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### Instructional design with the ICE approach in academic libraries: A framework that integrates assessing, learning, and teaching

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## **Instructional Design with the ICE Approach in Academic Libraries: A Framework that Integrates Assessing, Learning, and Teaching**

### Abstract

One-shot instruction in academic libraries is a librarian-controlled bibliographic instruction that responds to the point of information need for subject-related courses. The assessment of teaching effectiveness tends to take a summative approach, which provides an answer to *what* students learned but does not address *how* they learned. This column theoretically explores the framework of *Ideas-Connections-Extensions* (ICE) in library instruction and the classroom setting, which demonstrates learning outcomes and explores the learning journey, and integrates assessment, learning, and teaching through collaborative efforts by academic librarians and classroom faculty.

*Keywords:* ICE, ideas, connections, extensions, assessment, formative assessment, one-shot, library instruction, bibliographic instruction, information literacy, collaboration, academic librarian, classroom faculty

## **Instructional Design with the ICE Approach in Academic Libraries: A Framework that Integrates Assessing, Learning, and Teaching**

### **Introduction**

There is an increasing demand in colleges and universities for academic librarians to provide quantifiable outcomes in information literacy classes to support the requirements of accreditation, program evaluation, or data-driven policy practices. Academic librarians have demonstrated excellence and dedication in taking various approaches to assess students' learning outcomes in library instruction and diagnose teaching effectiveness to further professional development. These assessments reinforce that the library is not only the heart of an academic institution but also an extension of classrooms. Library instruction still makes a quantifiable contribution to achieving the mission of teaching and learning in higher education. However, with little formal systematic educational background in assessment and instructional pedagogy (Sobel & Sugimoto, 2012), academic librarians need to take a critical look to reexamine what they have achieved in assessing information literacy learning outcomes and open their minds to fresh ideas and theories that are practiced in a much broader educational context. By so doing, they will not beat the solo drum but join the collaborative band that transforms *Assessment of Learning* by students to *Assessment as Learning* for students, librarians, and teaching faculty.

Assessment of library instruction takes various forms. Oakleaf (2008) provided a conceptual map for information literacy assessment approaches, including fixed-choice tests, performance assessments, and rubrics. Walsh (2009) reviewed more than one hundred research articles on library assessment and summarized assessment methods, which include analysis of bibliographies, essays, final grades, multiple-choice questionnaires, observation, portfolios, tests, self-assessment, and simulations. These methods primarily explore library instruction assessments as static, one-way, and teacher-to-student classroom activities that evidence students' learning and skills. Assessment and learning tend to be seen as two separate concepts: librarians are active assessors who design and implement instruments, and then students respond to the instruments and confirm what they have learned.

Do assessments impact academic librarians' instruction and stimulate their thinking beyond assessment as an evaluation tool? Is it possible that assessment approaches could be used as learning and teaching models? There has been a fundamental shift in the perception of assessment outcomes in past decades as viewed by practitioners in both secondary and higher education to improve educational effectiveness in classroom settings. With the acknowledgment of the advantages of *Assessment of Learning*, this shift emphasizes and prioritizes the importance of *Assessment as Learning*, which advocates assessment as a dynamic process accompanying the whole learning cycle to help students grow into reflective self-regulators and motivated self-achievers (Earl, 2012; Rodríguez-Gómez & Ibarra-Sáiz, 2015). However, the survey of current literature demonstrates library instruction assessments are still governed by the concept of *Assessment of Learning* and leaves *Assessment as Learning* largely unexplored. *Assessment as Learning* as a concept is rarely discussed in the book *Library Assessment in Higher Education*, which summarizes the current state of library assessment. This column explores how academic librarians can collaborate with classroom faculty and bring a framework, the *Ideas-Connections-*

*Extensions* (ICE) approach, into library instruction and the classroom setting, applying *Assessment as Learning* through a joint effort in higher education instruction.

### **Ideas, Connections, and Extensions (ICE)**

The ICE approach was originally introduced in 1996 by Robert Wilson, professor of Educational Psychology at Queen's University, Ontario, Canada, "as a formative assessment tool to help teachers and students plan and improve learning" (Fostaty Young, 2005, p. 8). This approach was formally theorized with testimonials in the book *Assessment and Learning: The ICE Approach* by Sue Fostaty Young, a consultant of teaching and learning, and Wilson, as an assessment framework for monitoring learning growth across subjects, contents, students, and levels of education.

