Making Learning Visible with SIM

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John Hattie, Director of the Melbourne Educational Research Institute at the University of Melbourne, Australia, presented his groundbreaking meta-analyses study in his first book *Visible Learning for Teachers* (2009). The Visible Learning research synthesizes findings from 1,500 meta-analyses of 90,000 studies involving 300 million students into what works best in education. The meta-analyses found that of the six groups of factors influencing successful learning in schools – the student, home, school, teacher, curricula and teaching – teachers seemed to have the strongest in-school effect. In 2023, Dr. Hattie published *Visible Learning: The Sequel* informed by more than 2,100 new meta-analyses about achievement drawn from more than 130,000 studies and conducted with the participation of more than 400 million students aged three to twenty-five, mainly from developed countries. It confirmed that certain high impact factors are still the most important factor when it comes to student learning. The factors (or influences on learning) also indicate the positive effect of teachers who focus on the impacts of their teaching and work together with other educators to critique their ideas about impact – about what was taught well, who was taught well and the size of the improvement.

Before the *Visible Learning* meta-analyses was conducted by John Hattie, researchers at KUCRL (beginning in 1978) developed The Strategic Instruction Model (SIM) as a comprehensive approach to adolescent literacy which also focused on the impact of teaching on learning, including an evidence-based set of instructional tools and interventions that empower teachers and enable students to better succeed in school and beyond. Strategic schools and teachers select instructional tools and interventions to meet their student needs, and strategic students have options for matching an approach to a task. The research-based components of these tools have been tested and approved by teachers to become evidence-based practices shown to be effective in varied school and classroom contexts. SIM includes two arms that work together to improve literacy: Learning Strategies (LS) and Content Enhancement Routines (CER). LS use explicit and systematic instructional procedures. CER implementation is supported by the SMARTER Instructional Cycle, an instructional planning cycle that promotes effective teaching and learning of critical content. Schools and teachers may implement a combination of LS and/or CER. SIM also includes two comprehensive reading programs, designed based on the science of reading: Fusion Reading (FR) and Xtreme Reading (XR).

Determining An Effect

When researchers conduct studies on the influence of an instructional tool on student outcomes, they can determine an effect size if a statistical difference is found during data analysis. To conduct the Visible Learning research, Hattie and his colleagues studied approximately 250 factors identified by prior research studies as having an impact on student achievement. Then, to determine which factors had the greatest impact, the researchers compared the effect sizes of all factors. An effect size can be defined as a standardized and scale-free measure of the relative size of the effect of an intervention--thus, the magnitude of an intervention's effect or impact (Cohen, 1988; Kline, 2004). The greater the effect size, generally speaking, the greater the positive impact on student achievement.

Hattie determined that the effect size of d=0.40 was the *hinge point,* which meant the impact of teaching on student learning was the equivalent of one year of academic growth for one year of instruction by a teacher. Educators in a school must evaluate what equals a year of academic progress and measure impact with their shared consensus of progress. Therefore, using the effect size of d=0.40 as a key marker of influences on achievement amplifies real-world and powerful

differences. However, it's critical to note that effect sizes below d=0.40 should not be ignored, but rather a decision can be made to not look only at what works but also what works best. It is not a magical number but rather a guideline to begin discussion about what to aim for to see student growth in learning. Ninety percent of all effect sizes in education are positive (d > 0.0), and this means that almost everything works. Hattie reminds teachers that they should evaluate their teaching daily by asking, "What impact did I have on learning today?" They should create a student-focused classroom with high impact instruction where learning is visible.

In 2017, Dr. John Hattie presented the Visible Learning research at the SIM International Conference at KUCRL. SIM professional developers attending the conference observed similarities between the findings of Hattie and his colleagues and the researchers at KUCRL and SIM tools for instruction and intervention. Both the *Visible Learning* influences and SIM focus on best practices for impact on student learning. In SIM professional learning sessions following the conference led by conference participants, teachers explored how the Learning Strategies and Content Enhancement Routines aligned with the Visible Learning influences with a demonstrated high impact on learning. The goal of the two educational models supported teachers in creating student-focused classrooms. Table 1 illustrates the influential relationship between teacher and student behaviors.

