Malcolm X College
Institutional Student Learning Outcomes Report
Information & Technology Literacy
Academic Year 2019-2020

# Contents

## Introduction

In the academic year of 2019-2020, the Malcolm X College structure of assessment sought to measure Information & Technology Literacy through an adaptation of the Signature Assessment method. Information and Technology Literacy skills are difficult to measure in Malcolm X College (MXC) students, and these skills were never more important than during the spring semester of 2020. Using a modified Signature Assessment Institutional Student Learning Outcome Assessment model, we are able to explore what this skill looks like embedded in student classrooms across the institution. Ultimately, students improve their information literacy (i.e., citing high-quality sources in research efforts) over time at MXC, starting in their first English courses (both at and below college level) and expanding into their Health Science Programs. The challenges in measuring literacy in the use of technology became especially obvious in the spring semester of 2020, when students engaged in a fully remote academic environment, using new technological tools. The increasing use of the learning management system demonstrated that students were able to adapt to these changes when provided with access to high-quality devices and internet access.

## Results Summary

 The results of this assessment indicate that while there is growth over time in student skills in information and technology literacy, these skills cannot be assumed to stop developing after a freshman-level English course. It's important that faculty and staff working with students help them to identify their skills in technology and information literacy and continue to encourage these skills in the remote environment and in coursework where these skills are not traditionally discussed. Not only is technology literacy important, but information literacy is key for the students enrolled in courses across disciplines at MXC. This became even more important as we concluded a frequently discussed election in 2020, as being able to determine the quality of information was of the upmost importance for our voting students. Similarly, the quality of information needs to be determined when learning about issues such as the COVID-19 pandemic, as misinformation can cost lives. Over the course of the 19-20 academic year, the institution committed to bring on additional full-time library staff, and this faculty member is serving to provide the additional information literacy instruction necessary to help students develop these skills across the curriculum.

## Method

### Institutional Student Learning Outcome

The Institutional Student Learning Outcome (ISLO) for Information & Technology Literacy is stated as:

Students completing studies at MXC will be able to access, identify, and utilize verifiable information and incorporate appropriate technological tools across disciplines.

The measurements associated with this ISLO are:

1. (Access) Locate information from various print and electronic sources; locate various technological tools within disciplines.
2. (Identify) Discern the quality of information gathered from various print and electronic sources; discern the appropriateness of various technological tools for disciplinary activity.
3. (Utilize) Incorporate appropriately accurate information in making claims; incorporate appropriate technological tools into one's discipline

## Modified Signature Assessment Model

In order to measure this outcome, the Assessment Structure attempted a new strategy for this academic year, where the outcome as explored in an embedded way in pre-existing courses through assignments or other assessment mechanisms. This allows for the assessments observed to retain a high degree of "buy-in" from students, as it is part of their regular class procedures. The method applied here was to collect information on the degree of achievement of these objectives as measured in the courses. This allowed for nuanced definitions of information & technology literacy as interpreted in different disciplines. While this is not a traditional method for the signature assessment model, it aligns with the mission of the institution to allow for distinct liberal arts and health sciences education. The assessment of institutional student learning outcomes at Malcolm X College is based on the different divisions of the institution: Adult Education, General Education, Student Services, Career and Technical Education, and Continuing Education. For this particular assessment, the Continuing Education, Student Services, and Nursing divisions were not involved in this assessment. In all data visualizations included here, the data are presented as proportions of the whole of submissions, with green values indicating the desired outcome, yellow values indicating a middling outcome, and red values indicating an undesirable outcome.

