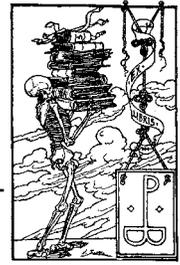# Future Through the Past — QEP Impact on the Environment and Student Learning: Primary Project Activities & Assessments

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Column Editor's Note: *In my prior column, I introduced the **Belmont Abbey College Quality Enhancement Plan 2010-2015**, which was titled **PILOT: Promoting Information Literacy Over Time** (see **ATG** v.29#2, April 2017, p.52). In this column, number two of a projected three-column sequence, I provide some assessment highlights from our PILOT information literacy initiative through various longitudinal and sampling measures. — **DB***

In first conceptualizing the anticipated ten-year project, our initial effort was to articulate goals, activities, and assessments in considerable detail for the first five-year segment (Phase One), but to leave the follow-up five-year segment (Phase Two) less specifically defined, anticipating that mid-course corrections would be made based on assessment findings from the first five years. With the ETS suspension of iSkills, and our subsequent migration to SAILS, which placed total focus on IL skills and competencies, IT-specific elements were then shifted back to the College's Computer Competency testing / CS101 program. Total focus was placed on the six ACRL IL competency standards of 2000, which our 2009 QEP Proposal identified (p. 21) as the specific learning outcomes our QEP is designed to improve.

Other decisions about secondary assessments included which should be longitudinal, measured each year of the project, and which should be based on periodic sampling. We decided that the primary testing instrument (first iSkills, then SAILS) should clearly be longitudinal, administered each year to incoming freshmen, with those scores then compared to graduating seniors after normal four-year matriculation. For Phase One, graduating seniors in the five PILOT disciplines would be tested. Thus, from the beginning of our QEP, we understood that we would need to test freshmen globally, since very few will have decided on a major, whereas seniors from the five initial PILOT disciplines could be readily self-selected for testing. During the 2009 onsite campus visit, we inquired with the SACS QEP review team about this procedural aspect of Phase One testing and received no objections. By Phase Two, consideration would be given to extending the IL initiative and senior testing to all degree disciplines across the curriculum. Of course, our other major longitudinal assessment (discussed later) — full-text pageview downloads from **EBSCO** databases (abbreviated as FT-Views) — is provably global, as NCLIVE's statistical tracking utility draws no distinctions between freshmen, sophomores, juniors, and seniors.

SAILS Testing Results: Longitudinal

The scoring for two SAILS cycles of freshman / senior scoring is featured in Table 1. These SAILS results show clear and consistent evidence of improved student IL understandings and skill-sets over the two four-year cycles for which comparative testing has been conducted. SAILS combines tested skills scoring into four components, representing learning outcomes targeted for improvement on p. 21 of our 2009 QEP Proposal. Students were tested over two freshmen-to-senior cycles, resulting in four SAILS reports summarizing the eight total measurements. All eight of those measurements showed scoring improvement. The SAILS report notes, "Standard errors above and below the [average] score are indicated with ±…To determine whether two groups are significantly different from each other, see whether the ranges of scores overlap. Ranges of scores that do overlap are not significantly different from each other; those that do NOT overlap are significantly

ACRL IL competency standards 1-6 as 4 components; corresponding to QEP learning outcomes	freshmen	seniors in PILOT disciplines	% gain	freshmen	seniors in PILOT disciplines	% gain
	2010	2014	% gain	2011	2015	% gain
determines nature and extent of information needed	497	541	9%	509	579	14%
accesses needed information effectively and efficiently	498	548	10%	493	554	12%
evaluates information and its sources critically; incorporates selected information into his/her knowledge base	497	521	5%	469	510	9%
understands economic, legal, and social issues surrounding use of information; uses information ethically and legally	436	498	14%	474	518	9%

Table 1: Two SAILS Cycles of Freshman/Senior Scoring, comparing "Average scores by group." Average scores for "groups" here are for freshmen in 2010 compared to seniors in PILOT disciplines in 2014, and freshmen in 2011 compared to seniors in PILOT disciplines in 2015. The average score for each group is reported as a number placed on a scale that ranges from 0 to 1000.

different." Eight of eight measurements showed improvement in group score averages. In only one of those eight measurements was there an overlap in the standard error ± range (component #3 for 2010-2014). Thus, seven of the eight improvements shown in Table 1 (above) are statistically significant.

