Next Practice: What we are learning from teaching about student data

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Katrina has been a school principal, teacher and counsellor prior to working in central office positions in support of school improvement and effectiveness research programs. Katrina was a key developer of the DECS High Performing Organisations program which supported school, preschool and regional leaders to develop effective change theories and conduct continuous improvement approaches in their work. Katrina has an extensive background in school review and evaluation processes and is currently leading a team to review and support improved literacy outcomes in disadvantaged school settings as part of the Federal Government's literacy and numeracy pilot projects.

The Quality, Improvement and Effectiveness Unit leads DECS Improvement and Accountability Framework. This presentation will focus on innovative projects being undertaken with school staff to inform the further development of the DECS framework.

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Daniel Balacco is the Program Manager within the Department of Education and Children's Services (DECS) in South Australia's Quality, Improvement and Effectiveness Unit.

Over the last 10 years, Daniel has worked extensively on the design, development and practical application of data to drive continuous improvement and accountability processes within schools, preschools, regions and the Department. Daniel has led and facilitated workshops and conferences for preschool, school and regional leaders across South Australia that focus on the use of data in education contexts. Daniel has provided educators with the opportunity to collaboratively 'make data count' and supported them in undertaking rigorous data-driven self-review and improvement planning processes.

Before working in DECS, Daniel worked for the Australian Bureau of Statistics as a researcher and statistical consultant.

Abstract

This paper presents emergent learning from two South Australia Department of Education and Children's Services (DECS) initiatives. The Supporting Improved Literacy Achievement (SILA) pilot and the DECS Classroom Inquiry Projects are allowing DECS to explore next practices in relation to informing teaching through analysis of student data at the system, school, class and learner levels.

The SILA pilot is currently being implemented in 32 DECS low-SES schools to provide new approaches to improve literacy outcomes in disadvantaged schools. The pilot is successfully developing practical understandings in the use of a range of data to achieve focussed whole school literacy approaches, build teacher and leader capacity and strengthen home–school partnerships.

The DECS Classroom Inquiry Project was implemented in a high-SES primary school to investigate how to help experienced teachers gather and use data to drive decisions about learners and pedagogy. The inquiry enabled teachers to connect school improvement priorities to their classroom practices through the effective use of data. Teachers involved found that using student achievement, perception and observational data provided valuable information for learners and in directing pedagogy.

These case studies highlight the important role of student data to support meaningful reform at all levels in education.

Introduction

The South Australian Department for Education and Children's Services (DECS) has a strong tradition of working from an inquiry perspective so that the work of practitioners in the field supports and informs policy

development at the regional and central levels. In a DECS Occasional Paper on inquiry, Reid (2004) describes it as "a process of systematic, rigorous and critical reflection about professional practice, and the contexts in which it occurs, in ways that question taken-for-granted assumptions'. The DECS Improvement and Accountability Framework (DIAf) (DECS, 2007) is a critical policy that has evolved, and is continuing to do so, based on inquiry and trialling in the field to inform the policy in practice. This paper seeks to outline two projects that are impacting on the development of DIAf through working closely with teachers and learners to understand successful strategies to better intervene and support learning: the Supporting Improved Literacy Achievement (SILA) pilot and the DECS Classroom Inquiry Projects.

Parallel to the focus of the DECS inquiry is the UK Department for Education and Skills UK, Innovation *Unit's Next Practice in Education* program (2008) which uses Leadbeater's (2006) description of next practice as "emergent innovations that could open up new ways of working [and] are much more likely to come from thoughtful, experienced, self-confident practitioners trying to find new and more effective solutions to intractable problems'. The *Next Practice* program seeks to help schools build on good practices and successful innovation through three phases of development—*stimulate, incubate* and *accelerate*—while supporting practices that foster improvement. SILA and the DECS Classroom Inquiry Projects are supporting DECS to learn in practice from practitioners to stimulate the use of student data, to *incubate* better ways to inform and direct teaching practices and to *accelerate* the spread of successful learning across the system.

Supporting Improved Literacy Achievement (SILA) Pilot

The Supporting Improved Literacy Achievement (SILA) pilot project aims to deliver improved literacy outcomes for learners in low-SES schools. DIAf describes the importance of acceptable standards of student achievement being achieved for all learners and the need for appropriate intervention and support to be provided when standards are not achieved.

