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Information Literacy Competency Standards for Students: A Measure of the Effectiveness of Information Literacy Initiatives in Higher Education Appendices

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Appendix A

Information Literacy Framework

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
		Basic ability to determine information is needed, to access information, to evaluate and incorporate information into knowledge base and value system, to use information effectively to accomplish a specific purpose, and to understand the economic, legal, and social issues surrounding the use of information	Sophisticated comprehension and synthesis beyond the basic ability to determine information is needed, to access information, to evaluate and incorporate information into knowledge base and value system, to use information effectively to accomplish a specific purpose, and to understand the economic, legal, and social issues surrounding the use of information with an ability to transfer the skills	Specialized ability in a particular discipline or narrowly defined subject area with a sophisticated comprehension and synthesis beyond the basic ability to determine information is needed, to access information, to evaluate and incorporate information into knowledge base and value system, to use information effectively to accomplish a specific purpose, and to understand the economic, legal, and social issues surrounding the use of information and the ability to actualize the skills in an interdisciplinary environment
Standard One The information literate student determines the nature and extent of the information needed.	1. The information literate student defines and articulates the need for information.	1a. Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need • **Working with instructors and/or classmates, in person or electronically, to determine when information is needed or what the question/topic is that needs to be researched.** 1b. Develops a thesis statement and formulates questions based on the information need	1d. Defines or modifies the information need to achieve a manageable focus • **Revises the initial information request to a broader or narrower request.** • **Revises the draft thesis statement to more clearly identify the position that the research will support.** • **Matches the needs of the end product to determine the information need. For example, length of paper will dictate volume of resources and the type of resources may be specified (e.g., journals only, books and**	1f. Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information • **Creates new information that is built upon existing information through primary research, additional analysis, and/or original thought.** • **Replicates existing research or analysis to create further proof or substantive evidence for a particular research statement.**

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
		• **Creates a first draft of the thesis statement (the argument that the paper will explain).** • **Develops questions that will help lead to the evidence required to support the thesis statement.** 1c. Explores general information sources to increase familiarity with the topic • **Explores general information sources (e.g., books, encyclopedia articles, general journal indexes) to become familiar with a new topic.** • **Understands that general sources will provide an overview of a topic.** • **Determines that subject specific resources provide depth to a topic.** 1e. Identifies key concepts and terms that describe the information need • **Lists specific terms, subjects, and keywords that are the components of the information need and will form the basis for a search statement.**	**journals, etc.).** • **Consults with instructor and/or library staff to ensure that the request is achievable (time, resources).** 1e. Identifies key concepts and terms that describe the information need • **Identifies related terminology using general or subject-specific resources.** • **Identifies both broad and specific concepts and terms of the information need.**	

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
	2. The information literate student identifies a variety of types and formats of potential sources for information.	2a. Knows how information is formally and informally produced, organized, and disseminated • **Understands that information is published, whether electronically or in print, and that there is a progression as the information passes through stages. For example, information may follow this path: from person-to-person to a listserv, blog, or other short, electronic communication; to a newspaper/trade publication or website or magazine; to a scholarly, researched journal; to a book.** 2b. Recognizes that knowledge can be organized into disciplines that influence the way information is accessed • **Learns that information is segmented into broad fields of study (humanities, social sciences, sciences) and then further sub-divided into subjects within a field.** • **Selects what field of study/subject is most appropriate for the information request and**	2a. Knows how information is formally and informally produced, organized, and disseminated • **Understands that time is a factor in the publication of information and will determine the type of source.** • **Understands that informal sharing of information generally happens before the formal publication cycle.** 2d. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical) • **Recognizes that information is written for a particular audience in a particular source and for a specific purpose (e.g., educate, entertain, inform).** 2e. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline • **Understands that primary sources report information created at the time (or very close to the time) of the event (e.g., newspaper article written by journalist at an**	2f. Realizes that information may need to be constructed with raw data from primary sources • **Decides when secondary sources do not fill the information request and therefore needs to conduct primary (original) research to meet the request.**

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
		therefore, what initial sources should be searched. 2c. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book) • **Discovers that information is presented and experienced by the user differently within different formats (e.g., multimedia, database, website, data set, audiovisual, book).** • **Understands that information presented in different formats can have different purposes in the fulfillment of the information request.**	**event) and are often created by someone who saw or heard the event (e.g., letters, diaries).** • **Recognizes and understands that different fields of study have specific primary sources (e.g., census or survey data in social sciences, scientific experiment data in the sciences).**	
	3. The information literate student considers the costs and benefits of acquiring the needed information.	3a. Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound) • **Determines if the item is available in the collection for loan, viewing, photocopying, or**	3a. Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound) • **Determines whether a different library or research centre should be visited to obtain relevant resources.**	3b. Considers the feasibility of acquiring a new language or skill (e.g., foreign or discipline-based) in order to gather needed information and to understand its context • **Anticipates that the information required may not be accessible or understandable with the individual's current skill set.** • **Decides that further**

