

Essential assessment literacies for teachers: A focus on learning improvement and accountability

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Abstract

Internationally there is ample evidence of the high priority given to educational assessment, with governments increasingly calling for evidence of student and school achievement. Against this backdrop, this paper addresses the question: *What are the assessment literacies that classroom teachers need to enable them to engage in assessment practices that serve to improve learning and to meet system and local accountability requirements?* With this question in mind, the paper discusses two recent projects in Queensland, Australia, where the focus has been on developing and understanding teachers' assessment knowledge and skills. The first case focuses on the cross-sectoral approach taken to build teachers' assessment literacy and thereby promote public confidence in school-based assessment in Years 4 to 9. This case includes the explicit provision of system supports for standards-referenced teacher moderation meetings. The second case examines how criteria and standards can be used within a classroom to identify individual learning priorities, with the teacher working to induct students into the language of assessment, thereby building students' explicit knowledge of assessment and how to "see" the intrinsic quality of their work. Of particular interest in this second project is the evidence showing the benefits of working with standards and feedback on achievement, especially when students engage with self-assessment. The paper concludes with a conceptual framework for assessment literacy that recognises the role of information and training and the act of undertaking assessment for continual capacity building of teachers' assessment literacy.

Key words:

Assessment literacy

Teachers' knowledge and skills

Criteria and standards

Assessment literacy: A definition

This paper places teachers at the centre of learning improvement efforts focused on developing quality assessments to support learning improvement for all learners (Murphy, 2009; Willis, 2010; Wilson, 2010), and addresses the question: *What are the assessment literacies that classroom teachers need to enable them to engage in assessment practices that serve to improve learning and to meet system and local accountability requirements?* While academic literacy as a field of research is well developed, a focus on teachers' assessment literacy is emerging as an area of focus (Hipwell & Klenowski, 2011; Popham, 2009; Smith & Engelsen, forthcoming; Stiggins, 1995; Webb, 2002; Wyatt-Smith & Cumming, 2000). To begin, two definitions of assessment literacy are considered providing the frame for considering the needs of classroom teachers to improve learning and to meet accountability requirements.

In the definition provided by Webb (2002), stress is placed on the importance of knowledge in becoming assessment literate: "the knowledge of means for assessing what students know and can do, how to interpret the results from these assessments, and how to apply these results to improve student learning and program effectiveness" (p. 1). In the classroom with teachers as the focus, this definition shows that assessment literacy becomes a reality when teachers know and are able to develop appropriate assessments for purpose, are able to accurately understand and interpret student's achievement on the assessment, and are able to utilise the outcomes to improve pedagogy in the classroom. Their ability to do so depends on their "knowledge of means" or practices across a wide range, according to this definition.

Popham (2009) defines an assessment literate person as one who "possesses the assessment-related knowledge and skills needed for the competent performance of that person's responsibilities" (p. 1). From this it is clear that various stakeholders require knowledges and skills in assessment tools, assessment processes and assessment outcomes to varying degrees. As Popham highlights, this definition clearly signifies responsibility as aligned to the different purposes and uses of assessments. The understanding required by a school leader, teacher, student, parent and policy-maker will vary, depending on the purposes and intended uses of the assessment. What is apparent is that assessment literacy represents a shared knowledge and skill base by each group, though with to varying emphases representing the contextually different purposes and uses. This definition additionally incorporates the element of meeting system and local accountability requirements, in line with the aims of this paper.

The Case Studies

This paper now turns to discuss two recent projects in Queensland, Australia, where the focus has been on developing teachers' knowledge and skills in assessment. The first case presented focuses on the cross-sectoral approach taken to build teachers' assessment literacy and thereby promote public confidence in school-based assessment in Years 4 to 9. This case includes the explicit provision of system supports for standards-referenced teacher moderation meetings. The second case concerns teachers' assessment literacy with a focus on applying their knowledge of how to use standards within a classroom to identify individual learning priorities, while having purchase as a means for meeting both learning improvement and accountability requirements.

