Identifying a hierarchy of reflective practices.

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Abstract

It is often the results of standardised test data which provide the evidence that a change in programs or practice may be required. Schools and systems analyse the available quantitative data to determine where changes need to occur and tracking of these data also allows schools to evaluate how successful the change has been.

At Sunshine College this has certainly been the case, and whilst the quantitative data has been essential in initiating the change process and measuring success, it has been the collection, analysis and interpretation of qualitative data or as the authors describe it; Behavioural Indicator Data, which has driven the change across the school in both our mathematics program and our teacher practice. In our experience the reliability of the qualitative data is determined by the reflective capacity of the teacher and in this paper we discuss reflective practices and how we use team teaching to maximise their efficacy.

Introduction

The analysis of standardised test data such as NAPLAN (National Assessment Program - Literacy And Numeracy), PISA (Programme for International Student Assessment) and TIMSS (Trends in International Maths and Science Study) are often the incentive for education systems and individual schools to initiate changes which it is hoped will improve student outcomes. This data along with other standardised measures (On-Demand, Victorian Curriculum and Assessment Authority) are then engaged to track the effectiveness of the change.

This was the case at Sunshine College; a multi-campus secondary school situated in the western suburbs of Melbourne. The college is situated within a community which suffers a high degree of disadvantage (SFO of 0.8 and an ICSEA OF 932). In 2007, a dedicated whole-school literacy program was introduced (SunLit) followed in 2009 by the introduction of a junior years maths program. The introduction of both programs heralded the beginning of a significant improvement in student learning outcomes as determined by NAPLAN, On-Demand and TORC (Test of Reading Comprehension) data.

During this same time period many other schools in the then Western Metropolitan Region (WMR) had the same priority and were exposed to a similar level of regional support, funding and professional development. Interestingly, however, very few schools were able to realize the same magnitude of improvement that Sunshine College achieved, being named as one of only five schools in Australia to "turn around" the effectiveness of the school (Grattan Institute Report 2014). The authors wanted to understand possible reasons for this disparity.

For the classroom teacher who is part of a school team striving to change student outcomes, the data most focussed on will be common assessment tasks, pre- and post- topic assessments, On Demand testing and NAPLAN data. Analysis of these data are essential components to driving change and justifying resourcing whilst providing a degree of accountability.

It is our contention, however, that it is not the application of the analysis of standardised testing data which contributes most to improved student outcomes, although this is undoubtedly an essential part of the process of change, but rather the analysis of, and response to, Behavioural Indicator Data (BID) which contributes most profoundly to improve student learning.

Behavioural Indicator Data

Behavioural indicators have been identified in many fields, such as learning difficulties, anxiety, stress, animal welfare, pain management, exploitation leadership, but very little, if any, work has been done which categorically identifies behaviours in learners which indicates learning is occurring or has occurred. This could be one of the reasons teachers rely so heavily on topic tests or other written assessments to determine whether a concept or process has been learned.

For the purposes of this paper we would like to clarify our working definition of BID. It encompasses all of the visible responses and non-responses that students display whilst in school. These include, but are not restricted to: punctuality, attitude to learning, levels of engagement, quality of completion of set tasks, conversations with peers or teachers, active listening, compliance with instructions and body language.

The very subjective, complex and subtle nature of BID makes it difficult to collect and even more difficult to categorise and agree on what it actually indicates. For example;

Behaviour	Indicates
Student swings on chair	Boredom
	or
	Inability to remain still
	or
	Defiance or non-compliance
	or
	Trying to reach something/someone

The reason for the behaviour could be any one of the above suggestions, but the response to it by the teacher will often reveal what the teacher believes about the cause of the behaviour. The teacher who "reads" the indicator as being of boredom is able to respond by providing something which alleviates the boredom. If, however the indicator is "read" as defiance or non-compliance, the teacher may respond by disciplining the student. An error in responding to this data can have a negative effect on the student-teacher relationship and potentially damage the student's belief in the teacher's efficacy.