To this end, DECS is investigating complex, disadvantaged schools with low achievement in national literacy assessments, to identify critical improvement issues and work with school leaders and teachers to find new ways to help learners achieve successful standards. This work is being supported by funding from the Australian Government Department of Education, Employment and Workplace Relations as part of the Education Revolution: Improving our Schools—National Action Plan for Literacy and Numeracy.

The data that is informing this work is provided through:

- a survey of teacher perceptions of literacy knowledge and confidence in programs delivering outcomes conducted in each school

- classroom observations of student learning, explicit teaching, feedback, assessment and monitoring practices

- analyses of national literacy achievement data over time and at the question item level

- teacher, parent and student perception data gathered through interviews and focus groups.

This data, collected through a diagnostic review, is synthesised and compiled into a diagnostic review report detailing key recommendations for improvement.

Emerging findings are showing a significant 'knowing—doing' gap at the teacher, school and systems levels in supporting, monitoring and planning for learning. This is characterised by limited differentiation and personalisation of learning provided for the broad range of student abilities, few connections in learning programs between classrooms and year levels, and a limited range of pedagogies in use with low levels of student engagement in learning. This data is informing the system, school leaders and teachers about directions and gaps to be addressed to effectively monitor and intervene at the learner level and use in-process data to drive programming decisions.

From this clear understanding of the learning needs at the classroom and school levels, the SILA project is working with schools through the appointment of coaching teams to:

- develop whole school, student-centred approaches to literacy teaching and learning

- improve teacher and leader capacity to support literacy teaching and learning

- effectively use data to analyse and monitor learning at the class and school levels

- build new connections with parents and community services to support learning

- achieve significant improvement in literacy performance for all students.

The SILA project as an inquiry-based model is providing direct information from learners, teachers and classroom programs to identify a range of issues that exist across schools which may have implications for existing and future system policies and practices. From this data about learning gathered in-process, DECSs is working alongside teachers and school leaders to implement effective change models.

The Department is undertaking an action learning model to stimulate new ways of working on complex issues of school improvement, incubate and trial successful practices in schools, and accelerate their spread and adoption as effective 'next' practices to improve student learning outcomes and the quality of teaching.

DECS Classroom Inquiry Project

Since the development of the DIAf in 2005, a range of improvement and accountability resources, initiatives and support programs have been implemented at the school, district and system levels within DECS. Information gathered from these initiatives combined with current research indicated the need to connect school improvement to classroom actions, and to investigate the effective use of data in classrooms to improve student outcomes in particular. Hattie (2005) suggests that data needs to be located in the classroom for teachers to better understand learner success and needs. The DECS Classroom Inquiry Project *stimulates* experienced classroom practitioners to work with central staff in gathering and using data to drive decisions about learners and pedagogy.

The inquiry project employed a multiple case study design that included semi-structured teacher interviews, classrooms observations and selected documentation review. Two experienced classrooms teachers in a high-SES primary school were invited to trial ideas in their classrooms. The school had implemented DIAf processes at the leadership and whole-school levels in previous years and these provided the basis for further investigations of connections at the classroom level. The participants chosen were 'experienced and thoughtful practitioners', reflecting the notion of seeking new approaches as outlined

in the Next Practice program by. The classroom teachers were supported by the school's Deputy Principal and the central office Program Manager responsible for the development and implementation of the project.

The Program Manager synthesised the data from teacher interviews, classroom observations, student feedback and document analysis to map the data collected and used at the school, class and student levels. This was mapped against Bernhardt's (2002) multiple data measures (achievement, demographic, process and perception) that when used together "give schools the information they need to improve teaching and learning and to get positive results'.

Analysis of school and classroom data indicated the following:

- An extensive range of student achievement data is consistently gathered across the school in all classes.

- Observations, question responses, rubrics, checklists, test scores and student work are the key data sets used by both teachers.

- Differences between classroom data collections include the use of standardised assessment and learning style identification instruments.

- Learners and teachers routinely engage in collecting a comprehensive range of data, including student achievement and demographic data.

- Perception and process data are not effectively gathered or used at the class level.

- There are limited explicit connections at the classroom level to school directions and goals.