Case 1: Evaluation of the School Devised Assessment Model

Context & background

The state-based educational authority in Queensland, Queensland Studies Authority (QSA) developed the Queensland Curriculum, Assessment and Reporting (QCAR) Framework, which was aimed at aligning curriculum, assessment and reporting for students in Years 1-9. In 2008, five core components made up the QCAR Framework, namely: Essential Learnings, Standards, Online Assessment Bank, Queensland Comparable Assessment Tasks (QCATs) and Guidelines for Reporting. The QCATs consist of two models, with one model focusing on centrally-devised assessment tasks, and the other on school-devised assessment tasks, the second of which was the focus of an evaluation (Wyatt-Smith & Colbert, 2008). The primary reason for the school-devised assessments was to allow schools to build a bank of comparable assessments that they could use in Years 4, 6, or 9 as a replacement for the state-devised centrally evaluated assessments. The School-devised Assessment Model was trialled in Year 4 Science and Year 9 Mathematics in 17 schools from across the three educational sectors in Queensland: State, Catholic and Independent in March through to November, 2008. The evaluation was primarily focused on ascertaining whether the model provided "sufficient rigour, validity and reliability" and to identify alterations to the model necessary to ensure "comparability and consistency of teacher judgment and the sustainability of the model" (p. 6).

The model trialled in 2008 comprised two main elements:

1. Design Brief:	A guide of the four Quality Assurance Checkpoints and information to support assessment development.
2. Quality Assurance Checkpoints:	Quality assurance of appropriate and comparable assessment standards at four stages of the process <ul style="list-style-type: none">- Assessment proposal- School-devised assessment package- Cross-sector panel- Cross-sector moderation

These elements as trialled in 2008 are depicted in Figure 1 (Wyatt-Smith & Colbert, 2008, p. 4), identifying the training provided to participants and the two feedback loops to teachers.

Data collection and participants

Data collection included: questionnaires, forums, interviews, document collection and observation. Data was collected from teachers participating in the trialled model, as well as school leaders and education department personnel from each sector. Data was collected throughout the year, coordinated with the staging (roll-out) of the Model.

Findings

The primary findings concerned the need for increased specificity in the guiding documents and variation of the constitution of activities that were classified as those having or meeting a quality assurance function, with the evaluators concluding that two stages of the model fulfilled this function: endorsement of the assessment packages by the cross-sector panellists, and moderation of teacher judgements. With results of the evaluation reported elsewhere (Colbert, Wyatt-Smith, & Klenowski, 2012; Wyatt-Smith & Colbert, 2008), the focus here is

consideration of the constitution of elements of the model that allowed teachers to develop the requisite knowledge and skills to develop assessments that met accountability frameworks running in parallel. That is, what was needed for teachers to be able to ensure assessments were comparable and consistent to those developed by the state with particular focus on the systems and structures in place as supports?

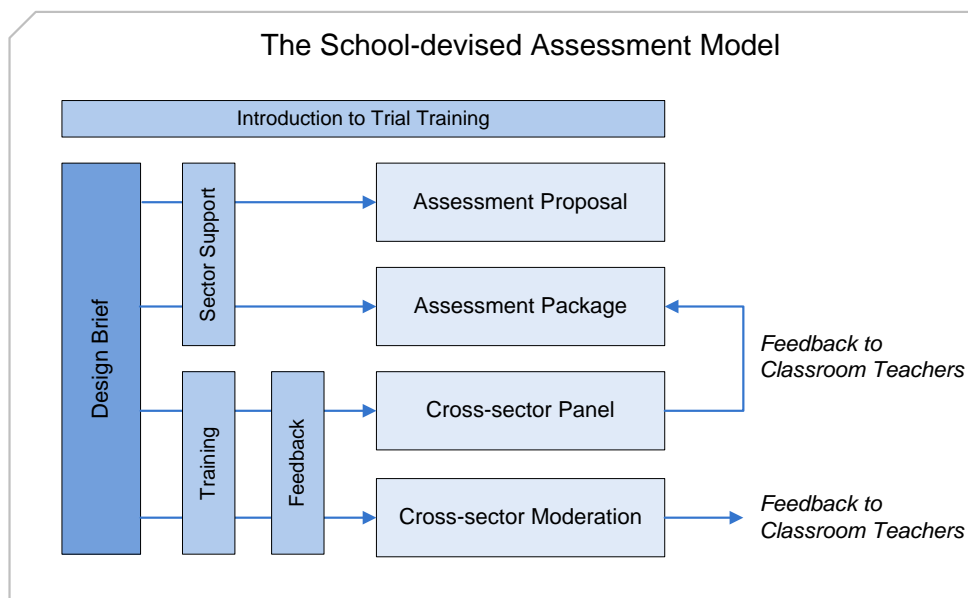


Figure 1: Elements of the School-devised Assessment Model trialled in 2008

The School-devised Assessment Model capacity built teachers' knowledge and skills to enable them to develop high-quality assessments that met system accountability requirements, namely, policy guiding documents, training, assessment package development, endorsement and moderation in five ways.

