# Salisbury University Information Literacy Test Information Literacy Assessment Report, Fall 2017

This report, authored by SU office of University Analysis, Reporting & Assessment (UARA) staff and reviewed by the University Academic Assessment Committee (UAAC), discusses Information Literacy survey data collected during fall 2017 GULL Week sessions.

To request more information about the assessment, results, or additional analyses, please contact the Assessment Coordinator, Dr. Sarah Winger.

## Executive Summary

### Background and Findings

1. Library faculty and UARA staff agreed that the Madison Assessment Information Literacy Test (ILT) is aligned with General Education student learning outcomes 1.4a.1, 1.4a.2, 1.4b.1, and 1.4b.2.
2. Although the instrument has 60 items aligned with four of the five Association of College & Research Libraries (ACRL) Standards, the ILT was not found to support use of subscale scores based on the student responses from this administration of the ILT at SU. An exploratory factor analysis of the fall 2017 SU ILT student response data supports that there is only one factor emergent from the instrument, rather than multiple factors that would align with the Standards.
3. The results of our administration of the 60-item ILT supported its validity and reliability:
    a. ILT scores demonstrated validity:
        i. Content Validity: expert development, review, and iterative revision of items in direct alignment with the ACRL Standards
        ii. Criterion and Construct Validity: the ILT correlates with external measures and had multiple group studies with expected differences supported statistically (Swain *et al.* 2014); SU student scores on the ILT have a moderately positive correlation with the SU students' related measure of SAT Verbal score range categories, $r = .495$ (p < .001)
    b. ILT scores demonstrated reliability ($\alpha = .853$)
4. A limitation of this administration is that some students (freshmen and junior business majors) took a different test instead and therefore are underrepresented in this sample. Otherwise, generally, the students who completed the ILT were representative of the overall and non-test-taker populations at SU.
5. In general, SU students' items correct on the instrument (37.3) was below the level of proficiency as determined by experts at the institution where the test was developed.
6. As SU and other institutions' students' class level (i.e., freshman, sophomore, junior, or senior) increased, so too did the average score on the instrument (Table 11).

### Suggested Action Items

1. The benchmarks with which SU students' Information Literacy is compared should be evaluated by objective faculty and/or staff with expertise in the discipline or assessment of it. The ILT

proficiency levels (39-60 = proficient; 0-38 = needs improvement) should be reviewed to ensure alignment and accuracy of these proficiency levels as they relate to SU expectations.

2. Have library faculty and UARA staff align the ACRL Standards, ILT items, or newly-revised SU Information Literacy Matrix with the current (or revised) SU student learning outcomes.

3. Evaluate the need to revise the current SU Information Literacy general education student learning outcomes.

4. Library faculty, General Education Steering Committee, and other relevant parties should consider whether or not the ILT is aligned well with current (or revised) Information Literacy general education student learning outcomes. If it is not aligned, then an alternative assessment that is aligned should be identified.

5. Consider results from the assessment to develop interventions or review and update curriculum to align with areas that need improvement.

6. Determine a timeline to re-collect assessment data related to Information Literacy.

## Contents

# Detailed Information Literacy Report

## Information Literacy Test

The assessment is a multiple choice, 60-item instrument. Details about the instrument, including a link to view a demo of the ILT test questions, can be found at the ILT website (Madison Assessment LLC 2018; https://www.madisonassessment.com/assessment-testing/information-literacy-test/). Four, of the five, ACRL Standards (ACRL Information Literacy Competency Standards for Higher Education 1996-2015) the instrument aligns with include:

- Standard One: The information literate student determines the nature and extent of the information needed.
- Standard Two: The information literate student accesses needed information effectively and efficiently.
- Standard Three: The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
- Standard Five: The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Library faculty and UARA staff agreed that the ILT instrument is aligned with the General Education Information Literacy area and student learning outcomes (Table 1).