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		downloading with little or no cost beyond the investment of time. • **Understands the ability to borrow or request items from other locations (interlibrary loan) given the research timeframe, that the service exists, and if there is a cost involved.**	3c. Defines a realistic overall plan and timeline to acquire the needed information • **Develops a timeframe to research the information request and allots sufficient time to search and obtain sources.**	**investment (time or money) may be necessary.**
	4. The information literate student reevaluates the nature and extent of the information need.	4a. Reviews the initial information need to clarify, revise, or refine the question • **Identifies whether the initial results are sufficient or insufficient, appropriate or inappropriate to answer the question(s).** • **Determines to broaden or narrow the question(s) or if the question(s) needs to be changed.**	4b. Describes criteria used to make information decisions and choices • **Outlines criteria (e.g., currency, point of view, type of information) that will facilitate information choices and decisions.** • **Recognizes the intended audience of the information when making choices and decisions.** • **Selects the end product (e.g., research paper, oral presentation) and determines how it influences information choices and decisions.**	
Standard Two The information literate student accesses needed information effectively and efficiently.	1. The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.	1a. Identifies appropriate investigative methods (e.g., laboratory experiment, simulation, fieldwork) • **Identifies other primary research methods that are more appropriate to the research questions.**	1b. Investigates benefits and applicability of various investigative methods • **Articulates if a specific investigative method is a better fit to the research question.**	1d. Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system • **Selects the appropriate source (primary or**

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
			• **Determines the timeframe and approach to using an investigative method.** 1c. Investigates the scope, content, and organization of information retrieval systems • **Examines how best to use a particular system (e.g., catalogue, index) by exploring any system help and requesting assistance.** • **Determines the record and field structure of the system and how to search them using system options (e.g., Boolean operators).** • **Assesses the currency (begin and end dates), completeness of content (e.g., full text, all branch library resources), and type of content (e.g., books, journals, newspapers, data sets) contained in the system.** • **Differentiates between freely available information on the web and fee-based information available through subscription-based systems.** 1d. Selects efficient and effective approaches for accessing the information needed from the	**secondary) for the information request.** • **Continually assesses results to determine more appropriate search terms and to judge when the search request has been filled.**

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
			investigative method or information retrieval system • **Establishes how the results will be recorded and stored (e.g., saving/downloading, note taking, photocopying, printing, storage).**	
	2. The information literate student constructs and implements effectively-designed search strategies.	2a. Develops a research plan appropriate to the investigative method • **Creates a plan (list of steps) to meet the information request.** • **Describes the types of information (primary, secondary) and potential sources or systems to be used in answering the request.** • **Modifies the plan based on results gathered and evaluated.** 2b. Identifies keywords, synonyms and related terms for the information needed • **Identifies and records the keywords and phrases to be used.** • **Considers using terminology appropriate to the type of source, (e.g., general or subject specific).**	2b. Identifies keywords, synonyms and related terms for the information needed • **Selects keywords or subject terms found in results that may specify, broaden or narrow results.** 2c. Selects controlled vocabulary specific to the discipline or information retrieval source • **Recognizes that controlled vocabulary refers to subjects or keywords assigned consistently to items on the same subject.** • **Uses subject-specific sources (e.g., dictionaries, handbooks, encyclopedias) to assist in identifying specific terminology.** • **Discovers the controlled vocabulary terms in the particular system and uses those to retrieve results.** • **Determines that controlled**	2d. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books) • **Creates search statements that include proximity searching. Proximity searching looks for matching words within a specified distance.** • **Constructs higher level search statements that include nesting of terms.** • **Creates higher level search statements that are written using system commands or that specify indexes (e.g., descriptor, company, abstract).** 2f. Implements the search using investigative protocols appropriate to the discipline

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
		• **Identifies and records related terms (e.g., alternate spellings) and synonyms.** 2d. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books) • **Understands that a search strategy is required. A search strategy is a plan that indicates how information will be found. It includes the keywords and subject terms and how they may be combined.** • **Creates a basic search strategy.**	**vocabulary resides in specific fields and employs the appropriate search technique to select those fields.** 2d. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books) • **Recognizes that more relevant results can be obtained by specifying a field (e.g., author, subject, title) to search the term.** • **Develops search statements using Boolean logic. Boolean logic is the mechanism to create relationships among search terms using logical operators (AND, OR, NOT).** • **Creates search statements that include truncation, e.g., searching using word stems.** • **Develops search statements using keywords when controlled vocabulary either doesn't exist or when the topic is not represented by controlled vocabulary.** 2e. Implements the search strategy in various information retrieval	• **Incorporates information search methodologies unique to a discipline (e.g., specific primary or secondary research tools).** • **Chooses specialized bibliographies, handbooks, encyclopedias, indexes, etc.** • **Chooses specialized data (e.g., census data, statistical data sets) to identify information**

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
			systems using different user interfaces and search engines, with different command languages, protocols, and search parameters • **Conducts searches in multiple products from different vendors. Product (e.g., CINAHL) could be the same but available from more than one vendor (e.g., Ebsco, ProQuest, OVID, etc.). May need to search multiple information sources from different vendors with different search interfaces.** • **Conducts searches using multiple interfaces within the same product (e.g., basic versus advanced search screen).** • **Modifies the search based on results retrieved by narrowing, broadening or limiting.** • **Recognizes that different retrieval systems may use different indexes or terminology for the same search and modifies the search statement and techniques accordingly.**	

