Research Skills Qualities Matrix: Grades 9-12

Dimensions	1	2	3	4	5
Topic Development *What is the essential question?*	Need for information not yet clearly identified.	Exploration: generating ideas and thinking about questions.	Identifying topics, broadening or narrowing a topic, and developing ideas to direct the focus of an inquiry.	Generating research questions based on interests, observations, information, stories, and issues on an assigned topic.	Development and presentation of a clear thesis statement or hypothesis.
Source Identification *Where might information be found?*	Sources limited to popular Internet search engines	Sources of information clearly identified: books, websites, academic research databases, and personal interviews.	Selection and use of appropriate tools and technology to locate resources, including databases found on the library website and books found via the library catalog.	Differentiate between scholarly sources and popular publications in print and/or digital format.	Use a variety of scholarly print, media, and online resources to locate information, including research databases and other reference materials (interlibrary loan; personal interviews)
Search Strategies *What key words will be used to search for information?*	Random searching of the Internet.	Use of terms that relate to the topic and the need for information identified.	Search for information in databases and via the Internet using both controlled vocabulary (key words) and natural language.	Search for information by using advanced search skills. Create search statements using key words and Boolean operators: "AND" narrows a search, "OR" broadens a search.	Use advanced search skills (including book indexes, limiters, and search parameters). Use "pre-search" strategies to identify what should be read in-depth (e.g., scan titles, abstracts, captions, introductions, summaries, conclusions)
Source Evaluation *Is the information current, credible and accurate?*	Information source trusted without verifying (e.g., Wikipedia).	Determine the relevance of information: demonstrate an understanding of how search engines determine rank or relevancy	Interpret meaning from charts, maps, graphs, tables, and pictures or images.	Analyze media for purpose, message, accuracy, bias, and intended audience.	Analyze important ideas and supporting evidence in an information source by using logic and informed judgment to accept or reject information. Consider the need for additional information.
Use of Information *What conclusions can be drawn? How will findings be presented?*	Respect for intellectual property, copyright restrictions, fair use, and public performance rights not demonstrated when downloading or duplicating media.	Understand the differences between quoting, summarizing, and paraphrasing and apply these skills to one's own work.	Use appropriate conventions for documentation in the text, footnotes, references and bibliographies by adhering to an acceptable format such as MLA or Chicago style.	Use information and technology creatively and ethically to answer a question, solve a problem, or enrich understanding, by drawing clear and appropriate conclusions supported by evidence and examples.	Construct and test hypotheses; collect, evaluate, and employ scholarly information from multiple primary and secondary sources; and apply it in oral, written, and/or multi-media presentations, using appropriate citations, to communicate a message to an audience.