**Table 1.** The SU general education student learning goal, outcomes, and area mapping related to Information Literacy.

| Student Learning Goal | Outcome | Area Mapping |
|---|---|---|
| 1.4. Information Literacy | 1.4a.1. Evaluate appropriateness of primary and secondary, popular and scholarly source materials. | IA, IIA, IIB, IIIB |
| | 1.4a.2. Select, evaluate, and cite reputable and appropriate sources. | IA, IB, IIA, IIB, IIIA, IIIB |
| | 1.4b.1. Evaluate appropriateness of primary and secondary, popular and scholarly source materials. | IA |
| | 1.4b.2. Select, evaluate, and cite reputable and appropriate sources. | IA, IIIB |

Related to Information Literacy, results from this instrument can: provide a benchmark of student outcomes at SU; inform instructional efficacy and possible interventions; evaluate curricular strengths and weaknesses; and continuously improve student outcomes if we use this instrument for future GULL Week administrations.

## Methodology and Sample

Data were collected from volunteer students at SU that self-selected and signed up to participate in various Gaining Understanding as a Lifelong Learner (GULL) Week testing sessions during a week in September, 2017. GULL Week sessions were open to the entire SU undergraduate student population. The assessments were administered in a proctored computer lab setting and lasted approximately one

hour, of which ~50 minutes was dedicated to the ILT administration, which included ~5 minutes for a Student Opinion Scale (SOS) Survey (Appendix 1; Sundre & Thelk 2007). The SOS Survey estimates the GULL Week participant's perceived importance of the assessment(s) and effort expended by the participant in completing the assessment(s) (i.e., ILT).

Some faculty offered incentives (such as extra credit) to participating students, some mentioned GULL Week and encouraged students to participate, and some did not interact with students about GULL Week. The office of University Analysis, Reporting & Assessment (UARA) publicized GULL Week across campus via many avenues. Particularly, competitions between both Schools and Sororities & Fraternities were set up to improve participation.

In all, n = 2158 undergraduates participated in fall 2017 GULL Week and of those n = 1342 students completed the ILT with quality data (27.7% and 17.2% of total SU fall 2017 undergraduate enrollment (n = 7782), respectively). The cut-off determination for "quality data" was set at a minimum of five seconds per item (60 ILT items, the 10 SOS Survey items, and 4 demographic-type items) such that any student whose total time on the instrument was less than that (< 370s) was marked as "not quality data" because it indicated an inadequate amount of time spent reading and responding to the items and/or an incomplete test. Demographic analyses of the non-ILT test-takers (n = 6440; 82.8%), including those that participated without providing quality data, were compared to the test-takers that completed ILT with quality data to evaluate the extent to which the sample of test-takers was representative of the entire SU undergraduate population during fall 2017. Further analyses within the test-takers were performed to evaluate the validity and reliability of the instrument administration at SU as well as to determine whether or not scores on the instrument varied by student characteristic(s). However, there is a known limitation in the sampling because during fall 2017 GULL Week there was a concurrent study that required a great deal of students from particular demographics (i.e., freshmen and junior business majors), which led to diminished numbers of those represented in this ILT test-taker sample. The students with data for both ILT and the SOS Survey were analyzed to evaluate student responses on those scales.

## Results

### Demographic Comparison of Test-takers vs. Non-test-takers
Except for the limitations due to the designs of the targeted students in the previously mentioned concurrent study during fall 2017 GULL Week, the demographics of the students who took the ILT were similar to the non-test-takers (Tables 2-8; lack of significance annotations). Particular impacts of the other concurrent study's sampling requirements are noted and evident in Table 5 and Table 6). Otherwise, female test-takers (Table 3) and SU native first time students (Table 4) were disproportionately high and, in two cases of student success metrics (i.e., High School GPA and SU Cumulative GPA), the test-takers of the ILT were significantly more successful than the non-test-takers (Table 8); although it should be considered that another set of success metrics (i.e., SAT math and verbal scores) indicated the two groups were mostly comparable (Table 7). In the future, efforts to publicize GULL Week should be targeted more directly to males, transfer students, students with undeclared majors, and students who represent the less successful students (in terms of GPA) as well as continuing previous publicity efforts to ensure even further representative sampling.