Teacher beliefs, attitudes and values both influence and are influence by their knowledge of a subject and how it is taught and on the constraints and opportunities which arise whilst teaching (Sullivan *et al*, 2015). Ramsden (1992) described three main teacher types: the one who believes that teaching is a transfer of their own knowledge to students; the one who believes that teaching is about providing the student with an engaging activity and teacher who believes that teaching is about making it possible for students to learn. Askew (2002) finds similar teacher types in mathematics classes and names them Transmission, Discover and Connectionist respectively. He differentiates between these types depending upon the relationship displayed between teacher, student and mathematics knowledge.

The authors believe that a teacher's values and beliefs about teaching will determine their types of Behavioural Indicator Data which they are able to collect which, in itself is a facet of their reflection during and after each lesson. Our description of different reflector types is given in the next section

Reflective Practices

Reflection, as suggested by Moon in 2005, is applied to gain a better understanding of relatively complicated or unstructured ideas. It is such a widely held belief that reflective practice in the profession of teaching is of such singular importance that it not only constitutes part of every teacher education program but it is also a requirement of on-going professional practice.

Reflections should be

- Deliberate
- Purposeful
- Structured
- Able to link theory to practice
- About learning
- The catalyst to change and development   (Scales, 2010)

The value and importance of teachers reflecting on what they are doing and how they are doing it has been expertly described by many (Dewey, 1933; Stenhouse, 1975; Korthagen, 1985; Gore, 1987; Schon, 1987; Calderhead, 1989) but the purpose of this paper is to identify and organise common reflective practices in order to develop a hierarchy of their efficacy/importance as tools which elucidate behavioural indicator data.

In our experience working with teachers to read behavioural indicators we have noted three distinct types of teacher response to data that can be collected in the classroom; Compliance, Engagement and Learning.

The Compliance Reflector

This is where most teachers begin the development of their reflective practices, noticing only those behaviours which indicate that students are not complying with either teacher instructions or with school rules.

If a teacher requires all of their cognitive ability to ensure that the primary requirements of the students are being met in their classroom their remaining capacity to detect and decipher subtler levels of behavioural data that is available to be read is nil. This is often the case with pre-service teachers who literally cannot "see" an action which would be obvious to a more experience teacher. This type of practitioner appears to primarily value students getting the answer correct and following instructions.

However this type of reflector is not solely found among less experienced teachers with some experienced teachers believing that their professional obligation to teach has been fulfilled if, at the end of their lesson, no-one has been physically hurt. These teachers look to make changes in student behaviour and give feedback on flaws while praising compliant behaviours.

The Engagement Reflector

In our experience the vast majority of teachers are Engagement Reflectors. They are able to provide for the primary needs of their students with minimal effort and understand that students need to be engaged to learn. They are able to read compliance data, but also look for behaviours which indicate students are engaged in the task in hand. They look for activities to be completed and for their students to have fun. Engagement Reflectors look for behavioural indicators that students have enjoyed being in their class. This reflective practitioner will ask themselves why a student 'got it'.

Rollett (2001) describes the difference between an expert and a novice teacher as follows "Experts rely on a large repertoire of strategies and skills that they can call on automatically, leaving them free to deal with unique or unexpected events….The wealth of knowledge and routines that they employ, in fact, is so automatic that they often do not realize why they preferred a certain plan of action over another. However, when questioned, they are able to reconstruct the reasons for their decisions and behaviour." We would extend this to describe the difference between Compliance and Engagement Reflectors. These teachers also look to manage student behaviour, but in such a way that students enjoy being in their class.

The Learning Reflector

Learning Reflectors are teachers who not only read compliance and engagement data but are also actively seeking data on learning. These teachers not only question why this student 'got it' but also why another student did not. They do not look for tasks necessarily to be completed but instead value mistakes that are made and look for opportunities to pose questions which deepen student understanding.

Learning Reflectors use the four possible lenses, identified by Brookfield (1995) to evaluate their practices:

1. Autobiographically as learners and teachers
2. Their students' perspective
3. Their colleagues/peers perspective
4. Theoretical literature perspective

This contrasts with Compliance Reflectors who use only the first lens and the Engagement Reflector will use the first and the second lens on some students, but not all.