## Adult Education Department

The Adult Education Department was highly involved in the planning and structure of this plan, along with providing essential context and anecdotal evidence to support future planning. Because this was the first time that this SLO was being measured at the institution, and the first time that Adult Education was involved in the measurement of an Institutional Student Learning Outcome, the ideas and challenges presented in this space will be essential for future planning. Adult Education faculty and staff report low levels of perceived student computer literacy. Students take their required content assessments through a computer system, so this challenge is presented in the work of the testing center staff. The perceived cause of these issues is the Originally, a plan to administer the NorthStar Digital Literacy Assessment was proposed, but this plan was cost-prohibitive. After the transition to remote learning in the spring of 2020, the need for Adult Education students to be engaged in learning in the online environment, therefore the difficulty in attending to this SLO was additionally difficult.

## Office of Instruction

The Office of Instruction hosts many different disciplines, with different expectations of student writing and information and technology literacy. Because the associate's degrees available at MXC allow for variable course-taking practices, the focus for the assessment of this ISLO was in the English department, where most students take at least one course. This is only true otherwise of the mathematics department, which does not assess the information and technology literacy ISLO as such. Within English, instructors assess this through a rubric designed as part of the departmental assessment process, in which instructors score student-generated portfolios of compiled work from the entire semester. Students' self-report levels of literacy as a form of indirect assessment.

In the fall semester of 2019, 30.54% of portfolios fell below the expectation for formatting and source integration on a binary scale, the measure for information literacy in these portfolios, see Figure 1. The total number of portfolios reviewed for this analysis was 1165, or 20.92% of the total number of students enrolled in credit-bearing coursework at the institution. This led to departmental discussions and an agreed focus on instruction in this area in the next semester.

### Figure 1: Fall 2019 English portfolio assessment of Formatting and Source Integration
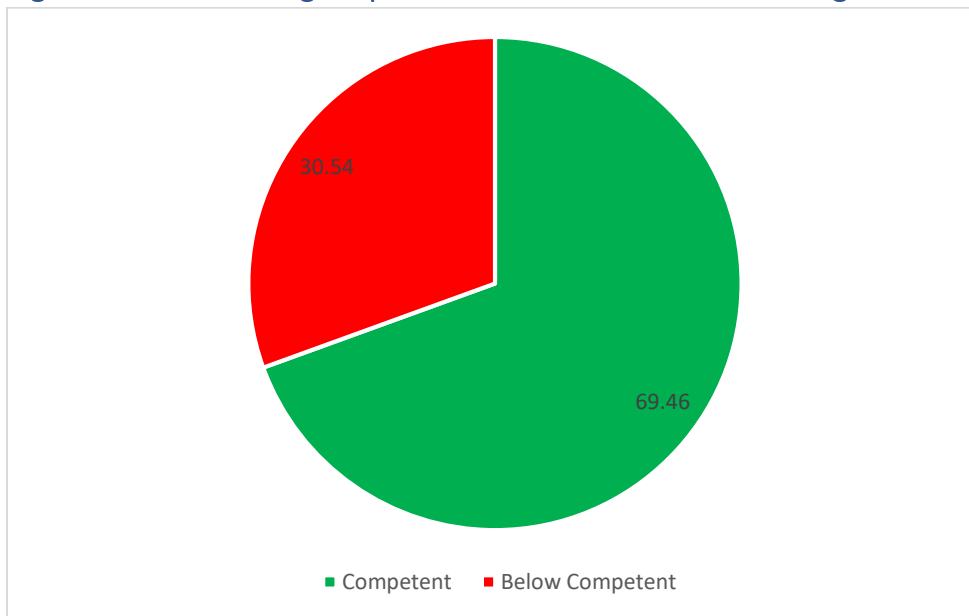


In Spring 2020, portfolios were graded along a rubric around the SLO of critical thinking and reading (MLA/APA). The scores on this SLO were decreased to only 24.3% falling below "Competent" on a 5-point rubric scale, see Figure 2. While the pandemic resulted in a decrease in participation, the total number of portfolios reviewed was 140, or 2.65% of the total number of students enrolled in credit-bearing coursework at the institution. The focus on this area of instruction, then, appeared to be fruitful.