Under the principles of the ICE framework, Fostaty Young and Wilson (2000) illustrated that students' learning could be assessed at three different but progressive levels. At the *Ideas* level, students tend to learn fundamentals from context, grasp basic facts and details, understand vocabularies and definitions, and acquire elemental concepts. *Ideas* can be considered pieces of information students collect or extract from the learning environment. At the *Connections* level, students are assessed on how they identify patterns and links based on that collected information (details, facts, definitions, concepts, etc.) and construct connections between new learning and previous knowledge. At the *Extensions* level, students are assessed on using new learning creatively, internalizing, reflecting, or extrapolating new learning in a fresh, meaningful environment.

Fostaty Young and Wilson considered the ICE approach as a roadmap that outlines the characteristics of a learning journey from novice, through competent, to expert. The National Research Council (2000) synthesized numerous studies on cognitive and developmental sciences and summarized two concepts of learning, which are initial learning and transfer of learning. "The amount and kind of initial learning is a key determinant of the development of expertise and the ability to transfer knowledge" (p. 77). *Ideas* in the ICE approach are mostly equivalent to initial learning, building a foundation for the transfer of learning. Initial learning is more than merely memorizing facts or procedures. It includes proper understanding generated in the learning environment and supported by the allowance of time for purposeful practice and aspiration for competence. Transfer of learning covers both *Connections* and *Extensions* in the ICE approach. Transfer of learning can happen in a single context or occur more easily in multiple contexts where learners are likely to abstract features and develop knowledge representation through building connections and analyzing contrast. To develop learning competence, students learn to activate connections with existing knowledge and understand how new changes are different from original concepts. Ultimately transfer of learning requires students to extend the school-based acquisition of skills and knowledge to other circumstances, such as homes, communities, and workplaces. In sum, the ICE approach is a simplification of initial learning and transfer of learning. Its simplicity provides a picture for learners of the characteristics of learning development at different stages; its utility brings awareness to learners to experiment developing knowledge from surface to deep.

The effectiveness of the ICE approach lies not only in its primary form as an instrument of measurement that teachers design to grade different levels of learning but also in its application of *Assessment as Learning*, which encourages sharing this assessment model with

students in the classroom and demonstrate what learning looks like in the assignment and what teachers expectations are. Renyk and Stephenson (2011) incorporated the ICE approach into the design of instruction and assignment in the introductory course DRAM100 through team-teaching. First, they introduced the ICE terminology to students with examples to show how this approach worked. Then they used discussion of the ICE approach to help students gain a deep, meta-cognitive understanding of the learning process. The ICE approach demonstrates to students *how* to learn first instead of *what* to learn. Renyk and Stephenson's ICE-specific assignments concentrated on *Connections* and *Extensions*, where students had the freedom to juxtapose different ideas and concepts and where various forms of deep learning and creativities emerged. They designed ICE rubrics that assessed students' learning in three areas: critical thinking, reasoning, and communication. Through digesting the ICE rubrics, students could monitor their learning process and map their skills and knowledge to the rubrics' expectations as self-motivated learners and assessors. Renyk and Stephenson remarked that the ICE approach helped them achieve the goal of the 21st-century activist classroom, which is "not to deliver information, nor to indoctrinate students into a single model of thinking, but rather to preparing students to be critical questioners as they engage with a complex, information-saturated world" (p. 66).

### **The ICE Approach and One-Shot Library Instruction**

As one can see from the above example, the ICE approach functions as a framework that integrates assessing, learning, and teaching together in the classroom setting and it activates students' autonomy in learning and strengthens their self-awareness as learners. One may wonder how this could be related to academic librarians' information literacy instructions and bringing classroom faculty and academic librarians together to explore the innovation of learning pedagogy as collaborators.

Information literacy instructions take various forms, for instance, noncredit or credit-bearing courses or disciplinary-specific library courses. However, one-shot instructions are still the most popular form, with a history dating back to the course-related library instruction pioneered by Otis H. Robinson at the University of Rochester in the late 19th century (Wang, 2016). The one-shot library instruction was conceived as a subject-specific, assignment-related, and collaborative library class. One-shot library instructions are usually conducted by library faculty before students' commencement of specific assignments on a timeline determined by classroom faculty. Instant, effective learning outcomes ensure that both classroom faculty and academic librarians mutually recognize the value of one-shot instruction. In the following section, the ICE approach will be navigated theoretically in a one-shot library instruction on constructing an annotated bibliography. The reason for using constructing annotated bibliographies as an example is twofold. First, it frequently appears in assignment descriptions and is familiar to both classroom faculty and academic librarians. Second, it is an elementary, cross-subject, scholarly activity that prepares college students to embark on their journey as apprenticed scholars. A joint effort between classroom faculty and academic librarians is more beneficial to students. This theoretical exploration will present what the ICE integration for constructing annotated bibliographies looks like and then discuss what classroom faculty and academic librarians could do together to accomplish the goal.