- During the trial, teachers' primary reference document was the Design Brief, developed to guide them in preparing assessment proposals, assessment packages, cross-sector panelling and cross-sector moderation. Though the evaluators identified instances where the information contained within the Brief lacked clarity and depth of information, the Brief was useful for specifying the stages of the model that the system determined would lead to consistency and comparability with the centrally-devised assessments administered in the state. The Brief referred to rigour, validity and reliability, and also contained information on the design elements for quality tasks: credibility, intellectual rigour, authenticity and user friendliness (CIAU). Teachers were also provided with information prepared by QSA during the Cross-sector Panel and Cross-sector Moderation stages of the Model to guide them in these quality assurance processes.
- Training was provided in the School-devised Assessment Model at three distinct junctures: introduction to the trial, which was focused on an overview of the elements of the Model; Cross-sector Panel; and Cross-sector Moderation. This training was well received by teachers and valuable for examining and developing shared understandings of the state provided design elements for quality tasks, and processes for panelling and moderation.
- The submission requirements of the Assessment Package were detailed with clear focus on developing packages that included:
 - the assessment as presented to students,
 - clear description of assessment conditions,

- a Guide to making judgments directly aligned with the targeted Assessable Elements, using the A to E standards framework, and providing an overall grade,
- an indicative "A" response.

In this Model, emphasis was on developing assessments that clearly demonstrated how evidence of student learning would be collected and how quality was to be judged.

- The Cross-sector Panel, or endorsement process, allowed for judgement across the packages as to consistency and comparability of the packages, and the extent to which they addressed the submission requirements. Panellists focused on strengths and weaknesses of the Packages and provided suggestion for improvement that teachers were expected to take up before administering the assessment in the classroom.
- The Cross-sector Moderation process was in place to ensure consistency in teacher judgements and comparability across the schools involved in the trial. Focus was on the panellists' agreement with teachers' judgements relevant to the standards. Protocols were provided to teachers to guide the moderation process and a four step process was developed to stage each group's review of judgements:
 1. the school representative/teacher had 2-3 mins to conceptualise the assessment task
 2. each panellist conducted an independent 'on balanced judgment' review of the samples and recorded their judgments
 3. the judgment was discussed as a group with the facilitator recording the panel consensus and other information about the sample or judgment as required
 4. the facilitator completed a Summary of discussions for provision of the outcomes of the moderation to the trial schools (taken from p. 78 of the report).

At no time did teachers express difficulty with making judgements of student achievement against standards using different assessment tasks and associated assessment materials as made up in the Assessment Packages.

Case 2: Interventions in Literacy and Numeracy (InLaN) Project for Students with Learning Difficulties – A focus on Year 7 teacher and a student

Background and data collection

The InLaN Project (Wyatt-Smith, Elkins, Colbert, Gunn, & Muspratt, 2007) was a joint educational sector project focused on determining what interventions were in use for students with learning difficulties in Queensland, and what was known about their effectiveness. Undertaken from 2004 to 2006, the Project employed a multi-theoretical approach to data analysis including: a review of the literature; a mapping of existing provision through surveys; an examination of existing system data (Year 2 Diagnostic Net, Reading Recovery, and the Years 3, 5 and 7 Aspects of Literacy and Numeracy Tests); and 14 cross-sectoral qualitative case studies. This paper considers the role of criteria and standards in the classroom by examining the teacher's assessment practice with a focus student called Kenny, (interested readers should refer to the *Chelton Primary* case study).

Focus teacher with student with learning difficulties

The teacher had a Year 7 class at the time of data collection. Kenny joined the school in Prep and had received literacy learning support throughout his years at the school. The teacher was interviewed about the support provided for students with learning difficulties in her classroom. The teacher highlighted her use of criteria and standards with students as usual classroom practice; this practice was focused on engaging Kenny in self-monitoring and his role in an assessment partnership with the teacher.