**Table 2.** Student Race/Ethnicity Compared between the ILT Test-takers, Non-test-takers and All SU Undergraduates

| Race/Ethnicity | Test-taker | Non-test-taker | Total |
|---|---|---|---|
| **African American** | 179 (13.3%) | 917 (14.2%) | 1096 (14.1%) |
| **American Indian/ Alaska Native** | 7 (0.5%) | 49 (0.8%) | 56 (0.7%) |
| **Asian** | 58 (4.3%) | 223 (3.5%) | 281 (3.6%) |
| **Caucasian** | 939 (70.0%) | 4510 (70.0%) | 5449 (70.0%) |
| **Hispanic** | 53 (3.9%) | 260 (4.0%) | 313 (4.0%) |
| **Native Hawaiian/ Pacific Islander** | 3 (0.2%) | 12 (0.2%) | 15 (0.2%) |
| **Non-resident Alien** | 26 (1.9%) | 88 (1.4%) | 114 (1.5%) |
| **Two or more races** | 33 (2.5%) | 185 (2.9%) | 218 (2.8%) |
| **Unknown/ Not specified** | 44 (3.3%) | 196 (3.0%) | 240 (3.1%) |
| **Total** | 1342 (100.0%) | 6440 (100.0%) | 7782 (100.0%) |

*Notes.* Cell values are counts with percentages reported parenthetically. There are no significant differences between participation categories (test-takers and non-test-takers).

**Table 3.** Student Gender Compared between the ILT Test-takers, Non-test-takers and All SU Undergraduates

| Gender (code) | Test-taker | Non-test-taker | Total |
|---|---|---|---|
| **Male** (1) | 408 (30.4%)* | 3000 (46.6%)* | 3408 (43.8%) |
| **Female** (2) | 933 (69.5%)* | 3402 (52.8%)* | 4335 (55.7%) |
| **Total** | 1341 (100.0%) | 6402 (100.0%) | 7743 (100.0%) |

*Notes.* Cell values are counts with percentages reported parenthetically. Significant difference of participation categories between test-takers' and non-test-takers' proportions are indicated by an asterisk (*), p ≤ .05.

**Table 4.** Student Admit Type, to SU, Compared between the ILT Test-takers, Non-test-takers and All SU Undergraduates

| SU Admit Type (code) | Test-taker | Non-test-taker | Total |
|---|---|---|---|
| **First time student** (F) | 901 (67.6%)* | 4001 (64.3%)* | 4902 (64.9%) |
| **Transfer** (T + U) | 431 (32.4%)* | 2217 (35.7%)* | 2648 (35.1%) |
| **Total** | 1332 (100.0%) | 6218 (100.0%) | 7550 (100.0%) |

*Notes.* Cell values are counts with percentages reported parenthetically. Significant difference of participation categories between test-takers' and non-test-takers' proportions are indicated by an asterisk (*), p ≤ .05.

**Table 5.** Student Undergraduate Class Level Compared between the ILT Test-takers, Non-test-takers and All SU Undergraduates

| Class Level (code) | Test-taker | Non-test-taker | Total |
|---|---|---|---|
| **Freshmen** (1) | 121 (9.0%)* | 1711 (26.6%)* | 1832 (23.5%) |
| **Sophomores** (2) | 397 (29.6%)* | 1402 (21.8%)* | 1799 (23.1%) |
| **Juniors** (3) | 366 (27.3%)* | 1537 (23.9%)* | 1903 (24.5%) |
| **Seniors (and +)** (4) | 427 (31.8%)* | 1470 (22.8%)* | 1897 (24.4%) |
| **Unclassified non-degree undergrads** (7) | 31 (2.3%)* | 320 (5.0%)* | 351 (4.5%) |
| **Total** | 1342 (100.0%) | 6440 (100.0%) | 7782 (100.0%) |

*Notes.* Cell values are counts with percentages reported parenthetically. Significant difference of participation categories between test-takers' and non-test-takers' proportions are indicated by an asterisk (*), $p \leq .05$. The disproportionately high number of sophomores, juniors, and seniors is caused by the majority of freshmen being included instead in a separate concurrent study during fall 2017 GULL Week.