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	3. The information literate student retrieves information online or in person using a variety of methods.	3a. Uses various search systems to retrieve information in a variety of formats • **Conducts search in library catalogue, journal databases, search engines, etc., to retrieve books, audiovisual items, electronic articles, websites, etc. Search results may retrieve a citation to a physical item that must then be located.** • **Recognizes and interprets the results based on the citation format (e.g., book, book chapter, journal article, website, etc.).**	3a. Uses various search systems to retrieve information in a variety of formats • **Chooses different systems to search that are appropriate to the subject field and the information need.** • **Describes common search functionality (e.g., Boolean searching, index searching) regardless of the search system interface.** 3b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration • **Interprets the organization and classification systems correctly to locate resources (e.g., Library of Congress, Dewey Decimal, alphabetical, etc.).** • **Articulates the difference between a library catalogue (library owned items) and a journal database (subscription to an index of items that may not be owned).** • **Recognizes and classifies the**	3d. Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information • **Articulates that primary sources are required.** • **Uses surveys, letters, interviews, etc., to gather primary data.**

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
			results based on the citation format (e.g., book, book chapter, journal article, website, etc.). 3c. Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners) • **Retrieves print or electronic documents available through the library.** • **Utilizes services available at the institution for document delivery.** • **Discovers and accesses institutional resources outside of the library.** • **Discovers and accesses resources outside of the institution (e.g., community agencies, associations, professional organizations).**	
	4. The information literate student refines the search strategy if necessary.		4a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized	

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			• **Assesses whether the search results have given sufficient information (e.g., too much or too few resources) for the information need.** • **Examines the quality of the results using specific criteria (e.g., bias, currency, authorship). Note that the information need will dictate the publication dates that are appropriate.** • **Evaluates the relevance of the results by examining the citation title, abstract, subject headings, source, and publication date.** • **Determines whether to continue the search based on the above observations.** 4b. Identifies gaps in the information retrieved and determines if the search strategy should be revised • **Based on the evaluation of the results, determines if information is missing that is needed.** • **Assesses whether to revise the search strategy by modifying terms to expand the results.**	

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			4c. Repeats the search using the revised strategy as necessary • **Recognizes that searching for information is a repetitive process and therefore repeats the search using a revised strategy. A revised strategy may include modifying terms or using additional or different resources.**	
	5. The information literate student extracts, records, and manages the information and its sources.	5a. Selects among various technologies the most appropriate one for the task of extracting the needed information (e.g., copy/paste software functions, photocopier, scanner, audio/visual equipment, or exploratory instruments) • **Once the information or data is found, the student chooses an appropriate method to select the information for later use.** • **Possible ways include photocopying information, scanning the information, copy/paste into a file, email results, etc.** 5c. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a	5b. Creates a system for organizing the information • **Organizes (electronically and/or physically) information retrieved for further use, in a consistent manner.** • **Chooses best way to organize information given that the information may be presented in different formats (paper, electronic, audiovisual).** 5c. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources • **Reviews and interprets the many citations to identify those that are journal articles,**	5e. Uses various technologies to manage the information selected and organized • **Decides the best way(s) to manage the information found and keep it organized.** • **Possible tools include: an organized file folder system, electronic file management, spreadsheet, or database management.**

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		wide range of resources • **Interprets citations and is able to distinguish books, journal articles, magazine articles, newspaper articles, and websites.** • **When using books, articles, or websites, is able to identify citation components (e.g., author, title, date, source) that will form the reference to the source.** 5d. Records all pertinent citation information for future reference *(according to college-wide standard – APA)* **Ensures that a record of the citation information is maintained to be able to create a reference or bibliography list as required.**	**audiovisual items, books, chapters in books, research reports, government documents, dissertations, etc.** • **Recognizes that citation formats will vary from one resource to another and from one discipline to another.** 5d. Records all pertinent citation information for future reference *(according to college-wide standard – APA)* • **Ensures that a record of the citation information is maintained to be able to create a reference or bibliography list as required in the expected citation style and creates the citation reference.**	
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.	1. The information literate student summarizes the main ideas to be extracted from the information gathered.	1a. Reads the text and selects main ideas • **Reviews the content for the main information points for each resource read or viewed.** • **Selects and records main information points in an efficient and effective system.**	1b. Restates textual concepts in his/her own words and selects data accurately • **Selects concepts or information and determines how to restate or paraphrase in their own words.** 1c. Identifies verbatim material that can be then appropriately quoted	

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			• **Selects information or data that will be recorded exactly as presented in the resource(s) found and quoted according to the requested citation style (e.g., APA, MLA).**	
	2. The information literate student articulates and applies initial criteria for evaluating both the information and its sources.	2a. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias • **Reviews the results and describes each resource from a variety of perspectives.** • **Describes the validity and accuracy of each resource against all the results found.** • **Determines the publication date of each resource and how that relates to the original information request.**	2a. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias • **Examines the reliability of the resource (e.g., the journal the article was published in, the publisher of the book).** • **Assesses the author's qualifications and reputation.** • **Compares the point of view or bias that all resources exhibit and determines if a balance exists.** 2b. Analyzes the structure and logic of supporting arguments or methods • **Reads the information and articulates the stages and steps that build (from the beginning to the conclusion) to explain the thesis statement.**	

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			2c. Recognizes prejudice, deception, or manipulation • **Recognizes when only one point of view is expressed and/or when opinion is being presented rather than factual information.** • **Determines that some information may be written to draw out emotions or promote a particular group's point of view.** • **Uses evaluative techniques to determine validity, accuracy, point of view, etc.** • **Verifies accuracy of one resource by comparing with other resources.** 2d. Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information • **Points out characteristics (e.g., purpose of resource, time period resource is written in) that may contribute to the interpretation or bias of the information.**	