A focus on criteria and standards in the classroom

A Current Events Journal was an activity undertaken by students during the year, with submission of it for assessment several times each term. In the journal, focus was on examining world events according to seven inquiries. It was a usual practice in the classroom for the teacher to provide students with criteria, with regular conversations occurring about what the quality features of performance looked like, with discussion then focusing on expectations according to three standards: Developing, Developed and Highly Developed.

A key focus of the teacher was on development of goals and refinement of these in a supportive environment where performance was measured against the criteria, with formulations of the standards moving to ensure success was realistically attainable by individual students. Students self-assessed against the criteria, with the teacher making her own judgements. The teacher and student also met in a one-to-one consultation to discuss their respective judgements. This practice worked with all of the students in her classroom and was especially beneficial for Kenny as he himself articulated in an interview and his past work demonstrated. Two copies of Kenny’s criteria and standards are shown in Figures 2 and 3.

Figure 2 shows a modified criteria sheet, developed by the teacher in Term 1. This sheet was modified by the teacher in terms of expectations of performance and levels of standards to individually suit Kenny and ensure success could be achieved. The teacher and Kenny met and discussed the modified sheet and she asked Kenny to indicate the level he felt capable of achieving by placing a black dots along the standard (high or low within standard achievement was indicated with dot placement).

Developing	Developed	Highly Developed
Most parts of the current event are identified ●	All parts of the current event are identified	All parts of the current event are described and presented in order of significance
Name of author provided ●	Name of author and source provided	Name of author, source and date provided
Most intended audience groups identified	All intended audience groups identified ●	All intended audience groups identified and reasons give why
Most points of view identified including names and position	All points of view identified including names and position ●	All points of view identified including names, position and relevance to event
Some genders identified	Genders identified within the event ●	Genders identified within the event and the intended audience
1 sentence relating the event to your life ●	2 sentences relating the event to your life	More than 2 sentences relating the event to your life
1 sentence giving your opinion ●	2-3 sentences giving your opinion	More than 3 sentences giving your opinion

Figure 2: Term 1 criteria and standards sheet with student expectations of performance

The differences in expectations by Kenny himself and the performance expectations for the standards are clearly higher when compared to his Term 3 criteria sheet, shown in Figure 3. Through working with the class, each criterion was rated (number in brackets), ensuring that the “teacher combined qualitative or verbal descriptors of achievement with numeric scoring, in a system owned by both the teacher and students” (p. 130). In a meeting with the teacher, Kenny added additional criteria to his sheet, indicative of how he wanted to be more in line

with his peers. Similarities in his self-assessment (black dots) and the teachers' judgements (grey highlight) show broad agreement about his performance.

Developing	Developed	Highly Developed
Most parts of the current event are identified (5)	All parts of the current event are identified (10)	All parts of the current event are described and presented in order of significance (15)
Name of author provided (1)	Name of author and source provided (2)	Name of author, source and date provided (3)
Most intended audience groups identified (4)	All intended audience groups identified (8)	All intended audience groups identified and reasons give why (12)
Most points of view identified including names and position (3)	All points of view identified including names and position (6)	All points of view identified including names, position and relevance to event (9)
Some genders identified (2)	Genders identified either within the event or intended audience (4)	Genders identified within the event and the intended audience (6)
Most image information identified and 1 point of influence stated (4)	All image information identified and 2 points of influence stated (8)	All image information identified including reasons for being included in the event and 2 points of influence stated with reasons (8)
1 sentence relating the event to your life (4)	2 sentences relating the event to your life (8)	More than 2 sentences relating the event to your life (12)
1 sentence giving your opinion (3)	2-3 sentences giving your opinion (6)	More than 3 sentences giving your opinion (9)

Figure 3: Term 3 criteria and standards sheet with student expectations of performance and teachers' judgement on quality of performance

The Year 7 teacher and Kenny provide a profound example of the power of using criteria and standards in the classroom, making expectations explicit in ways that develop students metacognitive capacities, that is, they can become self-monitoring. The key features of this example include:

- development of criteria
- induction of students into the language of assessment and the tools used to measure the quality of their performance
- co-development of the quality features or criteria and linking these to standards
- engagement of students in predictions of their performance - goal setting
- provision of teacher judgements to students for review
- discussion of performance, individually
- flexibility in the construct of the criteria and standards in a negotiated forum to reflect individual capabilities to ensure student success is realistically attainable.