## Figure 2: Spring 2020 English portfolio assessment of Critical Thinking and Reasoning (MLA/APA)
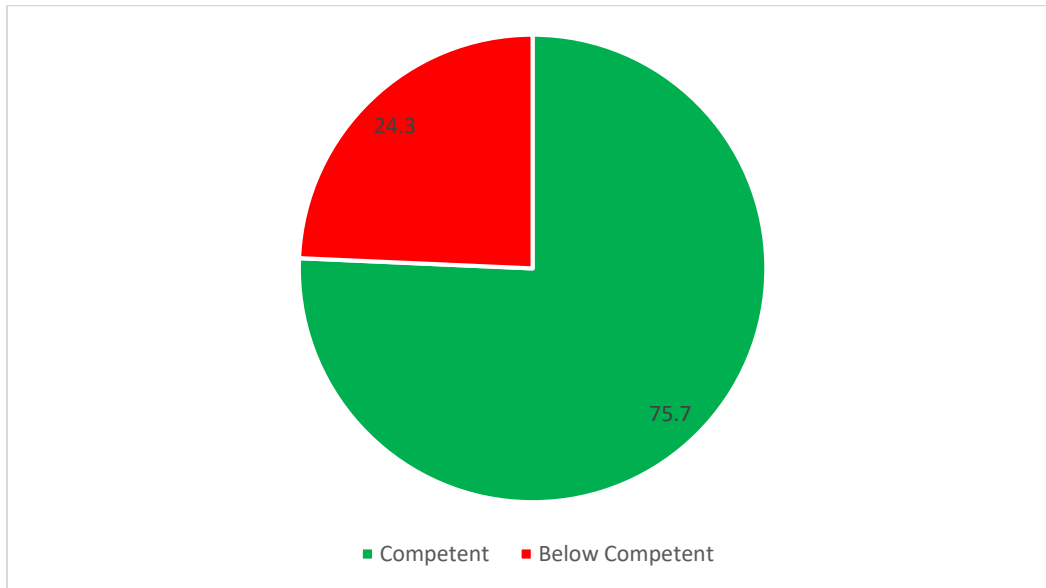


Qualitative data from students indicate that this level of literacy is enhanced by sessions from the library instruction, another feature of the institution that was revitalized in this academic year by the addition of a full-time tenure-track librarian to the team. When students were introduced to the process of using the library system to assist in finding high-quality information, they were able to do so most easily in future assignments.

In the fall of 2019, Computer Availability or Literacy was rated as the cause of low performance in 19.27% of cases, with 4% attributed to a combination of availability and literacy, 5.46% to literacy only, and 9.82% to availability only. This resulted in efforts to increase computer lab availability to students, however, this plan was not executed to its full extent in the spring semester of 2020 as instruction moved to the remote context. The remote context allowed students to receive loaner laptops from the institution, increasing availability to such devices. Therefore, the computer literacy aspect was still a concern for faculty. In spring 2020, the number of students that were considered to not be successful on the student learning outcome due to poor computer literacy dropped to 4%, indicating a sharp decline. It's possible that the requirement to learn remotely encouraged students to learn the ropes of the technology in order to succeed.

### Health Sciences Department

Exploring the degree of information and technology literacy in the general education division's English department is an approximate measure of this level in new students to the institution, as most students take courses in this department in their first year. However, this measure is related to a time in which they have had direct instruction in this area. In order to determine the degree of achievement along this ISLO for the whole institution, it is important to explore the other levels at which students are enrolled. For example, in their second years an onward, many

students engage in one of the many Health Sciences programs offered at MXC. Some of these programs administer assessments of their information and technology literacy in order to gauge retention of this skill from their initial instruction in English courses.

During the winter break of 2019, the Director of Assessment consulted with individual Program/Medical Directors in order to collect information on the methods for assessing this ISLO. The programs that became involved were the Health Information Technology Associate's in Applied Science (HIT), Community Health Care Worker BC (CHW), and Physical Therapist Assistant Associate's in Applied Science (PTA). These three programs represent approximately 20% of career and technical education programming. All student artifacts were de-identified for the process.