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	3. The information literate student synthesizes main ideas to construct new concepts.		3a. Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence • **Establishes the connections among concepts and ideas and presents them with supporting evidence.** 3c. Utilizes computer and other technologies (e.g., spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena • **Using technology, discovers the relationships and connections among the information or data.**	3b. Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information • **After reviewing and analyzing the information found, develops new or additional questions/thesis statements that requires information to be found.**
	4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.	4a. Determines whether information satisfies the research or other information need • **Reviews the information found to determine if it matches the original information request.** 4g. Selects information that provides evidence for the topic • **Selects information that addresses the original**	4b. Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources • **Chooses criteria to analyze information as to whether it verifies or denies other information sources.** 4c. Draws conclusions based upon information gathered	4d. Tests theories with discipline-appropriate techniques (e.g., simulators, experiments) • **Chooses specific techniques (e.g., experiment, survey, simulation) to further test the assumption or interpretation of the information request.**

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		information request and supports or argues against the thesis statement.	• **Examines the information gathered and comes to a qualified decision or conclusion, based on that information.** 4e. Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions • **Considers the publisher of the information as a contributing factor to the quality of the information.** • **Assesses if the search strategy or information system used is too limiting in order to retrieve desired results.** • **Recognizes limitations when a topic is too recent to be adequately addressed or when less reliable information is retrieved.** 4f. Integrates new information with previous information or knowledge • **Incorporates new information with previously known information to increase their knowledge base of a particular topic.**	

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	5. The information literate student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.		5a. Investigates differing viewpoints encountered in the literature • **Recognizes that differing opinions or views are expressed in the information found.** • **Researches the validity and reliability of those viewpoints.** 5b. Determines whether to incorporate or reject viewpoints encountered • **Determines if the differing viewpoint is an isolated case, perhaps due to organizational bias or some other bias.** • **Includes the information source and more specifically, the differing viewpoint, in the research presentation.**	

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	6. The information literate student validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or practitioners.	6a. Participates in classroom and other discussions • **Presents and discusses information found to other classmates, peers, instructors/faculty, researchers, or subject experts.** • **Confirms interpretation and understanding of the information found via these discussions.** 6b. Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., email, bulletin boards, chat rooms) • **Presents and discusses information found to other classmates, peers, and/or instructors/faculty via electronic communication channels. These can include discussion boards, blogs, wikis or learning management systems.** • **Confirms interpretation and understanding of the information found via these discussions.**		6c. Seeks expert opinion through a variety of mechanisms (e.g., interviews, email, listservs) • **Identifies individuals with expertise in the area of interest.** • **Contacts those individuals and collects their opinions through a variety of channels or methods (e.g., interviews, email, blogs, wikis, etc.).**

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	7. The information literate student determines whether the initial query should be revised		7a. Determines if original information need has been satisfied or if additional information is needed • **Reviews the information need against the information gathered to determine whether sufficient information (quantity, reliable, valid) has been identified.** • **Determines next step(s) if sufficient information has not been gathered.** 7b. Reviews search strategy and incorporates additional concepts as necessary • **Determines additional keywords, synonyms, or subject terms required to broaden and increase the results retrieved (i.e., recall).** • **Creates search statements using additional keywords or subject terms to decrease the results retrieved (i.e., relevance).** • **Modifies search strategy statements using Boolean operators (AND, OR, NOT) to target results to the information need.**	

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
			7c. Reviews information retrieval sources used and expands to include others as needed • **Reviews the information retrieval systems used and considers whether additional systems should be searched. For example, searching related subject indexes to the topic.** • **Examines the endnotes, footnotes, references and/or bibliographies in the retrieved information to locate those items if appropriate to the topic (i.e., citation searching).** • **Uses cited links in online sources to locate additional sources and then evaluate those sources for relevant, reliable and valid information.** • **Examines new concepts/topics identified in the retrieved records and revises or expands the search strategy to find additional information.**	
Standard Four The information literate student, individually or as a member of a group, uses information effectively to	1. The information literate student applies new and prior information to the planning and creation of a particular product or performance.	1a. Organizes the content in a manner that supports the purposes and format of the product or performance (e.g., outlines, drafts, storyboards)	1b. Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance • **Outlines and produces the final product based on past**	

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accomplish a specific purpose.		• **Using the intended product of the information request (e.g., essay, report, presentation) organizes the information resources based on the progression of the product.** • **Identifies resources that support each section or portion of the final product.**	**experiences at preparing essays, reports, presentations, etc.** 1c. Integrates the new and prior information, including quotations and paraphrasing, in a manner that supports the purposes of the product or performance • **Incorporates ideas and quotes from the information found into the final product, such that the information is integrated within the correct section of the product. That is, information, ideas, and quotes are placed in the appropriate sections.** 1d. Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context • **Uses copy/paste/insert (or equivalent) functionality within software applications to combine the information found into the product.** • **Uses formatting functionality within software applications to incorporate information (e.g., text, images) in a consistent manner.**	