Teachers' Assessment Literacy: A Conceptual Framework

Against the Australian backdrop of the progressive implementation of a national curriculum commencing 2012, these two cases demonstrate work within the state of Queensland with a clear focus on building an assessment literate state, and meeting the needs of all students through assessment. As these cases were focused on teachers' assessment work and in particular, their use of criteria and standards in the classroom, they provide a useful basis for

reflecting on the essential knowledge and capabilities that could constitute teachers' assessment literacy.

While teachers are being positioned as designers of quality assessment (Webb, 2009), continually balancing formative and summative purposes, while keeping a keen eye on accountability requirements, both local and system, it is clear they require specific knowledge and skills to build their assessment literacy to enable them to meet this challenge. The model in Figure 2 depicts a conceptual framework for teachers' assessment literacy as now discussed. Based on information, guidelines and training, teachers develop their assessment knowledge and skills on the different purposes for assessment, assessment tasks and accompanying products, the processes for assessment, their assessment practices, and partnerships they establish. The framework's five dimensions, namely, Purposes, Products, Processes, Practices, and Partnerships (Five Ps), in turn, continue to refine and develop teachers' assessment literacy. The capacity building of teacher's knowledge and skills comes from two informing sources: *access to pertinent information and guidelines* and *continual training* in current practices, and *the act of doing* (engaging in the Five Ps). The currency of teachers' knowledge and skills is attained through balancing the two informing sources, coupled with teachers' own willingness to continue to capacity build and the supports they receive from the school and statutory bodies to do so.

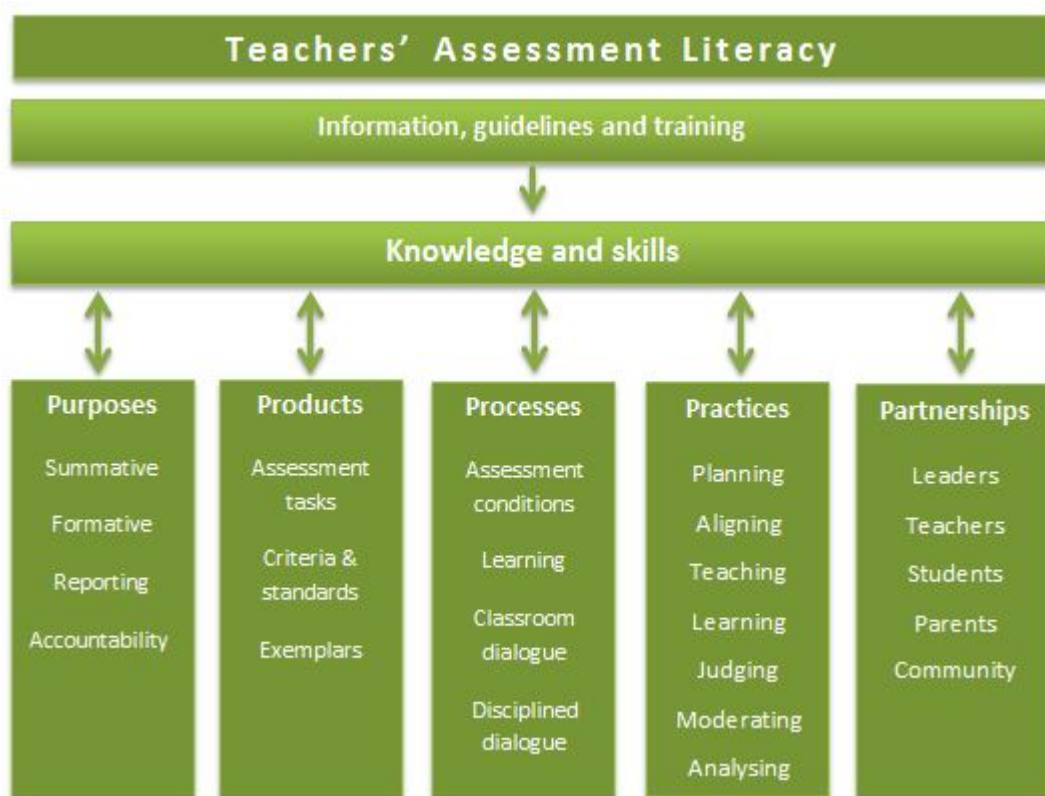


Figure 3: Conceptual framework of teachers' assessment literacy

Unpacking this model begins with a discussion of one of the sources informing teachers' knowledge and skills, namely, *information, guidelines and training*. Teachers' first concepts of assessment begin to build during their preservice tertiary education. In the professional experience placements in schools, as part of this education, they are exposed to further information about the application of official and site specific curriculum and assessment documents and approaches. This points to how their assessment literacy is shaped both by