These findings helped to *incubate* the next stage of the inquiry. In

collaboration with the teachers, it was agreed to develop classroom targets aligned with the school plan to improve student achievement in maths. Teachers were supported to design classroom targets using the SMART format (Marino, 2006), that were specific, measurable, achievable, results oriented and time bound.

Class teachers engaged collaboratively to plan and design a common assessment task to measure progress against their class target. A pre-test assessment was administered and results provided to students individually and to the whole class.
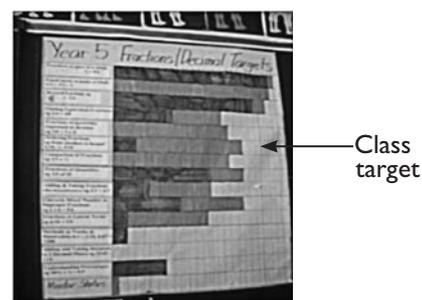

Figure 1: Classroom maths targets

The pre-assessment data enabled teachers to work with students to set the class target to be achieved. Targets were documented and displayed on a bar chart (see Figure 1).

Once the unit of work was completed, a post-assessment was administered and the results of student progress were reflected on the class chart. The implementation of this approach provided useful learning about teaching and motivation for students.

In reflecting on the process, teachers identified that:

- the use of pre-assessment data provided them with effective starting points for learning at the individual and class levels. This enabled teachers to provide greater differentiation of individual needs

and identify areas for explicit teaching.

- the data provided by the class chart improved monitoring of student learning during lessons. The teachers found that they provided greater differentiation as they were more aware of individual students at risk of not achieving the targets.

- collaboratively establishing learning targets connected students to their own learning and enhanced student and group ownership, responsibility and motivation.

Teachers found that establishing specific targets with learners helped to raise the bar for students, and aided teachers in reducing the gaps between students.

During this process, **perception data** was collected via a structured survey to provide feedback from students and staff regarding teaching and learning in numeracy. The data confirmed the importance of engaging students in pedagogies that provide challenge, interest and support for learning tasks. Students reported positive levels of interest (81% agreement) and engagement (73% agreement) when the learning was connected to real world applications. The perception data confirmed the effectiveness of the electronic learning resources provided to students (96% agreement), which is a key priority in the school improvement plan. This data provided teachers with feedback on their enactment of the school's quality teaching and learning principles and identified directions for them to further develop these principles in their practices.

Process data was collected via teacher observations of student involvement in various class learning activities and recorded on a digital camera. This evidence was analysed using a DECS (2008) scaled scoring instrument from the *Reflect, Respect, Relate* assessment

resource. This data provided authentic feedback to teachers about which learning tasks best engaged students and supported learning. For example, one teacher reported that working with process data enabled her to identify a student consistently not engaged in learning and implement a successful peer mentoring strategy. The teachers indicated they would continue to collect process data as it provided cues to trial alternative teaching methods and extend successful strategies in order to meet individual and group needs.

To *accelerate* the learning from this project, a number of key considerations require further development. These include:

- developing strategic whole of school approaches to data gathering and analysis that are incorporated within classroom teaching practices and connected to school plans with explicit classroom expectations through the use of survey instruments and class targets

- developing teacher expertise to deeply analyse and interpret data within a professional culture that enables teachers to collaboratively share data through structures like school improvement teams, professional learning communities and collegial planning processes

- developing effective processes to support teachers to readily collect process data via observations and use perception data on a routine basis within their practices

- extending the involvement of students in this process to set targets, gather data and conduct observations to inform their own learning

- ensuring the efficient storage of learner data so that it is easily accessed by staff, students and parents, and supports learning transitions from year to year.

This inquiry is being used to support DECS to refine school improvement planning processes so that they better connect to classroom teaching and learning practices.

Summary

What we have learnt about teaching through the use of student data in the SILA and the DECS Classroom Inquiry projects has been the importance of presenting and analysing data at the classroom level to influence change and drive improvement. These projects have provided DECS with the opportunity to trial new approaches and examine their implications for teaching and learning. This learning has the potential to support students and teachers to become engaged and effective data users in an era where education systems and schools are held increasingly more accountable to improve student outcomes. The successful practices highlighted within these case studies provide possibilities to *stimulate, incubate* and *accelerate* learning across the system and use student data to encourage meaningful reform.

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