**Table 6.** Student School Enrollment Compared between the ILT Test-takers, Non-test-takers and All SU Undergraduates

| School | Test-taker | Non-test-taker | Total |
|---|---|---|---|
| **Fulton** | 349 (26.0%) | 1695 (26.3%) | 2044 (26.3%) |
| **Henson** | 414 (30.8%)* | 1547 (24.0%)* | 1961 (25.2%) |
| **Perdue** | 249 (18.6%)* | 1385 (21.5%)* | 1634 (21.0%) |
| **Seidel** | 296 (22.1%) | 1325 (20.6%) | 1621 (20.8%) |
| **Undeclared** | 34 (2.5%)* | 488 (7.6%)* | 522 (6.7%) |
| **Total** | 1342 (100.0%) | 6440 (100.0%) | 7782 (100.0%) |

*Notes.* Cell values are counts with percentages reported parenthetically. Significant difference of participation categories between test-takers' and non-test-takers' proportions are indicated by an asterisk (*), $p \leq .05$. The disproportionately high number of Henson students is caused by the majority of junior business majors in the Perdue School of Business being included instead in a separate concurrent study during fall 2017 GULL Week.

**Table 7.** Student SAT Scores Compared between the ILT Test-takers, Non-test-takers and All SU Undergraduates

| SAT Score Range | SAT Math | | | SAT Verbal | | |
|---|---|---|---|---|---|---|
| | **Test-taker** | **Non-test-taker** | **Total** | **Test-taker** | **Non-test-taker** | **Total** |
| **< 500** | 259 (30.2%) | 1081 (27.7%) | 1340 (28.2%) | 277 (32.3%) | 1147 (29.4%) | 1424 (29.9%) |
| **500-599** | 421 (49.1%) | 1937 (49.7%) | 2358 (49.6%) | 429 (50.0%) | 1867 (47.9%) | 2296 (48.3%) |
| **600-699** | 166 (19.3%) | 818 (21.0%) | 984 (20.7%) | 142 (16.6%)* | 827 (21.2%)* | 969 (20.4%) |
| **700-800** | 12 (1.4%) | 64 (1.6%) | 76 (1.6%) | 10 (1.2%) | 59 (1.5%) | 69 (1.5%) |
| **Total** | 858 (100.0%) | 3900 (100.0%) | 4758 (100.0%) | 858 (100.0%) | 3900 (100.0%) | 4758 (100.0%) |

**Notes.** Cell values are counts with percentages reported parenthetically. Within each SAT subject, significant difference of participation categories between test-takers' and non-test-takers' proportions are indicated by an asterisk (*), $p \leq .05$. The SAT score ranges were used so that both the student scores on the old and 2016 SAT versions could be included.

**Table 8.** Student GPA Scores Compared between ILT Test-takers and Non-test-takers

| Success Metric | Test-taker | | Non-test-taker | |
|---|---|---|---|---|
| | **n** | **Avg (SD)** | **n** | **Avg (SD)** |
| **High School GPA** | 963 | 3.67 (.44)** | 4329 | 3.57 (.47)** |
| **SU Cumulative GPA** | 1205 | 3.12 (.58)** | 4365 | 2.94 (.66)** |

**Notes.** Cell values are sample sizes (n) or averages with standard deviation reported parenthetically. Significant difference of participation categories between test-takers' and non-test-takers' average values are indicated by two asterisks (**), $p \leq .001$.

## Validity and Reliability of the ILT Administration at SU

We evaluated whether or not there were subscales in the 60-item instrument. Although the test manual (Swain *et al*. 2014) describes ILT as a single scale and cautions against interpreting subscale scores, we questioned whether a factor analysis would reveal subscales that aligned with the four ACRL Standards assessed by the instrument. An exploratory factor analysis of the fall 2017 SU ILT student response data supported that there is only one factor emergent from the instrument, rather than multiple factors that would align with the ACRL Standards. From this analysis, it was also determined that sampling size (n = 1342) was sufficient via the Kaiser-Meyer-Olin (KMO) test of sampling adequacy. The value of .900 was well above standards for acceptable sampling, which is typically $\geq .7$ (Kaiser 1974).