formalised training and professional development, and through school-based or personally accessed training. Key issues here include: What is the emphasis given to assessment literacy in the pre- and in-service development opportunities for teachers.

Teachers' capacity to engage in designing quality assessments is hence influenced by this shaping, and also the act of undertaking assessment design in the classroom and school as embodied in the five dimensions of the model through the *Five Ps*. Teachers are assessment literate if they are aware of and able to attend to the Five Ps.

The following discussion now turns to characterise each of the five dimensions of the model—the Five Ps—in turn. Given space restrictions, the suite of assessment literacy capabilities discussed here are taken as illustrative and are the subject of a longer paper in development.

<i>Purposes</i>	A first consideration for teachers when designing an assessment is what is its Purpose. Will the assessment be for summative or formative purposes? What information will it generate? How will the information be interpreted and used? What, if any, are the reporting requirements to be met? What elements of accountability is the assessment addressing?
<i>Products</i>	Teachers require knowledge of the products that make up quality assessment. These are taken to include the assessment task, accompanying criteria and/or standards, exemplars of student work and skills in preparing them in line with the remaining Ps. Teachers who are assessment literate are able to design quality assessment tasks and identify salient criteria and standards. They are also skilled in the use of these assessment artefacts for inducting students into quality.
<i>Processes</i>	In this dimension teachers draw on their knowledge and skills in developing quality assessments by considering the assessment conditions and the characteristics of students and how they learn. Teachers may also consider the classroom dialogue and ways in which they can work with students in the classroom to induct students into expectations of quality and equip them to use the assessment products to become self-monitoring.
<i>Practices</i>	Teachers' assessment literacy includes the ability to: align curriculum, assessment and reporting when planning; teach the curriculum and literacy demands of assessment ensuring varied learning opportunities; judge quality based on a single task or a portfolio of evidence; moderate their judgement according to the criteria and standards developed, or in social moderation; and appropriately analyse and interpret student achievement to identify future learning opportunities.
<i>Partnerships</i>	In this dimension, teachers draw on their knowledge and skills to establish partnerships with other stakeholders. Teachers working with students in the classroom to lead them to become self-assessing provides an example. Assessment literate teachers are able to form distinct partnerships with stakeholders.

Teachers' assessment literacy incorporates all of these dimensions, with teachers drawing on elements contained within the Five Ps to differing levels as relevant to their contexts. Quality assessment depends on attention to each of the dimensions of this model, and teachers' assessment literacy is built upon the information and training accessed, as well as the act of attending to these dimensions when designing quality assessment opportunities that allow students to demonstrate their learning.

Future research: Assessment Literacy for all Stakeholders

While in this paper focus is on the teachers' assessment literacy and the powerful nature of forming partnerships with students thereby inducting them into their own assessment literacy, the definition provided by Popham is revisited as it clearly shows the importance for all stakeholders to possess knowledge and skills enabling them to be assessment literate. How else are stakeholders to make sound decisions based on the assessment information before them, unless they also become assessment literate? For instance, ensuring students understand the criteria and standards applied to indicate their achievement on an assessment task is imperative for them begin to monitor their own performance and to become self-assessing as we can see with Kenny. As for parents, their ability to understand assessment outcomes is a premise underlying the publication of data to inform parent decision-making relating to the educational options they access for their child/ren. Finally, as Popham (2009) identified, educators are called to make decisions on outcomes of educational assessments, "without a genuine understanding" of such assessments (p. 1). Actual understanding of assessment outcomes, both local and state-wide or national, is an under-researched area, particularly with incorporation of students', parents' and policy-makers' perspectives. Much work needs to occur to integrate all stakeholders into an assessment literate framework to begin to develop shared understandings and partnerships among all decision-makers.

Appreciation

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