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	2. The information literate student revises the development process for the product or performance.		2a. Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process • **Tracks activities/results during the process of finding information, evaluating the resources and communicating the results.** • **Uses the activity log/journal to determine next steps, record keywords, etc.** 2b. Reflects on past successes, failures, and alternative strategies • **Examines past successes and failures related to the development of the output and implements alternatives based on those successes and failures.**	
	3. The information literate student communicates the product or performance effectively to others.	3a. Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience • **Reviews a variety of communication media and formats (print, electronic, visual, etc.) to select the appropriate match for the product and the audience.** • **Selects the best**	3b. Uses a range of information technology applications in creating the product or performance • **Uses a range of technology applications in the creation of end products (e.g., word processing, spreadsheet, presentation, visual editors, etc.).** 3c. Incorporates principles of design and communication	

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		communication tool for the product for the audience.	• **Uses standardized principles of design (visual) and communication (written) in the production of the final product.** 3d. Communicates clearly and with a style that supports the purposes of the intended audience • **Develops a final product that presents the information clearly and concisely in a consistent style to the intended audience.**	
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.	1. The information literate student understands many of the ethical, legal and socio-economic issues surrounding information and information technology.	1a. Identifies and discusses issues related to privacy and security in both the print and electronic environments • **Understands issues surrounding personal information (e.g., name, date of birth, social insurance number, credit card number, etc.).** • **Discusses ways of keeping personal information safe and secure.** • **Understands who can have access to personal information and for what reason.** • **Understands that personal information can be stored in print or electronically.**	1c. Identifies and discusses issues related to censorship and freedom of speech • **Articulates what is censorship and discusses examples (e.g., elementary or high school library censorship of items, countries censoring Internet content from its population).** • **Reports on examples of denial of freedom of speech historically or currently.** • **Debates if censorship should be allowed or freedom of speech denied under particular criteria.**	

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
		1b. Identifies and discusses issues related to free vs. fee-based access to information • **Understands that not all information on the web is available free of charge.** • **Articulates that the library pays for access to subscription databases and uses the web as the interface and delivery agent.** • **Understands that a license is a legal contract which may restrict access to particular clientele, location, or number of users.** • **Describes the difference in results from a website search (via web search engine) and a research tool (catalogue, database) search.** 1d. Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material (fair dealing of copyrighted material) • **Gives examples of intellectual property and copyright (e.g., designs, inventions, literary and artistic works).** • **Practices fair dealing of**	1d. Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material (fair dealing of copyrighted material) • **Obtains copyright permission as required.**	

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
		copyrighted material. • **Cites information using consistent documentation and citation style.**		
	2. The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.	2a. Participates in electronic discussions following accepted practices (e.g., "Netiquette") • **Understands that electronic communication has a socially acceptable set of practices (Netiquette) to be followed.** • **Participates in electronic discussions following the socially acceptable set of practices.** 2b. Uses approved passwords and other forms of ID for access to information resources • **Determines which library databases may or may not be accessible from offsite.** • **Uses the appropriate institutional username/password protocol to access information offsite/onsite.** • **Determines how to access other fee-based services outside of their institution using authenticated access.** 2d. Preserves the integrity of	2c. Complies with institutional policies on access to information resources • **Understands that institutions have policies and procedures on technology use, copyright, and intellectual property.** • **Understands that libraries enter into legal contracts in order to provide access to subscription (fee-based) services.** • **Participates in the research process, abiding by these policies and procedures.** 2e. Legally obtains, stores, and disseminates text, data, images, or sounds • **Abides by institutional policies and procedures, also laws and regulations, to obtain, store and communicate information regardless of the format (text, data, images, or sounds).** 2f. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable	2g. Demonstrates an understanding of institutional policies related to human subjects research • **Communicates institutional policies regarding human subject research.** • **Follows institutional policies when conducting research involving human subjects.**

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
		information resources, equipment, systems and facilities • **Uses the resources, equipment, systems and facilities of the institution in an appropriate and responsible manner.** • **Does not modify or tamper with resources, equipment, systems, and facilities.** 2f. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own • **Understands that plagiarism is the representation of information as your own that is not yours.**	to others as his/her own • **Ensures that all information is appropriately cited (in-text, endnote, references).** • **Participates and follows institutional procedures to avoid plagiarism (e.g., submitting assignment via Turnitin).**	
	3. The information literate student acknowledges the use of information sources in communicating the product or performance.	3a. Selects an appropriate documentation style and uses it consistently to cite sources • **Determines and uses a citation and documentation style that is acceptable to the discipline or institution (e.g., APA, MLA, Chicago).** • **Records the citation elements (title, date, producer, etc.) for a particular format (book, journal, video, etc.).**	3a. Selects an appropriate documentation style and uses it consistently to cite sources • **Understands that different formats may require different styles, e.g., legal references.** • **Understands that different subject disciplines have different documentation/citation styles.** • **Applies the appropriate style consistently.**	

Information Literacy Standard	Performance Indicators	Literate	Fluent	Master
		• **Locates information about citation style as required.** 3b. Posts permission granted notices, as needed, for copyrighted material • **Understands that the creator of a work has the exclusive right to use and reproduce their work.** • **Understands the copyright limitations within the institutional and personal setting.** • **Posts or presents any permission granting notices as required.**		

Appendix B

Cost Analysis

A framework for cost analysis (Table B1) was developed, that could be used as a quantitative measure applied to all four information literacy delivery models. The framework describes each activity or task and identifies the human and technological resources required. Discrete tasks and activities were assigned an overall cost based on the average hourly wage of the Georgian College personnel involved, the amount of time required, and/or any cost of materials. Library staff involved in each of the models was asked to estimate the time spent at each of the tasks. Generally, staffing costs were related to library staff time. Some time was allotted to teaching faculty when they were involved in the tasks of initial development and/or content development (macro). For example, the Embedded model (nursing) had greater involvement with teaching faculty. The cost per student was calculated based on the number of students served by an iteration of the particular model.