What highly effective teachers do…	**So that students…**
Communicate clear learning goals	Understand the learning goal
Have challenging success criteria for demonstrating learning	Are challenged by the success criteria
Teach a range of learning strategies	Develop a range of learning strategies and know when and which one to choose
Know when students are progressing	Know when they are not progressing

Examining Teacher Clarity

Central to the development of a student-focused classroom is the concept of teacher clarity. Frank Fendick (1990) defined *teacher clarity* as "a measure of the clarity of communication between teachers and students in both directions" (p. 10) and further described it across four dimensions:

- Clarity of organization - Tasks, assignments, and activities are aligned with goals of the learning and the assessments of learning.
- Clarity of explanation - Content conveyed must be relevant, accurate, and understandable to students and will move them to understanding their own level of learning.
- Clarity of examples and guided practice - Teachers provide intentional and purposeful examples and the opportunity for learners to practice building their capacity to become independent learners.
- Clarity of assessment - Assessments are used to generate evidence of learning and then use that feedback to give, receive, and integrate feedback into future learning. Three feedback questions from John Nottingham, one of Hattie's colleagues, provides structure for the

student feedback: What is my goal? What progress have I made toward that goal? What do I do next? Hattie stresses that students care most about the final question which prompts them to set their next learning goal (Almarode et al., 2025).

A Visible Learning and SIM Crosswalk

A crosswalk comparing select impact factors with SIM instructional principles is posted on the SIM Alignments webpage [https://sim.ku.edu/sim-alignment-other-programs-strategies-and-initiatives]. More specifically, the crosswalk examines how the dimensions of teacher clarity connect to the SIM tools and practices to help teachers and leaders in schools improve the two-way communication between teachers and students to boost student learning. The graphic in the crosswalk illustrates how teacher clarity (ES=0.75) relates in a domino effect of other Visible Learning influences from teacher-student relationships (ES=0.52) to assessment capable learners (ES=1.33).

While teacher clarity is foundational for the greatest impact on learning, Dr. Nancy Frey and Dr. Doug Fisher in *Visible Learning for Literacy* articulated three phases of student learning: surface, deep, and transfer (Frey et al., 2016). Considering the phases of student learning after a pre-assessment of their current knowledge and skills allows a teacher to design instruction with the right approach at the right time. During surface learning, students are acquiring knowledge and skills and then consolidating the content learned in order to move into deep learning. In deeper learning, students apply and use the knowledge and skills from their newly acquired content. Metacognitive strategies and close reading are complex tasks that require students to deepen their understanding. Finally, in the transfer phase, students focus on self-regulation of their learning, so they can accelerate their own learning. However, the phases aren't linear, and teachers will create instruction matching students' needs depending on data from frequent formative assessments.

In comparison, the SIM instructional tools maneuver students between all three learning phases as part of the evidence based instructional design. In the Learning Strategies, students take a pre-assessment, learn the new knowledge and skills and apply them in practice, and then move into the transfer phase with integration and generalization. Similarly, with the Content Enhancement Routines, teachers introduce new content at the surface level or the remembering and understanding level of Bloom's Taxonomy with students and then transition to applying the new knowledge. At the end of a lesson, students consolidate their understanding in the transfer phase by applying the learning in a new and unfamiliar situation often including a real world one.

Call to Action

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Additional Books to Explore

Fisher, D., Frey, N., Almarode, J., Barbee, K., Amador, O., & Assof, J. (2024). *The teacher clarity playbook, grades K-12: A hands-on guide to creating learning intentions and success criteria for organized, effective instruction*. Corwin Press.
Frey, N., Hattie, J., & Fisher, D. (2018). *Developing assessment-capable visible learners, grades K-12: Maximizing skill, will, and thrill*. Corwin Press.