The results of our administration of the 60-item ILT supported its validity and reliability. Much of the validity of the ILT was described in the ILT Test Manual (Swain *et al*. 2014). Content validity was supported via the steps of expert development, review, and iterative revision of items in direct alignment with the ACRL standards (ACRL Information Literacy Competency Standards for Higher Education 1996-2015). This also included a standard setting method which was used to identify students' proficiency in Information Literacy based on total number of ILT items correct (Table 9).

**Table 9.** Performance level definitions and standards on the 60-item ILT [modified from Table 10 in the ILT Test Manual (Swain *et al*. 2014)]

| SU Proficiency Level | Madison Assessment Proficiency Level | ILT Items Correct | Descriptors |
|---|---|---|---|
| **Proficient** | **Advanced** | 54 - 60 | *Meets all descriptors of proficient level AND*<br>● Modify and improve database search strategies to retrieve better results.<br>● Employ sophisticated database search strategies.<br>● Interpret information in a variety of sources.<br>● Evaluate information in terms of purpose, authority, and reliability.<br>● Understand ethical, legal, and socioeconomic issues relating to information access and use. |
| | **Proficient** | 39 - 53 | ● Describe how libraries are organized.<br>● Define major library services.<br>● Choose the appropriate type of reference source for a particular information need.<br>● Identify common types of citations.<br>● Employ basic database search strategies.<br>● Locate a variety of sources in a library or online.<br>● Discriminate between scholarly and popular publications.<br>● Legally and ethically use information. |
| **Needs Improvement** | -- | < 39 | *DOES NOT meet all descriptors of proficient level* |

**Notes.** Although the ILT Test Manual (Swain *et al*. 2014) describes the Advanced and Proficient proficiency levels, SU will only evaluate whether students are proficient or not and this table was modified accordingly to account for that difference.

Criterion and construct validity were determined and described in detail in the ILT Test Manual (Swain *et al*. 2014) with focus on correlating ILT scores with other related measures (e.g., Information Seeking Skills Test developed and administered at James Madison University) as well as evaluating significance in group differences (e.g., sophomores that had had Information Literacy interventions scored significantly higher on the ILT than incoming freshmen). Based on the SU student scores in fall 2017, criterion and construct validity were also supported because students' scores on this instrument had a moderate positive correlation with the SU students' related measure of SAT Verbal score range categories, $r$ = .495 (p < .001). The score range categories were from 1 - 4 where: 1 = < 500; 2 = 500-599; 3 = 600-699; and 4 =700-800). Correlation coefficients ≥ .3 but less than .5 are evidence of medium effect sizes (Field 2013). Also, Cronbach's alpha (α) is a measure of reliability, or consistency, of data. Typically, an α score ≥ .7 is considered indicative of a reliable scale (DeVellis 2012). The SU fall 2017 ILT's value was α = .853, and therefore the instrument's reliability was supported.

## SU Student Scores on the ILT

On average, the students who participated (n = 1342) answered 37.3 items (SD = 8.2) correctly out of 60 items possible (62.2%) on the ILT. Student scores ranged from 13 (21.7%) to 56 (93.3%) items correct. The SU average score is comparable to the average scores of undergraduate students of different class levels and either 2-year or 4-year institutions based on Tables 6 and 7 in Swain *et al*. (2014). However, the ILT proficiency levels standard setting performed at James Madison University ([Table 9](#)) indicates

that improvement is needed since the SU average score value is less than 39. Individual analysis indicates that 50.4% of the ILT test-takers (n = 1342) have scores less than 39 and therefore need improvement.

On average, SU native first time students scored significantly higher on the ILT than transfer students (Table 10). The difference, 2.2, was significant t(801) = 4.59, p < .001; however, the effect size was small (*r* = .16).