Cost Analysis Framework

Nine specific tasks were identified for costing, though not all tasks were applicable in each delivery model. The first task identified was the initial development of the delivery model. This could include proposing a new course or adding information literacy to a course and/or program, gaining approval for the model at curriculum meetings or other decision-making committees, and preparing the program or curriculum documents (learning outcomes). Typically, this task requires involvement from deans, program faculty, and librarians, and it is usually a one-time cost.

Once a model is approved, content development at the macro level needs to occur. This could include creating the content and/or assignments for the specific model, developing course or module content, determining the best delivery method, modifying existing program and/or course outlines, and involving the time of instructional designers or technologists. This task involves program faculty, library staff, and possibly instructional designers or technologists. Basic presentation tools (e.g., PowerPoint, Camtasia) and course management systems (e.g., Blackboard) may be utilized.

Delivery preparation is another aspect of content development and usually takes place at the micro level for the specific class presentation. For this task, creating and rehearsing the presentation, developing examples, and creating or modifying handouts are the key components. Typically, this will involve librarians or library technicians and possibly program faculty. The same systems and applications are required, and regardless of the number of sections or students, content development requires the same effort.

There is an administrative/scheduling task associated with most of the information literacy delivery models. Activities associated with this task include the following: scheduling room(s) and people; ongoing curriculum meetings or meetings with program/faculty contacts; time allotted to course management staff to create course shells or enrol students; and cost of materials (handouts). Several people may be involved in this task, including course management system administrators, library staff, and program faculty. This task is often dependent on the availability of multimedia classrooms or computer labs, scheduling applications, and course management systems. The cost associated with this task increases with the number of sections or students.

The cost for delivery is a product of the number of classroom hours and the associated salary of program faculty and library staff. This cost is usually proportional to the number of sections or hours delivered.

The next identified tasks were student consultations and evaluations, though this is dependent on the information literacy delivery model being considered. Some delivery models include office hours, one-on-one consultation, and/or library staff marking assignments. These costs are also proportionate to the number of students involved in each of the models.

The last two tasks are an annual content update and an assessment review. Annually, content should be reviewed for out-of-date information and to replace content as necessary. Examples might include updating assignments, tests, or module content. Content may need to be revised due to software (databases, applications) changes. Minimally this task should occur annually, although it may occur once a semester. Assessment review is intended to be a comprehensive review of the effectiveness of the model and the content, and may include quantitative or qualitative analysis. Meetings may be necessary to bring the

stakeholders together to review the model. Both of these costs are one-time and do not vary based on student or section numbers. The human resources may involve deans, program faculty, librarians, and/or research analysts.

Table B1: Cost analysis framework

Task	Human Resources	Software / Hardware / System
Initial Development Proposing new course or addition of IL to course and/or program Attendance at curriculum meetings to gain approval for initiative Gaining necessary approvals to implement IL initiative Preparing program/curriculum documents, e.g., learning outcomes for degrees	Deans Program Faculty Librarians	None
Content Development (macro) Creating content, including assignments, for specific IL initiatives Developing course/module content Determining delivery model May include modification of program/course outlines dependent on delivery model	Program Faculty Librarians / Library Technicians Instructional Designers / Technologists	Course management system (e.g., Blackboard) Presentation tools (e.g., Powerpoint, Camtasia)
Preparation for Delivery (micro) Creation and rehearsal of presentation for specific class May include developing example topics Creation/modification of handouts	Program Faculty Librarians / Library Technicians	Course management system (e.g., Blackboard) Presentation tools (e.g., Powerpoint, Camtasia)
Administration / Scheduling Scheduling (room and person) for class Ongoing curriculum meetings or meetings with program/faculty contacts Time of Course management system staff in creating course shell and/or enrolling students Cost of materials (handouts)	Program Faculty Librarians / Library Technicians / Library staff Course Management System Administrator	Multimedia classroom or computer lab Course management system (e.g., Blackboard) Scheduling application
Delivery In-class time	Program Faculty Librarians / Library Technicians	Multimedia classroom or computer lab Course management system (e.g., Blackboard)

Task	Human Resources	Software / Hardware / System
		Presentation tools (e.g., Powerpoint, Camtasia)
Student Consultation Student assistance outside of the assigned class to provide clarification (ad hoc) Office hours	Program Faculty Librarians / Library Technicians	Computer access Network access Internet access
Student Evaluation Marking of assignments or tests	Program Faculty Librarians	Turnitin / Remark Course management system (e.g., Blackboard)
Annual Content Update Reviewing content for out of date information and replacing content Revision of tests, assignments, or module content Revision of content due to software changes	Program Faculty Librarians / Library Technicians Course Management System Technician	Course management system (e.g., Blackboard) Presentation tools (e.g., Powerpoint, Camtasia)
Assessment Review Global review of the effectiveness of the content May include quantitative or qualitative analysis Meetings for the purpose of reviewing the model	Deans Program Faculty Librarians Research Analyst (Organizational Planning / Institutional Research staff)	Survey software

Information Literacy Delivery Models

Each of the information literacy delivery models in this research study has been analyzed to determine the cost per FTE student. The costs are presented as if the model is being delivered for the first time and includes all initial development costs and the annual costs of an established model. Because each model is different in terms of delivery time, number of students, and amount of content, the models cannot truly be compared at the cost level.