Directors provided student work samples from authentic course assignments to the Director of Assessment and Evaluation and the Full-Time Faculty in the Library. The Director and Faculty member adapted the American Association of Colleges & Universities' VALUE rubric for Information literacy for MXC and the scope of the ISLO, this updated rubric can be found in the appendix. The rubric is anticipated to be used for future assessments of this ISLO and will be available for faculty members to use within their coursework if they choose to do so. The evaluation team conducted a calibration session with one of the student artifacts to determine scale for the rubric. After evaluating each of the artifacts, the team met to discuss any discrepancies. The Cohen's Kappa value was calculated for each rubric criterion, resulting in $\kappa$ = 0.6254 for "Determine the extent of information needed," $\kappa$ = 0.5652 for "Evaluate information and its sources critically," $\kappa$ = 0.6087 for "Use information effectively to accomplish a specific purpose," and $\kappa$ = 0.7827 for "Access and use information ethically and legally." These values are all within the range of acceptable agreement for determining reliable scores using the rubric. Therefore, the scores are used to consider differences between the disciplines.

In the HIT course, the average score across the entire rubric was 2.15. In the PTA course, the average score across the entire rubric was 1.97. In the CHW course, the average score across the entire rubric was 1.17; these values can be compared visually in Figure 3. While generalized rubric averages cannot answer all of our questions about student learning, these generalized values provide insight into the levels at which students at these various stages are performing.

## Figure 3: Average rubric ratings for three programs, spring 2020
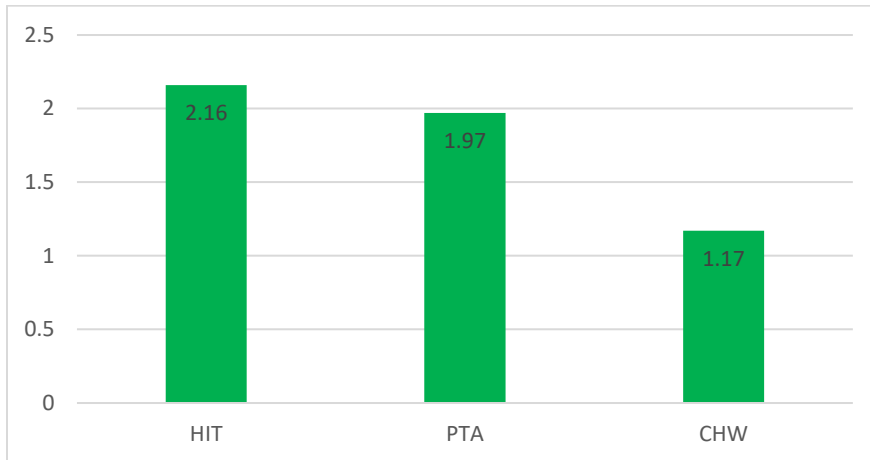


For example, the CHW coursework includes students who are closer to the beginning of their time at the institution. Of the three submissions from the CHW program, none received a rating of three on any of the four rubric criteria, see Figure 4. This aligns with expectations and demonstrates a similar proportional distribution to the English portfolio assessments.