**Table 10.** Student Admit Type, to SU, Average Scores on the ILT.

| SU Admit Type (code) | n | Score (Items Correct) | SD |
|---|---|---|---|
| **First time student** (F) | 901 | 38.1** | 8.0 |
| **Transfer** (T + U) | 431 | 35.9** | 8.5 |

***Note.*** Significant difference of categories' average values are indicated by asterisks (**), p < .001.

Based on previous findings discussed in the ILT Test Manual (Swain *et al*. 2014) as students' class level (e.g., freshman, sophomore) increased, so too did the average score on the instrument. The same trend was supported for this SU administration of the ILT (Table 11). Specifically at SU, juniors and seniors scored significantly higher than freshmen on the ILT, but the difference in average scores between groups was quite small based on effect size value interpretation (F(4, 1337) = 5.8, p < .001, *r* = .13). Post hoc comparisons, via the Tukey HSD test, were used to identify which class levels' average scores were significantly different. Tests revealed significant pairwise differences between the average scores of freshmen as compared to juniors, p < .05, and seniors, p < .001 as well as sophomores compared to seniors, p < .05. Unclassified students do not significantly differ from the other groups, p > .05.

**Table 11.** Student Undergraduate Class Level Average Scores on the ILT.

| Class Level (code) | n | Score (Items Correct) | SD |
|---|---|---|---|
| **Freshmen** (1) | 121 | 34.7[a] | 8.4 |
| **Sophomores** (2) | 397 | 36.9[ab]* | 8.1 |
| **Juniors** (3) | 366 | 37.4[ab]* | 8.1 |
| **Seniors (and +)** (4) | 427 | 38.5[b]** | 8.2 |
| **Unclassified non-degree undergrads** (7) | 31 | 36.4[ab] | 9.3 |

***Notes.*** Subset groups' average scores are indicated by group letters [a] and [b]. Where a class level differs significantly compared to another class level is indicated by an asterisk (*), p ≤ .05, or two (**), p ≤ .001. There is a disproportionately low number of freshmen represented in this sample (compared to the other class levels) since they were included instead in a separate concurrent study during fall 2017 GULL Week; however, there is enough of a sample to evaluate statistical significance.

Student performance by SU School is listed in Table 12. There was a significant difference in the ILT percent correct score based on enrollment in school at SU, but the difference in average scores between groups was quite small based on effect size value interpretation (F(4, 1337) = 12.3, p < .001, *r* = .19). Post hoc comparisons, via the Tukey HSD test, were used to identify which schools' average scores were significantly different. Tests revealed significant pairwise differences between the average scores of students who come from Henson as compared to Perdue and Seidel (p < .001) and undeclared (p < .05) as well as Fulton as compared to Seidel (p < .05). Again, some of these differences may be related to the limitations of ILT test-takers described above, particularly the "low" representation of juniors from Perdue (only 12.4% of the Perdue ILT test-takers as compared to 27.8% - 37.5% representation of juniors in the other three schools' ILT test-takers). Assuming that juniors typically have higher scores than freshmen and sophomores (see above and Table 11), it could be considered that this is an

underrepresentation of Perdue's ILT average score since there are far fewer juniors represented as compared to the other three class levels.

**Table 12.** Student School Enrollment Average Scores on the ILT.

| School | n | Score (Items Correct) | SD |
|---|---|---|---|
| **Fulton** | 349 | 37.9[ab]** | 8.5 |
| **Henson** | 414 | 39.2[a]** | 7.7 |
| **Perdue** | 249 | 36.0[bc] | 8.2 |
| **Seidel** | 296 | 35.5[bc]** | 8.0 |
| **Undeclared** | 34 | 37.3[c] | 9.4 |

***Notes.*** Subset groups' average scores are indicated by group letters [a] and [b] and [c]. Where a school differs significantly compared to another school is indicated by an asterisk (*), $p \leq .05$, or two (**), $p \leq .001$. There is a disproportionately low number of juniors from Perdue represented in this sample since they were included instead in a separate concurrent study during fall 2017 GULL Week.

