Reviews

Visible Learning into Action: International Case Studies of Impact

Hattie John, Masters Deb and Birch Kate (2016)
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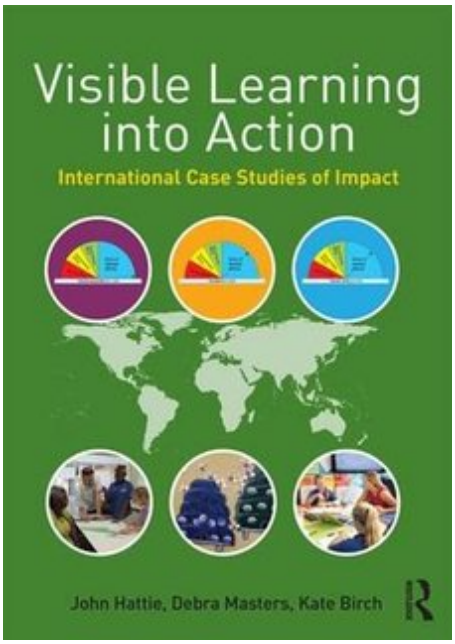

Visible Learning into Action collates case studies of fifteen schools from around the world (Australia, USA, Hong Kong, UK, Sweden, New Zealand and Norway) that have participated in the Visible Learning^{plus} professional development program. This Visible Learning^{plus} program implements John Hattie's research into what truly makes a difference to student learning, that is, "What works best?" There are a variety of influences described in the research literature to date, in relation to the magnitude of the effect on student learning outcomes. One purpose of *Visible Learning into Action* is to understand the above-average impact on student learning. Where can we reliably identify success in learning, to understand it, value it and use success in transforming schools and systems? How can we support teachers to achieve the high impact zone in student learning outcomes?

The fifteen case studies demonstrate what occurs when teachers and school leaders use the Visible Learning framework to apply research informed strategies to assist learners in their schools. Understanding of teacher impact is crucial; the nature of success, its desired magnitude including both test scores and teacher judgement, and the pervasiveness of the impact or the number of students who have achieved the desired outcome. Causes and explanations follow, only after evidence is gained on the three issues of the nature, magnitude and pervasiveness of learning. Teachers need to be engaged in the process of gathering, analysing and interpreting data while they work collaboratively in teams, supported by school leaders who give priority to the time needed and staff professional learning.

Visible Learning into Action has joint authors and primarily uses the theoretical background and research of John Hattie. Deb Masters is a principal consultant at Cognition Education and the Global Director of Visible Learning^{plus}. In 2010, Deb Masters began converting the Visible Learning tenets into a new professional

learning program. This includes a series of workshops that provide school leaders and teachers with the knowledge and tools to engage with John Hattie's research and to consider what works best in their contexts. An effective professional development program can take three to five years and involves external expertise (Timperley et al. 2007 as cited in Hattie, Masters and Birch, 2016, p. 9). Kate Birch, an education consultant in the Visible Learning^{plus} team at Cognition Education, presents the fifteen case studies about Visible Learning in global primary and secondary schools.

These fifteen schools presented in *Visible Learning into Action* have made deliberate attempts for all their students to exceed their potential in achieving academic success. Each school followed an 'impact cycle'; an evidence based cycle of inquiry and knowledge building to improve student learning outcomes, within an exploration of John Hattie's research findings. The 'impact cycle' has five distinct stages:

- Determining student outcomes and student learning needs. What does impact mean in this school?
- Educator knowledge and skills; teacher learning needs.
- Changed actions and identifying the required actions and behaviours in planning and implementation.
- Evaluating impact; gathering evidence to monitor and evaluate the impact of teaching on learning.
- Renewing the cycle; planning for 'Where to next?'

It is important to gather evidence under the five strands of Visible Learning: know thy impact; the visible learner; inspired and passionate teachers; effective feedback; the Visible Learning school (its systems, processes and structures).