## Figure 4: Rubric ratings distribution for CHW program submissions, spring 2020
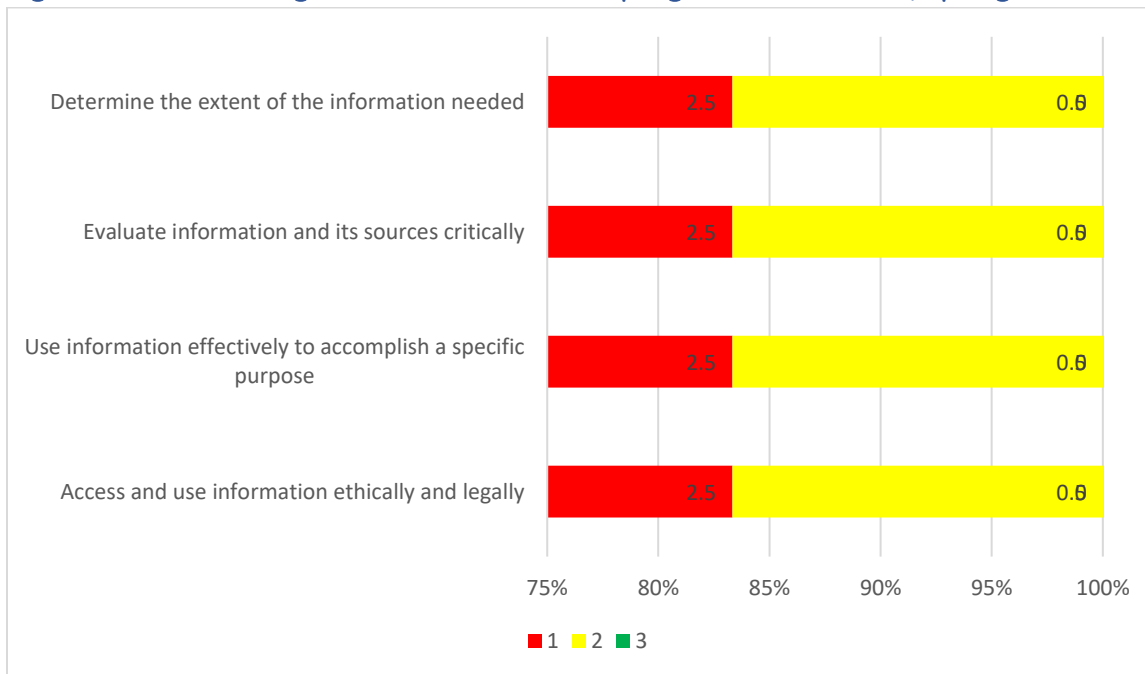


The PTA coursework, however, is conducted after the students have traditionally completed at least one year of coursework, but at an entry point to the program. Of the 19 submissions in this group, 55.56% scored at a 2 or above on the rubric, indicating a marked increase in success on an information literacy measure than the general education English portfolio group, see Figure 5.

## Figure 5: Rubric ratings distribution for PTA program submissions, spring 2020
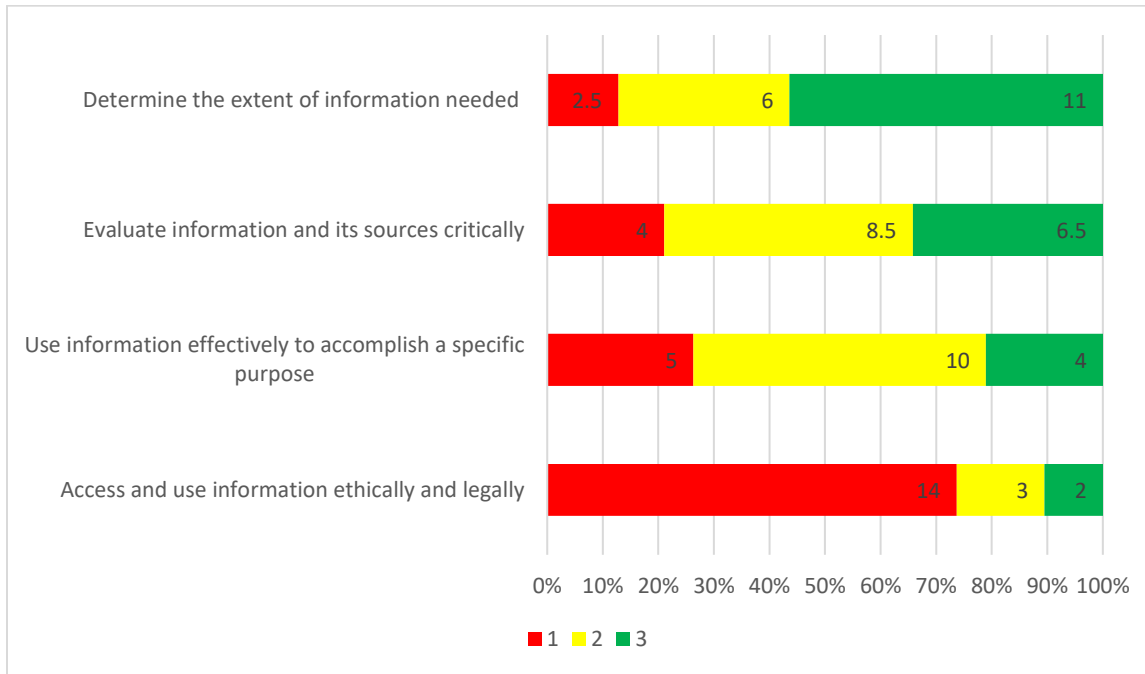