### **Ideas**

The primary purpose of *Ideas* is that students are expected to demonstrate learning the concepts at hand, in this case, understanding the articles to be annotated. Understanding through thorough reading should cover the whole article, from the title, author information, purpose, scope, and audience, to the main argument, conclusion, and sources cited. For each article, students will be able to answer the question in their conceptualized annotations, "What do I *really* know about this article?" or "Do I have the right articles concerning my topic?"

At the *Ideas* level, students demonstrate learning for understanding. They need to learn how to map their understanding to the criteria or learning expectations on the rubric designed by the joint effort of classroom faculty and academic librarians. This does not mean that the articles retrieved are ideal and students' understanding of them is perfect. Students may have difficulty locating articles that strongly support their topics. They may demonstrate confusion or inaccuracy in comprehending the main arguments of the reading materials. We need to be aware that misunderstandings and mistakes inevitably accompany their learning at this stage. If students show what they understand, some understanding can be a superficial representation of a complex argument. Active intervention by classroom faculty and academic librarians for this stage of learning is essential. Continued one-on-one research consultation services from academic librarians will guide students to find the best fit for their research. Instructive feedback from the classroom faculty will help students internalize their understanding, reflect and restructure their thoughts while doing the annotations.

## **Connections**

The *Ideas* stage asks students to prepare basic building blocks of learning. The *Connections* stage encourages students to find the internal logic among those blocks, revealing coherence among discrete facts, exploring relationships among disconnected arguments, or comparing them with existing knowledge to reinforce current points of view or generate new ones. Building relationships among articles involves analyzing each annotated article for its contribution to the topic and identifying patterns among their arguments through comparing and contrasting. If students are wrestling with comparing and contrasting to build their arguments, this process could lead students to reexamine articles, change information retrieval strategies, or refine their research topics.

By acknowledging four reasoning patterns proposed by Fisher (2003, 2004), namely one-on-one reason, side-by-side reasoning, chain-reasoning, and joint reasoning, Machi and McEvoy (2016) summarized four ways articles could be analyzed on the basis of their arguments to create a literature review. Under the four reasoning patterns, each article's argument could lead to a discrete conclusion, or all arguments result in the same conclusion; one argument is supported by the other like a chain, or one argument cannot stand on its own but has to be taken together with the other/others to make a synthesized conclusion. Students review the articles' strengths and weaknesses, identify arguments, discover inherent logic and patterns, and build more substantial claims pertaining to their research topics. *Connections* is where deep learning starts and where learning struggles occur. This stage requires active participation from classroom faculty and academic librarians in students' learning. For instance, an orientation or tutorials on the four basic reasoning patterns will shed light on how connections can be built among annotated articles. Suppose students have difficulty conceptualizing discrete arguments with broad concepts or umbrella arguments. In that case, academic librarians can jump in to help students modify

research topics or adjust information retrieval strategies to locate articles related to similar subjects. Some students may find that they have to strike a balance between two opposite arguments. Making balance among different points of views demonstrates more complex learning, and academic librarians can recommend topic-specific databases, such as *Opposite Viewpoints*, to help broaden student perceptions.

After students critically analyzed the connections among annotated articles, they may move to the next question, “How do the claims that I built relate to my existing knowledge?” This can be tricky because students possess various forms and levels of existing knowledge. Some may feel forced to make superficial connections because they could not find proper matching points between their arguments and existing knowledge. In contrast, others are highly motivated because pieces of their existing knowledge fuel their arguments. Existing knowledge does not demonstrate homogeneous characteristics among students; on the contrary, it varies in close relation to students’ gender, race, life experience, cultural background, and family education. Both classroom faculty and academic librarians must be aware of the learning differences that students show at this stage. This awareness will increase sensitivity in understanding students' limitations and leave room to encourage students to navigate uncharted territory. *Connections* is not adding, combining, or attaching. Instead, it is a “mash-up,” as described by Renyk and Stephenson (2011, p. 66), which constructs new knowledge reasoning through information extracted from learning context and internalizes its relation to previous knowledge.