Table 2 (below) shows a comparison of raw skills scoring for seniors in the PILOT disciplines from 2014 and 2015. Our focus here is a check for any possible loss of project momentum by the later years of Phase One. The SAILS senior results from 2014 to 2015 show great consistency — even improvement — and certainly no evidence of a decline in project momentum.

	developing a search strategy	selecting finding tools	searching	using finding tool features	retrieving sources	evaluating sources	documenting sources	understanding ESL issues
seniors 2014	542	548	535	567	592	523	552	494
seniors 2015	578	560	535	569	571	525	600	498

Table 2: Raw Skills Scoring for Seniors in the PILOT disciplines, 2014 and 2015.

Database Full-text Pageview Downloads: Longitudinal

It was also decided that we should include another longitudinal measure based on actual student use of online databases in the course of research. To avoid "apples and oranges" comparison pitfalls, we searched for the most stable and consistent measurement available. The statewide NCLIVE library consortium tracks research database usage on an annual basis for each participating college, including logons, searches, full-text pageview downloads, and so forth. Each of these measures can be broken down by institution, as well as by individual databases and clusters of databases. Because NCLIVE had licensed a broad selection of **EBSCO** databases for years with no changes anticipated, this was viewed as the best longitudinal candidate. Among the possible specific measures, tracking of "logons" or "searches" risked conflation of student utilization in actual research with librarians demonstrating these logon and searching functionalities in their own IL instructional sessions. It was decided, therefore, that *full-text pageview downloads* (abbreviated as "FT-Views") was the tracking measure that best minimized risk of conflation. This measure also offered the best potential to capture successful improvement of IL-related learning outcomes, since full-text article downloads tend not to occur until after successful logon

and searching activities have been executed by students. Thus, along with annual SAILS test results, FT-Views cumulated annually from all **EBSCO** databases became the second major longitudinal assessment measure chosen for the full course of the QEP, as shown in Table 3 (below). The statistical tracking utility for NCLIVE defines FT-Views as: "The number of articles/e-books or other full-content elements examined /downloaded / or otherwise delivered to a user." As the data shows, FT-Views for BAC users nearly doubled over the course of the assessment period, with the only temporary year-to-year decline coinciding with NCLIVE's decision to drop PsychINFO.

BAC Full-Text views nearly doubled over the QEP assessment period						
academic year	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	11,271	14,827	18,089	13,582	18,356	21,725

Table 3: BAC FT-Views, 2008-2014.

And, as Table 4 (below) summarizes, this overall increase was not uniform across all NCICU colleges with enrollments that roughly qualified them as "peer" institutions.

2008_09	2009_10	2010_11	2011_12	2012_13	2013_2014
Guilford 24547	Guilford 29403	Guilford 27122	Salem 27531	Salem 28402	Salem 26377
Salem 17475	Salem 23118	Salem 26339	Guilford 25252	BAC 18356	BAC 21725
Catawba 13214	Catawba 15963	BAC 18089	W Wilson 14891	Guilford 17921	Guilford 20608
BAC 11271	BAC 14827	Catawba 14699	Catawba 14757	W Wilson 16382	Catawba 16580
W Wilson 6759	W Wilson 10469	W Wilson 13808	BAC 13582	Catawba 15502	W Wilson 13420
Brevard 6515	Brevard 6976	Brevard 5888	Brevard 5442	Brevard 8942	Brevard 7723

Table 4: FT-Views at BAC and Peer NCICU Institutions, 2008-2014.