The HIT coursework is completed by students reaching the end of their academic programs of study. These students are reaching a point when they are engaging in professional practice experience and taking more advanced coursework. Nearly all of the four students achieved the highest rubric rating on one of the criteria, half scored the highest rating on two others, and none reached the highest rating in the final criterion, see Figure 6. Therefore, these values are consistent with expectations based on level.

## Figure 6: Rubric ratings distribution for HIT program submissions, spring 2020
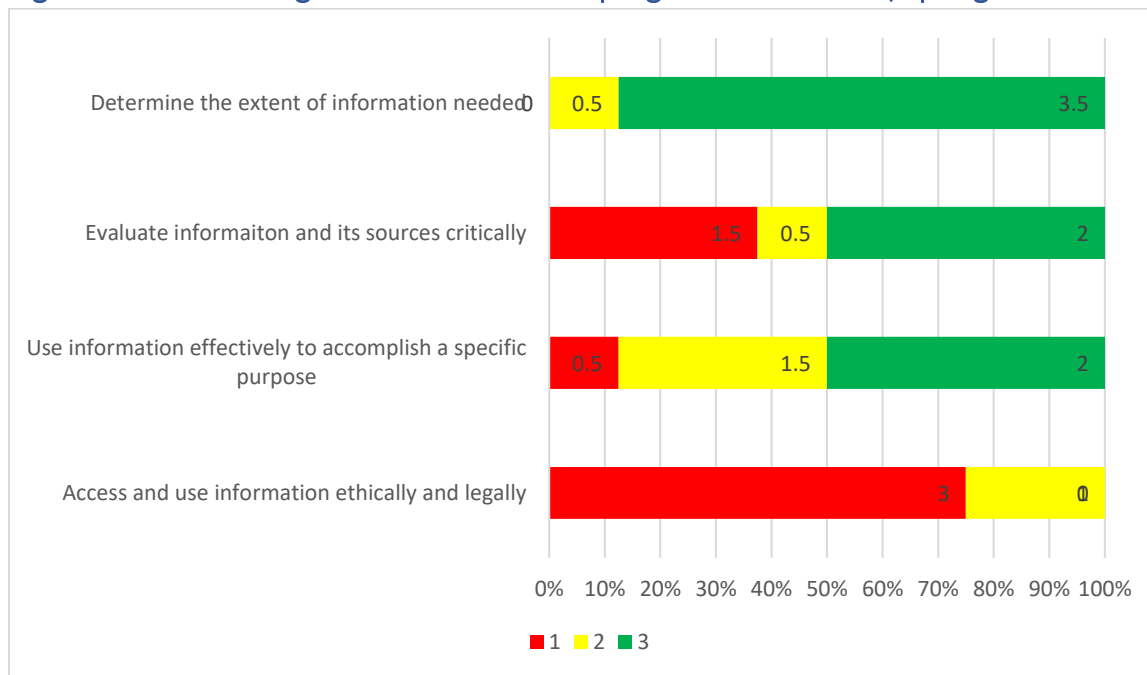


Across the four dimensions of the rubric, the criterion with the overall lowest scores (average of 1.61), was "Access and use information ethically and legally." This criterion also had the most consistent scoring across the raters. Therefore, this area is the most important for future focus in instruction across the institution.