Visible Learning into Action is organised into five parts according to the 'impact cycle' reflected in each case study school and each part has multiple chapters. Part I: 'Know Thy Impact', for example, studies how three schools have implemented the use of data. Chapter 1 describes how Keilor Views Primary School, Australia looks for evidence of teacher impact on students as they become visible learners. Chapter 2 in Part 1 explores evidence-based inquiry to improve teacher practice at Discovery College, situated on Lantau Island, Hong Kong. Similarly, Chapter 3 focuses on the adoption of professional development based on John Hattie's nine mind-frames at Sadadeen Primary School, in Alice Springs, a school for Indigenous Australian students.

Part II of *Visible Learning into Action* analyses the implementation of effective feedback at Monmia Primary School, Keilor Downs, Victoria and at Presbyterian Ladies' College, Western Australia. The focus is on giving and receiving feedback which is "clear, purposeful, meaningful and compatible with students' prior knowledge and to provide logical connections" (Hattie, J. and Timperley, H. (2007) The power of feedback. *Review of Educational Research*, 77 (1), 81. Sage Publications). Clearly, students need to understand and act upon the feedback they receive. In addition, teachers' written reports need to supply both quality feedback to improve learning that is highly visible and availability when needed by students and their parents.

Part III 'Visible Learners' presents the case study of Stonefields School in New Zealand which has used explicit cues that make learning visible and has encouraged strong learning partnerships between school and home. Gustav Vasaskolan, a Swedish school adopted Visible Learning intervention driven by its principal and assistant principal in 2011, as a direct result of sweeping educational reforms in Sweden aimed at improving students' educational outcomes and raising the status of the teaching profession. The introduction of an assessment regime for measuring student progress at the primary level, however, set significant challenges for schools throughout Sweden.

In each chapter, there is an outline of the desired student outcomes, teacher knowledge or skills, the new actions the teachers and school leaders tried as well as an analysis of the impact of the changed actions on desired student outcomes. These outlines occur consistently for each case study, such as, Hodge Hill Primary School, UK and Asgard Skole, Norway. A useful template related to a stage in the Visible Learning program is included in an appendix in each of the five parts of the book.

Again, Part IV 'Inspired and Passionate Teachers' includes in the case studies of the three schools (one in New Zealand and two in the US) the context, overview, desired learning outcomes, knowledge and skills needed by teachers and leaders, the new actions tried, the impact of changed actions on desired student outcomes and finally, continuing the cycle.

Part V 'The Visible Learning School' studies Oxley College in NSW, Australia, Wodonga Primary School, Australia and Tobermory High School, UK in their journeys in implementing the Visible Learning philosophy and practice. The fifteen schools or case studies which have begun the change process are at various stages: some are at the

early stages of becoming a Visible Learning school while others are in their second and third years of impact cycles, with each year bringing a new set of evidence and challenges.

Visible Learning into Action is an outstanding book combining Visible Learning research and its application to fifteen international case studies of change and impact. Each school presents an excellent journey of self-review and evidence gathering to achieve improved student learning outcomes. The professional learning program established by Cognition Education in conjunction with the Visible Learning^{plus} team, shows and evaluates impact through practical ideas and examples. These are summarised in staff professional learning opportunities, the case studies, reading guides and templates in each chapter's appendices, all of which form a superb framework for *Visible Learning into Action*.

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STEM Student Research Handbook

Harland, Darci J. (2016)
Moorabbin, Vic, Hawker Brownlow Education
ISBN 9781760019334 $45.95
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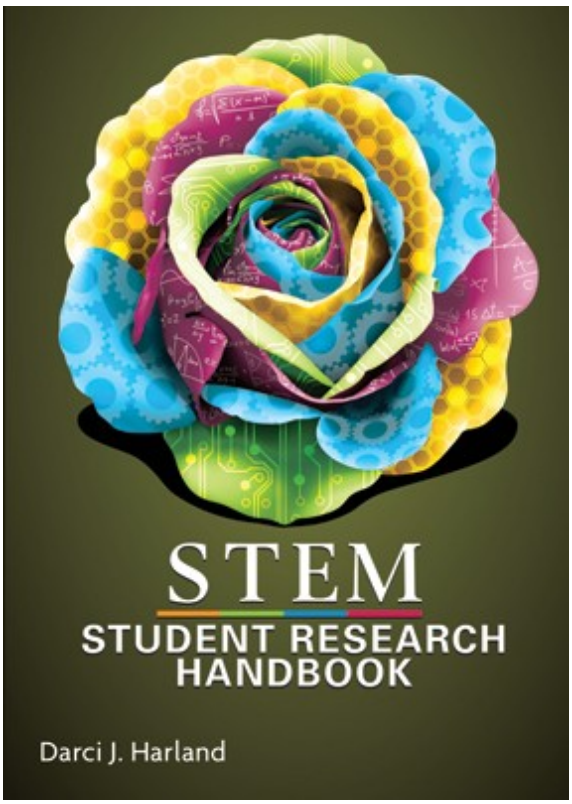