The main difference between the Engagement Reflector and the Learning Reflector is that the latter is actively looking for tasks which are not only engaging but directly address each learner's learning needs. This inevitably leads to the development of activities which are specifically tailored to an individual's needs which, in effect, means a differentiated classroom. These teachers look to make changes to self to improve what they bring to the class in order to improve the student outcomes.

The authors have previously described (Reilly and Parsons, 2011) how offering '*just right*" tasks in a fully inclusive classroom is an effective way to differentiate lessons, but the ability to develop and refine resources such as "*just right*" tasks is dependent upon a teacher's ability to reflect.

Behavioural Indicator Data Collection and Analysis

The collection of BID and its subsequent analysis can be done by an individual teacher at any of the three levels but our observations of teacher reflections have shown that different partnerships often favour a particular type of reflective practice.

We observed that a non-expert or an inexperienced teacher who self-reflects or works with a mentor teacher is more likely to demonstrate Compliance Reflector attributes. More experienced teachers and those who work with a peer observer or a coach often demonstrate Engagement Reflector attributes, but it is not until you have either an outstanding practitioner or accomplished practitioners who are truly working in concert with each other, for example team teachers, that teachers really demonstrate Learning Reflector qualities.

We would emphasise that these levels do not necessarily follow the chronology of teaching years, but instead the development of a teaching belief system, where teachers who reflect on student learning as being a construct of student attitude are less likely to be looking for ways in which to change the activities or approaches (self) and more likely to believe any deficit is in the student, and look for ways to change the student such as; seating plans, behaviour cards, parent meetings, rewards, feel-good feedback.

Teachers who are trying to change self are more likely to offer individually tailored learning experiences, question students to promote understanding, give constructive feedback which leads to the next step i.e. a feedback loop, or subtly adjust approach to suit need.

A summary of our description of the ways teachers reflect can be seen in Figure 1.

Figure 1. A Hierarchy of Reflective Practices

Reflector	Data Collected	Partners	Response
Compliance	Answers are correct Class rules School rules	Self Mentor	Discipline Feedback on flaws
Engagement	Tasks are complete Students are engaged Students are having fun	Self Observer Coach	Cultivating relationships Feel-good feedback
Learning	Mistakes are valued Students are learning	Self Teacher Partner/team	Differentiation Feedback Loop

Conclusion

The authors believe that teachers fall into one of three main categories of reflective practitioners; Compliance, Engagement or Learning, and that the key difference between these reflectors is their ability to collect, analyse and respond to behavioural indicator data.

Without ensuring that the dispositions of compliance and engagement are present with students, it is impossible for reflectors to read the much more subtle data that are available to Learning Reflectors. When reflecting on learning it is most important to consider why some students are learning whilst others are not and what the teacher can do differently. The Learning Reflector rarely concludes that a student is the reason that learning did not occur.

Teachers collecting, understanding and responding to the behavioural indicators of their own classrooms is the only way to determine what is really going on. They are best qualified to propose "…locally-based theories that recognise the idiosyncrasies of site-specific circumstances, and that acknowledge the integrity and worth of knowledge won by people at the workface" (described By Schon in Smyth 1993).

Becoming a Learning Reflector is a process of professional development which is ongoing and informed by educational research. The professional conversation between a teacher and an observer may get to the crux of the matter in a classroom, but the conversation between professionals who have a shared responsibility for their students' learning and have an equal stake in improving that learning for students is an additional impetus to uncover the real truth of the behaviour displayed and increase the chance of selecting the response which most benefits learning. In the authors' experience when more than one educator in the classroom has responsibility for the learning of a cohort of students, the identification of behavioural indicator data for learning is augmented.

At Sunshine College.is has been the development of teacher capacity to read and respond to student behavioural indicators that has led to the substantial improvements in students learning in mathematics. It has been achieved by teachers working in pairs and larger teaching teams to reflect on the wealth of data that is available in a classroom. Our collective responses to that data, and the relationship between teacher immediacy and effectiveness (Anderson, 1979 and Christophel 1990) has been increased. In short, a change in the quality of teacher reflective practices has allowed an effective program to be developed.

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