The highest unit cost is the Course-based model for REAS2002. However, the cost is representative of a 42-hour semester-long course devoted to all aspects of the business research process including the following: business information structure; business information sources; industry and company research; business-focussed databases; keywords; Boolean connectors; controlled vocabulary and other search strategy items; effective web searching; and value of information in the business community. This is in direct comparison to the Course-based model for College Communications, which is only a one-hour delivery with an intended

outcome that students will gain experience using the library catalogue, one article database, create a basic search strategy using Boolean connectors, and understand the database results.

Similarly, there are two Embedded models with very different costs. The Embedded model in the Nursing program has information literacy concepts represented in the program as a whole and within most course learning outcomes. Approximately four to six hours are delivered directly in the classroom during the first semester, and about ten information literacy competencies are listed and described in the nursing program handbook. The Embedded model in the Automotive Management program, meanwhile, was composed of an hour of classroom instruction tied to an assignment. This research study did not study the subsequent semesters in the program to see how the *Degree-level Learning Objectives and Outcomes* were actually implemented.

The Common Hour model represents approximately the same amount of effort as the Embedded Nursing model. There are a similar number of outcomes expected from the students, and the instruction is provided over the length of the program. The most notable difference is that the health sciences librarian is not involved in any aspect of the students' evaluation.

The last model, Online Tutorial, does not have a classroom delivery component or cost. Most of the costs are associated with the creation of the content and an online course. The outcomes for these modules represents more than the Course-based College Communications, but cannot be compared to either of the Embedded models. It is probably similar to the outcomes of the Common Hour model without the human resource requirement. An advantage to this model is that the content is available to all Laurentian@Georgian students and provides students the opportunity to review the content at any time.

Assigning a cost to each of the models serves to illustrate the amount of effort required to achieve the outcomes intended in the specific model. Each delivery model is unique in terms of classroom time, breadth and depth of content covered, and number of students exposed. Based on this, a cost comparison of the models is not relevant other than to demonstrate the work required to achieve the outcomes. Each delivery model has its own merit in the development of an information literacy curriculum as students progress in their information literacy knowledge.

Summary

Each of the delivery models was analyzed based on creating the model for the first time. Most of the models have significant start-up costs related to the initial development and content development at the macro level. If only the annual costs are considered, significant savings are evident in models with high initial costs. Table B2 illustrates the cost per FTE student to launch the model and the annual costs. Models that are delivered to greater numbers of students and/or with low classroom delivery costs see a significant reduction in the cost per FTE student. These costs illustrate the relative costs of each model at Georgian, and are not intended for comparison purposes.

Table B2: Cost of information literacy delivery models

Model	Cost per Student (FTE) including initial development	Cost per Student (FTE) (annual costing)	Comments
Course-based: College Communications	$3.20	$2.80	Delivered to 3375 students at three campuses
Course-based: Foundations of Canadian Business Research	$535.40	$362.10	Delivered to 20 students
Embedded: Nursing	$308.50	$153.10	Delivered to 139 students
Embedded: Automotive Management	$36.00	$4.50	Delivered to 30 students
Common Hour: Dental Hygiene	$318.30	$66.80	Delivered to 68 students
Online Tutorial	$164.50	$29.50	Delivered to 90 students

Appendix C

ACRL Mapping Tool

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
1.	1.	a.	Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need.	☐	☐	☐	☐	☐	☐
		b.	Develops a thesis statement and formulates questions based on the information need.	☐	☐	☐	☐	☐	☐
		c.	Explores general information sources to increase familiarity with the topic.	☐	☐	☐	☐	☐	☐
		d.	Defines or modifies the information need to achieve a manageable focus.	☐	☐	☐	☐	☐	☐
		e.	Identifies key concepts and terms that describe the information need.	☐	☐	☐	☐	☐	☐
		f.	Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information.	☐	☐	☐	☐	☐	☐
	2.	a.	Knows how information is formally and informally produced, organized, and disseminated.	☐	☐	☐	☐	☐	☐
		b.	Recognizes that knowledge can be organized into disciplines that influence the way information is accessed.	☐	☐	☐	☐	☐	☐
		c.	Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book).	☐	☐	☐	☐	☐	☐
		d.	Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical).	☐	☐	☐	☐	☐	☐
		e.	Differentiates between primary and	☐	☐	☐	☐	☐	☐

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
			secondary sources, recognizing how their use and importance vary with each discipline.						
		f.	Realizes that information may need to be constructed with raw data from primary sources.	☐	☐	☐	☐	☐	☐
	3.	a.	Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources.	☐	☐	☐	☐	☐	☐
		b.	Considers the feasibility of acquiring a new language or skill.	☐	☐	☐	☐	☐	☐
		c.	Defines a realistic overall plan and timeline to acquire the needed information.	☐	☐	☐	☐	☐	☐
	4.	a.	Reviews the initial information need to clarify, revise, or refine the question.	☐	☐	☐	☐	☐	☐
		b.	Describes criteria used to make information decisions and choices.	☐	☐	☐	☐	☐	☐
2.	1.	a.	Identifies appropriate investigative methods (e.g., laboratory experiment, simulation, fieldwork).	☐	☐	☐	☐	☐	☐
		b.	Investigates benefits and applicability of various investigative methods.	☐	☐	☐	☐	☐	☐
		c.	Investigates the scope, content, and organization of information retrieval systems.	☐	☐	☐	☐	☐	☐
		d.	Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system.	☐	☐	☐	☐	☐	☐

