

Mapping Educational Standards to the Big6

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Scope of the Study

- Information Literacy is an important skill set for the 21st century
- American Association of School Librarians (AASL) set standards for Information Literacy instruction
- Common Core State Standards (CCSS) are setting educational standards in 45 states in the USA
- To what extent do these standards documents represent all phases of an information problem solving process as defined by the Big6?

Information Literacy

- American Library Association Presidential Committee on Information Literacy (1989)
- “To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”
- Skills based definition

Information Literacy

- Head (2013) “First-term freshmen we studied were almost wholly inexperienced with conducting research when they first stepped foot on campus.”

Cognitive Psychology & Problem Solving

- Four Elements
 - Goal
 - Obstacle/s
 - Strategies to overcoming obstacle/s
 - Evaluation of the process

Information Problem Solving

- Four Elements of Cognitive Psychology
 - Goal: Recognize need for information
 - Obstacle/s: Locate, access, evaluate, how to use
 - Strategies to overcoming obstacle/s: Locating, evaluating, and using information
 - Evaluation of the process: how well did the process work?

Big6 Approach to Information Problem Solving

- Task Definition
- Information Seeking Strategies
- Location and Access
- Use of Information
- Synthesis
- Evaluation
- Iterative stages, not linear

Big6 Information Literacy Process Eisenberg (2007)

Stage	Sub-stages	Actions
1. Task Definition	1.1 Define the information problem 1.2 Identify information needed (to solve the information problem)	What is my current task? What are some topics or questions I need to answer? What information will I need?
2. Information Seeking Strategies	2.1 Determine all possible sources (brainstorm) 2.2 Select the best sources	What are all the possible sources to check? What are the best sources of information for this task?
3. Location and Access	3.1 Locate sources (intellectually and physically) 3.2 Find information within sources	Where can I find these sources? Where can I find the information in the source?
4. Use of Information	4.1 Engage (e.g., read, hear, view, touch) 4.2 Extract relevant information	What information do I expect to find in this source? What information from the source is useful?
5. Synthesis	5.1 Organize from multiple sources 5.2 Present the information	How will I organize my information? How should I present my information?
6. Evaluation	6.1 Judge the product (effectiveness) 6.2 Judge the process (efficiency)	Did I do what was required? Did I complete each of the Big6 Stages efficiently?

Evaluation

- Little attention paid to this stage
- Evaluation of process vs. evaluation of information

Why not Evaluation?

- Categories of problem-solving (Mayer & Wittrock, 2006):
 - Well-defined
 - Ill-defined
- Schools tend to give Well-defined problems
- Teachers seen responsible for Evaluation

Research Questions

- 1) Which stages of the information problem-solving process, as described by the Big6 Skills, are reflected in the AASL standard statements?
- 2) How are skills specific to the culminating stage of Evaluation in the information problem-solving process reflected in the AASL standard statements?
- 3) How do these results compare to other sets of standards specifically, the CCSS?

Sample AASL Benchmark

- Develop and refine a range of questions to frame the search for new understanding.
- Grade 2: “Ask I wonder questions about the topic, question, or problem.”

Sample AASL Benchmark

- Develop and refine a range of questions to frame the search for new understanding.
- Grade 5: “With guidance formulate questions about the topic.”

Sample AASL Benchmark

- Develop and refine a range of questions to frame the search for new understanding.
- Grade 8: “Write questions independently based on key ideas or areas of focus.”

Research Design

- Exploratory Content Analysis
- 5 coders with expertise in information literacy
- Assign standards to one Big6 stage

AASL Standards

- Grades 2, 5, & 8
- **313** total standards reviewed

AASL Content Analysis

- Series of 4 on-line surveys
- AASL standard statement to Big6 stage/Little 12 substage
- One on-line survey for each of four standards
- 5 coders – expert information literacy educators

Survey Instrument

	1. Task Definition	2. Information Seeking Strategies	3. Location & Access	4. Use of information	5. Synthesis	6. Evaluation	Unable to determine	Not a Big6 stage
Form simple questions and begin to explore ways to answer them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generate questions and practice different ways to locate and evaluate sources that provide needed information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Results

Big6 Stage	AASL Standard 1	AASL Standard 2	AASL Standard 3	AASL Standard 4	Totals
1	12	2	0	0	14
2	6	0	1	13	20
3	15	1	0	5	21
4	14	8	8	14	44
5	11	32	27	17	87
6	0	8	8	0	16
Big6 Total	58	51	44	49	202
Percent	19%	16%	14%	16%	65%
Not Big6	9	3	24	29	65
No Consensus	7	8	8	23	46
Totals	74	62	76	101	313

RQ 1 Discussion

- All Big6 stages are clearly present in AASL benchmarks
- Synthesis, Big6 stage 5 is clearly present (28%, 87/313)
- Use of Information, Big6 stage 4, also present (14%,44/313)
- Location & Access, minimally present (6%, 20/313)
- Task Definition, Big6 stage 1 – 5%, 14/313
- Information Seeking Strategies, Big6 stage 2 – 6%,20/313
- Evaluation, Big6 stage 6 – 5%, 16/313

RQ 2 Discussion – Evaluation

- School tasks tend to be well-structured with known solutions
- Outside of school tasks (problems, decisions) tend to be ill-structured
- Evaluation minimally present in AASL

RQ 3 Discussion – Other Standards

- CCSS – Lacking Big6 Stage 1, Task Definition, Big6 Stage 2 Information Seeking Strategies, and Big6 Stage 6, Evaluation
- SCONUL & ACRL – Revisions aimed at creating frameworks
- Evaluation and Task Definition well represented in both

Additional Findings and Discussion

- “Develop and refine a range of questions to frame the search for new understanding”.
 - Little differentiation between grades 2, 5, and 8
 - Inconsistent differentiation in standards
 - Area for further study

Limitations

- Coded to one choice – one stage, not multiple
- 5 coders – all UW-based
- Attempted to sort to be inclusive rather than definitive identification

Conclusion - Implications

- AASL/CCSS may be insufficient to meet goal of preparing students with “college and career readiness” skills
- Recommend adding specific statements to any standards framework that are related to all information problem-solving stages
- Evaluation deserves more explicit consideration

Future Research

- Validate findings through more extensive data collection and in-depth focus groups with educators
- Expand to other grade levels, particularly high school
- Consider:
 - Do implied skills need to be taught explicitly?
 - How are the skills taught most effectively?

The End

- Questions
- Thank you!

Intentionally left blank

Information Literacy

- “. . . essential survival skill for a changing world.” Grassian & Kapolowitz (2009)
- National Information Literacy Awareness Month, October 2009, Obama (2009)
- Goal of information literacy skills must be explicit in education policy documents.
Partnership for 21st Century Skills (2013)

Common Core State Standards

- Single set of educational standards for kindergarten through 12th grade in USA
- Developed through National Governors Association (NGA) & Council of Chief State School Officers (CCSSO)
- Adopted by 43 states of the 50 US states