Although not presented here, student performance by primary major is available upon request to programs or Departments when at least 30 students in that major participated in this instrument's administration. These data can be used for informal review and improvement efforts, or for more formal program review and improvement efforts such as Academic Program Review required reporting related to assessment of program student learning outcomes aligned with this instrument, when applicable.

## ILT and SOS Survey Student Responses

The ILT test-takers also took the SOS Survey (n ~ 1342; Table 13). We were able to evaluate the reliability of both subscales within the SOS Survey. The *Importance* subscale, which addresses the extent to which the student thought it was important to do well on the ILT, demonstrated reliability ($\alpha = .814$). Similarly, the *Effort* subscale, which addresses the extent to which the student fully engaged in effortful behavior on the ILT, demonstrated reliability ($\alpha = .827$). The validity of the instrument is discussed in the SOS Survey Manual (Sundre & Thelk 2007). The 10 items, five in each subscale, are measured in a 1 to 5 scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. There are four items that are negatively worded, and their scores were reverse coded prior to analysis.

In general, students selected "Agree" in their responses for both the *Importance* and *Effort* subscales. For *Importance,* this indicates that students thought that their scores on the ILT would affect them moderately in a positive way. For *Effort*, it indicates that students put in a moderate to great effort towards completing the ILT. The two subscales had a large positive correlation with one another, $r = .556$ (p < .001; large effect size) and both subscales were also moderately positively correlated with the ILT items correct value (*Importance*, $r = .300$, p < .001, moderate effect size; *Effort*, $r = .438$, p < .001, moderate effect size). These latter correlations with the ILT items correct value seems to indicate that the students who self-reported identifying more importance of the ILT and/or exerting more effort on the ILT also scored higher than those who did not self-report identifying as much importance and/or exerting as much effort, respectively.

**Table 13.** Student Opinion Scale (SOS) Survey subscales' administrative results for the students who also participated in the ILT administration.

| SOS Subscale | Number of Items | Reliability (α) | n | Average Score (out of 25) | SD |
|---|---|---|---|---|---|
| **Importance** | 5 | .814 | 1342 | 16.0 | 3.9 |
| **Effort** | 5 | .827 | 1340 | 18.0 | 3.4 |

## Discussion

Based on the results presented here it seems that there is room for improvement in student learning outcomes related to Information Literacy at SU. Several action items are suggested below towards this end.

1.  To determine whether or not our students are meeting SU expectations for Information Literacy, the benchmarks with which SU students' Information Literacy is compared should be evaluated by objective faculty and/or staff with expertise in the discipline or assessment of it. Since the proficiency level of 39 items correct – determined by James Madison University standard setting procedure – is very far above most SU ILT test-takers' scores, the ILT benchmark values set by James Madison University may represent a misalignment with Salisbury University's expectation of student ability. Unfortunately, aside from the initial sampling reported in the ILT Test Manual (Swain *et al*. 2014), no data from other institutions collected on the ILT from other institutions has been used to re-evaluate the benchmarks.

2.  Similarly, library faculty and UARA staff should align the ILT items with the current (or revised) SU Information Literacy General Education student learning outcomes. Since the ILT is aligned with the ACRL Standards, SU library faculty should be able to align the SU student learning outcomes with those or the newly-revised SU Information Literacy Matrix ([Appendix 2](#)).

3.  A revision of the General Education student learning outcomes has been proposed to Faculty Senate, which includes a revised version of the Information Literacy student learning outcome. Therefore, to improve the alignment of assessment and instruction of Information Literacy at SU, the Faculty Senate should vote upon and accept the revised SU Information Literacy student learning outcome.

4.  Based on discussions and decisions related to Action Items #1-3, relevant parties such as library faculty and the General Education Steering Committee should consider whether or not the ILT is aligned well with the current (or revised) SU Information Literacy General Education Area student learning outcomes. If it is not aligned, then an alternative assessment that is aligned should be identified.

