students are able to articulate their learning in HPE with each other, with their teachers and with their whānau. The base-line data of student questionnaires, administered by the school deputy leader of one school, suggests that students “didn’t learn anything” in PE. The success of the project will also be measured by if students and their whānau are able to articulate the process of learning in HPE, why they are learning it and how they know that they are learning explicitly and visibly. Flipping research will be reflected upon by the teachers and teacher educators to ascertain if there is greater support for the teachers to enable their individual professional inquiries through academic research support, and whether or not the teacher educators are able to increase their research and publication outputs.

### **Conclusion**

In this paper we suggested that while both tertiary educators and practicing teachers have teacher-led inquiry, student learning and achievement foremost in their teaching practice, tertiary educators as researchers, often instigate approaches to practicing teachers to participate in educational studies. As a result, research can often be viewed by practicing teachers as something that is ‘done to them’. We argue that practicing teachers are best positioned to identify what it is that they want to know about their students and their practice and instigate inquiry into teaching and learning and that this is better achieved when teacher educators guide rather than lead this type of inquiry. ‘Flipping’ the traditional model of research by moving tertiary educators from instigators to co-researchers with teachers, demonstrates how teachers and academics can build effective collaborative action research partnerships where teachers provide the source of the inquiry and academics provide the research framework and methodology. We argue that flipping research in this way serves to foster ongoing professional development and learning for teachers and teacher educators that is more authentic, more meaningful and more achievable. Finally, this study adds knowledge to the field of qualitative research design for practitioner-led inquiry in HPE that has the potential to make real change in

HPE classroom learning environments by making more visible what students learn, how they learn and how they know they are learning in HPE contexts.

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<sup>i</sup> A school's decile rating indicates the extent to which it draws its students from low socio-economic communities. Decile 1 schools are the 10 percent of schools with the highest proportion of students from low socio-economic communities, whereas decile 10 schools are the 10 percent of schools with the lowest proportion of these students. The lower a school's decile rating, the more decile-based funding it gets. (Ministry of Education, 2015).