## Conclusion

The data from this report indicate that the institution's available resource, specifically information literacy instruction from the library, will continue to be an asset for students at all stages of their time at MXC. We also see improvement over time with a focus on this area in the English department, which is a marked improvement because it demonstrates that through the exploration of assessment data, improvements can be made for our MXC students. For example, the MXC CONNECT first-year experience is incorporating this level of instruction into future efforts based on this data.

The varying data collected as a part of this ISLO assessment indicates some important characteristics of the institution and areas for growth. While in the past, ISLO assessment has primarily focused on the Office of Instruction, this ISLO assessment began to explore the level of achievement in the Health Sciences Department. This allowed us to learn more deeply what students learn or forget over their time at MXC. It will be key to engage each department in future ISLO assessments, this will be intentionally done in the future.

## Appendix

## Rubric

This rubric is adapted from the Information Literacy VALUE rubric designed by the American Association of Colleges & Universities aligned with the Malcolm X College (MXC) Institutional Student Learning Outcome (ISLO) of Information & Technology Literacy. The text of the ISLO reads: Students completing studies at MXC will be able to access, identify, and utilize verifiable information and incorporate appropriate technology tools across disciplines. The measurements affiliated with this ISLO are

1. Access: Locate information from various print and electronic sources; locate various technological tools within disciplines.

2. Identify: Discern the quality of information gathered from various print and electronic sources; discern the appropriateness of various technological tools for disciplinary activity.

3. Utilize: Incorporate appropriately accurate information in making claims; incorporate appropriate technological tools into one's discipline.

This is aligned with the Association of College & Research Libraries (ACRL) definition of Information Literacy as a "set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning." The rubric is designed to be applied broadly across embedded assignments across the institution, as defined by the Assessment Representatives of various disciplines and department areas.

| | Meets Expectations (Met) 3 | Approaching Expectations (Partially Met) 2 | Below Expectations (Not Met) 1 |
|---|---|---|---|
| Determine the Extent of Information Needed (Access) | Effectively defines the scope of the research question or thesis. Effectively determines key concepts. | Defines the scope of the research question or thesis incompletely (parts are missing, remains too broad or too narrow, etc.). | Has difficulty defining the scope of the research question or thesis. Has difficulty determining key concepts. |
| Evaluate Information and its Sources Critically (Identify) | Chooses a variety of information sources appropriate to the scope and discipline of the research question. | Chooses a variety of information sources, not necessarily appropriate to the scope and discipline of the research question. | Chooses a few information sources. |
| Use Information Effectively to Accomplish a Specific Purpose (Utilize) | Communicates, organizes and synthesizes information from sources to fully achieve a specific purpose, with clarity and depth | Communicates and organizes information from sources. The information is not yet synthesized, so the intended purpose is not fully achieved. | Communicates information from sources. The information is fragmented and/or used inappropriately (misquoted, taken out of context, or incorrectly paraphrased, etc.), so the intended purpose is not achieved. |
| Access and Use Information Ethically and Legally | Students use correctly **all** of the following information use strategies (use of citations and references; choice | Students use correctly **three** of the following information use strategies (use of citations and references; choice | Students use correctly **one** of the following information use strategies (use of citations and references; choice |

| | | | |
|---|---|---|---|
| | of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrate a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information. | of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information. | of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information. |