Originally published by the National Science Teachers Association (USA), *STEM Student Research Handbook* by Darci J. Harland, PhD, has been adapted and published by Hawker Brownlow Education for Australian students and educators.

An equally appropriate title for this text would have been Student Scientific Research Handbook, but that would have lacked the attention grabbing impact of the acronym STEM in the title. The author has tapped into the current focus on STEM (Science, Technology, Engineering and Mathematics) and STEAM (same as before, plus Arts) in schools, and the decision has paid off as one is immediately drawn to this book by its title.

In the Preface, the author states that her goal in writing the book was 'to provide a practical resource that teachers and students can use to become actively engaged with topics that interest them as they are guided through the stages of a long-term research project.'

One can see from the outset that the purpose of *STEM Student Research Handbook* is to support and guide students, step by step, through the process of conducting a scientific research assignment. Contents are arranged as 12 chapters that step through from Chapter 1, 'Beginning a STEM Research Project' to Chapter 12 'Presenting the STEM Research Project'. Other chapters include 'Research Design', 'Background Research and Note Taking', 'Writing Hypotheses', 'Proposal Writing', 'Organising a Laboratory Notebook', 'Descriptive Statistics', 'Graphical Representations', 'Inferential Statistics and Data Interpretation', 'Documentation and Research Paper Setup' and 'Writing the STEM Research Paper'.

Each chapter has a set format commencing with an Introduction and concluding with Chapter Questions, Applications and References. This methodical approach has the effect of the text taking on the role of teacher as students work their way through a familiar format. By raising questions with students, stimulating their thinking and in turn exposing the inquiry process, the author leads students to make decisions about their research as they work through the project.

The tone of the text throughout is a conversation between the author and the student, but at many stages in the process the teacher is drawn into the discussion. The author will refer the student to the teacher with comments such as, 'Your science teacher will determine the voice you should use (active or passive) and whether or not you will be allowed to use pronouns'. This relationship is set up in the Introduction which commences with a dialogue 'To the Teacher', where Dr Harland outlines how the text is to be used, explains its content and the importance of a well conducted scientific research process and student-centred research. The author then turns 'To the High School Student' with a briefer explanation and the comment that 'your teacher may choose to introduce you to STEM research in a variety of ways. This handbook addresses many of them; however, be sure to take the advice of your teacher and follow any additional guidelines given to you regarding this research project'.

Throughout *STEM Student Research Handbook*, the author has made suggestions for computer applications to assist the student in organising the research project, gathering information and presenting it. Tools such as wikis and Google tools are recommended along with the use of spreadsheets, digital photo storage and Diigo social bookmarking. This area is my one criticism of the text in that I feel the author could have gone further in recommending electronic bibliographic tools and suggestions for the production of electronic posters as opposed to the traditional poster board style. In the 1:1 school computer learning environment, students are increasingly adopting digital tools as everyday processes. Reflecting on available digital tools and applying them to the instruction provided by this handbook would be a recipe for student success.

The audience for this text is teachers, teacher-librarians, tutors, students and parents. It is an easy to follow handbook that can be dipped in and out of as the need arises. Instruction is justified and explained clearly with the importance of scientific research emphasised throughout. The Appendixes contain organi sational and assessment templates for use by both the students and teachers. I recommend this as an excellent research resource that has a place in the hands of teacher-librarians, students and learning leaders. See online preview.

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