Non-NCLIVE Database Usage: Sampling Period 2012-13

Because NCLIVE serves public libraries and K-12 media centers along with academic libraries, its database lineup does not include many specialized digital resources needed by college and university libraries. Therefore, these libraries have formed the Carolina Consortium (CC) to negotiate discounted licensing for additional academic resources. The CC, however, offers no equivalent to NCLIVE's combined statistical tracking. The QEP Committee felt that some usage assessment of CC-licensed databases should be included, so our IT department explored statistical tracking of logons to CC databases via our EZProxy server. We decided to conduct this assessment as a sampling over one academic year, because CC's database line-up was steadily growing, and our own

licensing reflects a gradual increase in CC databases offered. Academic year 2012-13 was chosen for this sampling period. (Our IT department reported bugs with its tracking utility in September 2012, which were not fully resolved until mid-November. So the actual sampling period was extended from November 20, 2012 to November 20, 2013). The results, as shown in the following graph, demonstrate that usage of CC licensed databases follow what we would consider an optimal pattern that parallels the academic calendar of student research activity, showing pronounced peaks at times of required research projects and assignments, and pronounced valleys during breaks in the academic year. While not a direct test of IL competencies, we view this data as valid supporting evidence that the Library's goal of bridging IL competencies to actual student use of digital resources is having a positive, sustained, and substantive impact. See Figure 1 (below).

IL Tutorial Viewings & Tutorial Quiz Results: Sampling Period 2012-13

The first primary activity (prior to moving from iSkills to SAILS) was: a) to introduce all incoming freshmen to the **ACRL** standards within a common course framework, with special focus on **ACRL** standards 1-3, along with basic IT skills related to logon and navigation from logon to desktop to and through database interfaces. The common course framework chosen initially was First Year Symposium (FYS). To initiate this, Library Director **Donald Beagle** held IL orientation sessions for all FYS faculty just prior to the start of Fall terms in 2010, 2011, and 2012. FYS faculty agreed to require all freshmen students to view the three online screencast IL tutorials created by Library research and reference staff: a) *Searching for Books & EBooks*, b) *Searching for Online Journals*, and c) *Online Research: Beyond Wikipedia*. The first iterations of these tutorials (created initially with Camtasia) were posted on the Library QEP page of the College website in Fall 2010. All three tutorials reviewed all six **ACRL** IL standards in brief, but placed focus on standards 1-3.

Assessment: Library staff worked with Institutional Research (IR) to construct three quizzes to accompany the three online tutorials to measure freshmen comprehension of tutorial content. To avoid intimidating new students, and to encourage their voluntary quiz-taking, we agreed the quizzes should be both anonymous and ungraded, with results being compiled and reported only in the aggregate. But our initial goal of making tutorial quiz results fully longitudinal was thwarted by the initial inclusion of IT-specific content. While **ACRL's** IL standards remained consistent, and thus conducive to longitudinal measures, our College IT department warned in 2010 that major changes to both logon procedure and desktop navigation were expected in coming years, with a possible move to desktop virtualization. This risked an "apples and oranges" flaw in any longitudinal aggregate assessment of tutorial quiz results. We therefore decided to consider the tutorial quizzes a sampled assessment, and to defer the first tutorial quiz sampling until IT had stabilized its revised logon and desktop schema. Academic year 2012-2013 was ultimately selected for the tutorial quiz assessment sampling. The results of this assessment are shown in the following graph. The left end of the graph shows a pronounced spike in tutorial viewings in early September 2012 coinciding exactly with

Figure 1: This graph tracks logons (labeled as "visits") to non-NCLIVE research databases through the campus EZProxy server for the calendar year November 20, 2012 to November 20, 2013.

the tutorial viewing assignment given by FYS faculty. The rest of Fall 2012 is not shown, because it revealed only a flat rate of 5 or fewer tutorial views per day. The surprise in the data was a sustained increase in student tutorial viewings for Spring 2013, which coincided with the initial cohort of Rhetoric 2 as a replacement for English 102. This "echo" effect in tutorial views suggested to us that the full Rhetoric 1 & 2 sequence could potentially serve better than FYS as the introductory course framework for Information Literacy. Consequently, the QEP

Committee formally agreed to this substitution in its meeting of Spring 2013. See Figure 2 (below).

As for actual quiz results, correct student responses to quiz questions in the aggregate averaged 77.59%, indicating a solid level of tutorial content understanding and comprehension among incoming freshmen.

This completes my overview of PILOT assessment highlights for the initial 5-year project. In my next column, the third of three in this series, I will describe the simultaneous installation of our Learning Commons (LC), and discuss another set of assessment measures that describe how the LC appears to have magnified the reach and impact of the IL initiative on multiple fronts.

Figure 2: Tutorial Viewings, 2012-2013.