5.  Relevant stakeholders at SU should consider the ILT results to develop interventions or review and update curricula to align with areas that need improvement. Successful projects at other institutions may be considered to guide instructional interventions at SU. Based on the evidence in the results section of this report, groups that would benefit most from such an intervention would be transfer students, freshmen, and students in Seidel.

6.  Based on discussions and decisions related to Action Items #1-5, a timeline for re-assessment of the SU Information Literacy General Education Area student learning outcomes should be proposed. This will allow an analysis of whether or not there is change in student learning outcomes based upon either a change in assessment or instructional or curricular interventions.

## References

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Appendices
Appendix 1. Student Opinion Scale (SOS) Survey (Sundre & Thelk 2007)
Appendix 2. SU Libraries Information Literacy Matrix (draft November 2015)


Appendix 1. Student Opinion Scale (SOS) Survey (Sundre & Thelk 2007)

| Item | Item Text | Subscale |
|------|-----------|----------|
| 1 | Doing well on these tests was important to me. | Importance |
| 2 | I engaged in good effort throughout these tests. | Effort |
| 3* | I am not curious about how I did on these tests. | Importance |
| 4* | I am not concerned about the scores I receive on these tests. | Importance |
| 5 | These were important tests to me. | Importance |
| 6 | I gave my best effort on these tests. | Effort |
| 7* | While taking these tests, I could have worked harder on them. | Effort |
| 8 | I would like to know how well I did on these tests. | Importance |
| 9* | I did not give these tests my full attention while completing them. | Effort |
| 10 | While taking these tests, I was able to persist to completion of the tasks. | Effort |

* Denotes items that are reversed prior to scoring.

Appendix 2. SU Libraries Information Literacy Matrix adapted from Salisbury University Libraries (2018)

| ACRL Standards | Lower Division Students can: | Upper Division Students can: | Graduate Students can: |
|---|---|---|---|
| 1. Information Need | A. Begin to formulate research statement or question based on a topic or assignment requirement. | A. Articulate focused research questions. | A. Formulate a highly specific research question, reevaluating when necessary. |
| | B. Find background information in general reference sources. | B. Broaden or narrow a research question based on research interest and resources available. | |
| 2. Accessing Information | A. Identify keywords, synonyms, and related terms. | A. Identifies the most appropriate tools & resources to answer a question. | A. Use a variety of resources (databases, Quick Search, Interlibrary Loan) to locate and request materials in own field. |
| | B. Identify and retrieve books and other materials owned by the library; find a book on the shelf using its LC call number. | B. Use Interlibrary Loan. | |
| | C. Search multidisciplinary databases to find full text articles on a topic. | C. Find sources using a citation, bibliography, or references list. | |
| 3. Evaluating Information | A. Begin to evaluate sources based on given criteria (Currency, Relevancy, Authority, Accuracy, Purpose). | A. Critically evaluate sources based on disciplinary convention. | A. Evaluate sources in the context of methodology used in own field. |
| | B. Distinguish between scholarly and non-scholarly sources. | B. Distinguish between primary, secondary sources. | B. Identify valued information within a discipline or profession, its contradictions, the author's research methodology, and other unique characteristics. |
| | | C. Draw conclusions based on sources; develops a critical response to the information. | |
| 4. Using Information to meet a need | A. Use new and prior information to support an argument in a short research assignment. | A. Effectively organize, analyze, & synthesize information from multiple sources to achieve a purpose. | A. Expertly organize content in support of own product or performance. |
| | B. Communicate clearly to fulfill the purpose of the assignment. | B. Use an editorial style appropriate to the specific discipline involved. | B. Produce new knowledge in the discipline or develop new strategies as a practitioner. |
| | | | C. Further own research using alternative methods or strategies. |
| 5. Using Information ethically and legally | A. Define plagiarism. | A. Identify issues of intellectual property and copyright. | A. Recognize issues of intellectual property and copyright in the context of own published work. |
| | B. Cite sources using an established citation format. | | B. Discuss research integrity in the context of own discipline. |