## **Extensions**

What differentiates novice from expert learners is that their gratification of learning does not come from mastering facts and other basics but from creating new knowledge by discovering meaningful patterns, identifying logic with what is already known, and eventually applying new knowledge beyond the original learning context in a creative way. So far, students have critically examined articles, written annotations, synthesized them with subject-based knowledge or life experience, and built their personalized arguments. So what? Yes, this is precisely the question that students need to ask themselves at this stage of learning.

*Extensions*, requiring students to navigate unknown territories or go the extra mile, can be manifested in various ways. First, students can explore *Extensions* hypothetically in a new mode of discourse, enabling them to make predictions on *Ideas* and *Connections*. Students reflect by asking questions such as, “What does the argument extracted from annotations mean to me as a human being?” “If my predictions happen in the real world, how am I going to react?” “Is this knowledge going to transform my understanding of the world? Why and why not?” Second, *Extensions* foster interdisciplinary research by encouraging students to have their arguments examined and elaborated in a cross-subject situation. Under such circumstances, students will restart another ICE learning journey by grasping theme-based ideas and concepts in a new discipline, building connections between them and their arguments, studying thematically, and constructing a deepened and broadened learning. This activity could lead students to have more communication with academic librarians’ for additional resources and services or result in students’ interacting with classroom faculty with expertise in another discipline who can help them establish a new learning pathway. Third, *Extensions* can be achieved through testing their arguments in actual life situations and becoming problem solvers. When their arguments are

contextualized in family interaction, a community issue, a social problem, or any everyday life setting, students transfer critical thinking and synthesize what they know and what happened there, making learning authentic and purposeful. Perhaps, more ideas will arise out of the furthered *Extensions*, leading to greater creativity and aspiration.

One may argue that the ICE approach does not make a great deal of difference from an argumentative essay when it comes to constructing annotated bibliographies. ICE has distinctive features, which can be addressed in two ways. First, ICE is a learner-centered pedagogy, not a teacher-controlled teaching practice. The ICE approach portrays a mental, cognitive map about what learning looks like and what expectations have been set up. Its articulations in teaching syllabi and occurrences in classroom discussions activate students' self-awareness and consciousness as learners. By following the ICE steps, students see where learning happens, organize their learning as self-planners, monitor their learning process as self-regulators, and map learning outcomes to established expectations as self-evaluators. Second, the ICE approach is a framework that integrates assessing, learning, and teaching, and its adoption and application call for a collaborative inquiry on campus. In this case, its value lies in the joint effort between classroom faculty and academic librarians discussed below.

## **Collaboration between Classroom Faculty and Academic Librarians**

### **Self-Education**

Developed initially as a formative assessment tool, then used in the summative evaluation, ICE demonstrates its potential value as a framework that can integrate assessment, learning, and teaching together. It can be naturally used in primary, secondary, or tertiary classroom settings by educators as pedagogy or creatively adopted in corporate settings as an instrument to foster professional development. Some classroom faculty may already be familiar with ICE; however, academic librarians may feel entirely new to ICE. Academic librarians and classroom faculty unfamiliar with ICE should start with self-education. Academic librarians tend to be active lifelong learners due to their work environment where technologies and services are frequently innovated or updated. Embracing the new and learning to master it is part of an academic librarian's work. Moreover, ICE is a straightforward, simplified summarization of Behaviorist's taxonomies, which has been well elaborated in the book *Assessment and Learning: The ICE Approach*. Academic librarians and classroom faculty can quickly learn and understand this approach together. Collaborative learning and frequent communication will stimulate shared understanding and increase consistency in implementation.

### **Rubric**

The core of the ICE approach that integrates assessing, learning, and teaching lies in its rubric design, which, in the example above, requires a joint effort from both classroom faculty and academic librarians. For educators, the ICE rubric is an evaluation tool that establishes expectations and avoids subjectivity and unfairness and an instrument that offers a guideline for teaching strategies and content organization. For learners, the ICE rubric charts the learning roadmap describes learning characteristics progressively in response to achievement levels and provides a simplified blueprint that anchors expectations for learners to follow (Fostary Young & Wilson, 2000).

Designing a rubric may not be difficult for classroom faculty since they have more exposure to and engagement in formative assessment. It may be more challenging for academic librarians who get used to summative assessments, such as pre and post-tests and surveys. Classroom faculty and academic librarians may find that a single, unified rubric is more effective for teaching and learning than two separate rubrics for classroom instruction and library instruction. In such cases, more communication on learning goals, teaching strategies, and assignment designs is necessary. Academic librarians may have to wade into paper grading, which is another matter that both parties should consider. Eventually, the ICE rubric should be shared with students. Unlike test papers or survey questionnaires that are not shared with learners until they will be used, the ICE rubric should be openly available to students in the instructional package. By so doing, students have the freedom to develop their learning strategies mapped to expectations of learning progression on the rubric, thus becoming structured, organized learning planners.

### **Instructional Design**

The impact of assessment on instruction has been extensively explored in general education, particularly in applied linguistics. In applied linguistics, the term *washback* or *backwash* describes the extent to which high-stakes tests influence students' language learning and teachers' instruction (Cheng & Curtis, 2004; Tsagari & Cheng, 2017). In general education, effects, consequences, impact, washback, and backwash are used interchangeably to depict how assessment, both summative and formative, advances itself as a tool to improve learning and teaching (Herman, 2010). In the community of academic libraries, the impact of assessment on librarians' instruction largely remains virgin territory to be explored since library instruction has not traditionally favored large-scale, high-stakes assessments.

Suppose both academic librarians and classroom faculty are willing to incorporate it into their instruction and start a joint venture. In that case, they should be aware that the most significant impact of ICE lies in the instructional design. The requirement of a rubric serves as a typical example. To incorporate a rubric, one may have to revise existing instructional pedagogy. For instance, academic librarians could invite classroom faculty to reevaluate the teaching objectives in a one-shot information literacy class and redesign teaching activities based on classroom assignments tailored to the ICE approach. Classroom faculty could ask academic librarians to join in creating a syllabus and formulate the ICE-based assignment together, determining where one-shot library instruction is the best fit or whether an overstuffed one-shot should instead be expanded into multiple sessions. Tailored instructions cater to learning progression and help achieve higher learning goals. Like any joint project across departments on campus, integrating the ICE approach in classroom setting and library instruction involves passion, articulation, negotiation, compromise, and devotion, harnessed to serve the common goal—students' learning. Concrete case studies in the future that document the impact of the ICE experiment on academic librarians' one-shot instruction are necessary in the field of Library and Information Science to fill a gap in the literature.

### **Feedback**

One of the potential risks of the ICE approach is that students may attempt to build questionable *Connections* for the sake of the assignment and/or look for *Extensions* with little engagement of critical thinking. Although ICE encourages students to become self-motivated

learners and responsible self-evaluators, this learning autonomy does not necessarily mean that classroom faculty and academic librarians are exempt from performing diagnostic, ongoing supportive duties to keep students' learning on the right track. As McTighe and O'Connor (2005) put it, "All kinds of learning, whether on the practice field or in the classroom, require feedback based on formative assessment," and "Responsiveness in assessment is as important as it is in teaching."

With the rubric, the ICE approach binds students, classroom faculty, and academic librarians together through interactive and responsive assessing, learning, and teaching. Students may regularly refer to the rubric, match their learning activities to expectations, and ask, "Am I doing the right things?" Questions are a self-reflection that mirrors learners' inquiries as to whether their learning objectives have been met. They could be raised in a casual classroom discussion with faculty or through reference services and in-person consultation with academic librarians. Classroom faculty and academic librarians need to provide thoughtful, specific feedback catering to students' questions and learning tasks. More importantly, both questions and feedback should be shared among collaborators so that they can exchange ideas, diagnose students' learning confusion and challenges, and gain a broad, holistic picture of students' learning journey. If the ICE approach is new to both classroom faculty and academic librarians, they are learners, too. One of the best ways to deepen the understanding of ICE theory is to investigate further questions students ask. Once students finish their assignments, classroom faculty and academic librarians can work together to grade papers and provide thorough, constructive, qualitative feedback to each student. Grading papers and providing feedback is not new to classroom faculty but could be new to academic librarians. For academic librarians, self-orientation to the seven principles of good feedback practice in formative assessment (Nicol & Macfarlane-Dick, 2005) can serve as a starting point. Academic librarians can then experience the pedagogical reward, seeing how the concept of information literacy is reflected in students' assignments.

### **Conclusion**

This column is a theoretical attempt to integrate the ICE approach into the learning, teaching, and assessing in the classroom and one-shot library instruction through a collaborative effort between academic librarians and classroom faculty. Academic librarians may not be familiar with ICE, and some classroom faculty may already be acquainted with the method. This column intends to be conceptually inspirational rather than methodologically instrumental. The current landscape of academic libraries is traditionally influenced by input and output of services, and one-shot library instruction is dominated by evaluating instant outcomes through *Assessment of Learning*. An attempt that brings the concept of *Assessment as Learning* to the academic library setting can disrupt the orthodoxy of traditional one-shot library instruction. It may be challenging, but it is worth the attempt.

## References

- Cheng, L., & Curtis, A. (2004). Washback or backwash: A review of the impact of testing on teaching and learning. In L. Cheng, Y. Watanabe, & A. Curtis (Eds.), *Washback in language testing: Research context and methods* (pp. 25-40). Routledge.
- Earl, L. M. (2012). *Assessment as learning: Using classroom assessment to maximize student learning* (2nd ed.). Thousands Oaks, CA: Corwin Press.
- Fisher, A. (2003). *The logic of real arguments*. Cambridge University Press.
- Fisher, A. (2004). *Critical thinking: An introduction*. Cambridge, UK: Cambridge University Press.
- Fostaty Young, S. & Wilson, R. T. (2000). *Assessment and learning: The ICE approach*. Winnipeg, Manitoba: Portage & Main Press.
- Fostaty Young, S. (2005). *Teaching, learning, and assessment in higher education: Using ICE to improve student learning*. Retrieved on November 13, 2020, from <https://www.queensu.ca/teachingandlearning/modules/principles/documents/Teaching,%20Learning%20and%20Assessment%20in%20Higher%20Education.pdf>
- Herman, J. (2010). Impact of assessments on classroom practice. In E. Baker, B. McGaw, & P. Peterson (Eds.). *The international encyclopedia of education* (3rd ed.). (pp. 506-511). Oxford, UK: Elsevier
- McTighe, J., & O'Connor, K. (2005). Seven practices for effective learning. *Educational Leadership*, 63(3). <http://www.ascd.org/publications/educational-leadership/nov05/vol63/num03/Seven-Practices-for-Effective-Learning.asp>
- Machi, L. A., & McEvoy, B. T. (2016). *The literature review: Six steps to success*. Thousands Oaks, CA: Corwin Press.
- Matthews, J. (2015). *Library assessment in higher education* (2nd ed.). Libraries Unlimited.
- National Research Council. (2000). *How people learn: Brain, mind, experience, and school*. Washington, D.C.: National Academy Press.
- Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, 31, 199-218. <https://doi.org/10.1080/03075070600572090>
- Oakleaf, M. (2008). Dangers and opportunities: A conceptual map of information literacy assessment approaches. *portal: Libraries and the Academy*, 8, 233-253. <https://doi.org/10.1353/pla.0.0011>
- Renyk, G., & Stephenson, J. (2011). The ICE approach: Saving the world one broken toaster at a time. *Canadian Theatre Review*, 147, 61-67. <https://doi.org/10.3138/ctr.147.61>
- Rodríguez-Gómez, G., & Ibarra-Sáiz, M. S. (2015). Assessment as learning and empowerment: Towards sustainable learning in higher education. In M. Peris-Ortiz & J. Merigó Lindahl (Eds.), *Sustainable learning in higher education. Innovation, technology, and*

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<https://doi.org/10.1016/j.acalib.2021.102402>

*knowledge management*. Switzerland: Springer. [https://doi.org/10.1007/978-3-319-10804-9\\_1](https://doi.org/10.1007/978-3-319-10804-9_1)

Sobel, K., & Sugimoto, C. R. (2012). Assessment of learning during library instruction: Practices, prevalence, and preparation. *The Journal of Academic Librarianship*, 38, 191-204.  
<https://doi.org/10.1016/j.acalib.2012.04.004>

Tsagari, D., & Cheng, L. (2017). Washback, impact, and consequences revisited. In E .Shohamy, I. Or, & S. May (Eds.), *Language testing and assessment. Encyclopedia of language and education*, (3rd ed.) (pp. 359-372). Switzerland: Springer. [https://doi.org/10.1007/978-3-319-02261-1\\_24](https://doi.org/10.1007/978-3-319-02261-1_24)

Wang, R. (2016). Assessment for one-shot library instruction: a conceptual approach. *portal: Libraries and the Academy*, 16, 619-648. <https://doi.org/10.1353/pla.2016.0042>

Walsh, A. (2009). Information literacy assessment: Where do we start? *Journal of Librarianship and Information Science*, 41, 19-28. <https://doi.org/10.1177/0961000608099896>