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
	2.	a.	Develops a research plan appropriate to the investigative method.	☐	☐	☐	☐	☐	☐
		b.	Identifies keywords, synonyms and related terms for the information needed.	☐	☐	☐	☐	☐	☐
		c.	Selects controlled vocabulary specific to the discipline or information retrieval source.	☐	☐	☐	☐	☐	☐
		d.	Constructs a search strategy using appropriate commands for the information retrieval system selected.	☐	☐	☐	☐	☐	☐
		e.	Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters.	☐	☐	☐	☐	☐	☐
		f.	Implements the search using investigative protocols appropriate to the discipline.	☐	☐	☐	☐	☐	☐
	3.	a.	Uses various search systems to retrieve information in a variety of formats.	☐	☐	☐	☐	☐	☐
		b.	Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration.	☐	☐	☐	☐	☐	☐
		c.	Uses specialized online or in person services available at the institution to retrieve information needed.	☐	☐	☐	☐	☐	☐
		d.	Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information.	☐	☐	☐	☐	☐	☐

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
	4.	a.	Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized.	☐	☐	☐	☐	☐	☐
		b.	Identifies gaps in the information retrieved and determines if the search strategy should be revised.	☐	☐	☐	☐	☐	☐
		c.	Repeats the search using the revised strategy as necessary.	☐	☐	☐	☐	☐	☐
	5.	a.	Selects among various technologies the most appropriate one for the task of extracting the needed information.	☐	☐	☐	☐	☐	☐
		b.	Creates a system for organizing the information.	☐	☐	☐	☐	☐	☐
		c.	Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources.	☐	☐	☐	☐	☐	☐
		d.	Records all pertinent citation information for future reference.	☐	☐	☐	☐	☐	☐
		e.	Uses various technologies to manage the information selected and organized.	☐	☐	☐	☐	☐	☐
3.	1.	a.	Reads the text and selects main ideas.	☐	☐	☐	☐	☐	☐
		b.	Restates textual concepts in his/her own words and selects data accurately.	☐	☐	☐	☐	☐	☐
		c.	Identifies verbatim material that can be then appropriately quoted.	☐	☐	☐	☐	☐	☐
	2.	a.	Examines and compares information from	☐	☐	☐	☐	☐	☐

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
			various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias.						
		b.	Analyzes the structure and logic of supporting arguments or methods.	☐	☐	☐	☐	☐	☐
		c.	Recognizes prejudice, deception, or manipulation.	☐	☐	☐	☐	☐	☐
		d.	Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information.	☐	☐	☐	☐	☐	☐
	3.	a.	Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence.	☐	☐	☐	☐	☐	☐
		b.	Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information.	☐	☐	☐	☐	☐	☐
		c.	Utilizes computer and other technologies (e.g. spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena.	☐	☐	☐	☐	☐	☐
	4.	a.	Determines whether information satisfies the research or other information need.	☐	☐	☐	☐	☐	☐
		b.	Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources.	☐	☐	☐	☐	☐	☐

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
		c.	Draws conclusions based upon information gathered.	☐	☐	☐	☐	☐	☐
		d.	Tests theories with discipline-appropriate techniques (e.g., simulators, experiments).	☐	☐	☐	☐	☐	☐
		e.	Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions.	☐	☐	☐	☐	☐	☐
		f.	Integrates new information with previous information or knowledge.	☐	☐	☐	☐	☐	☐
		g.	Selects information that provides evidence for the topic.	☐	☐	☐	☐	☐	☐
	5.	a.	Investigates differing viewpoints encountered in the literature.	☐	☐	☐	☐	☐	☐
		b.	Determines whether to incorporate or reject viewpoints encountered.	☐	☐	☐	☐	☐	☐
	6.	a.	Participates in classroom and other discussions.	☐	☐	☐	☐	☐	☐
		b.	Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., email, bulletin boards, chat rooms).	☐	☐	☐	☐	☐	☐
		c.	Seeks expert opinion through a variety of mechanisms (e.g., interviews, email, listservs).	☐	☐	☐	☐	☐	☐
	7.	a.	Determines if original information need has been satisfied or if additional information is needed.	☐	☐	☐	☐	☐	☐

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
		b.	Reviews search strategy and incorporates additional concepts as necessary.	☐	☐	☐	☐	☐	☐
		c.	Reviews information retrieval sources used and expands to include others as needed.	☐	☐	☐	☐	☐	☐
4.	1.	a.	Organizes the content in a manner that supports the purposes and format of the product or performance (e.g., outlines, drafts, storyboards).	☐	☐	☐	☐	☐	☐
		b.	Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance.	☐	☐	☐	☐	☐	☐
		c.	Integrates the new and prior information, including quotations and paraphrasings, in a manner that supports the purposes of the product or performance.	☐	☐	☐	☐	☐	☐
		d.	Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context.	☐	☐	☐	☐	☐	☐
	2.	a.	Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process.	☐	☐	☐	☐	☐	☐
		b.	Reflects on past successes, failures, and alternative strategies.	☐	☐	☐	☐	☐	☐
	3.	a.	Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience.	☐	☐	☐	☐	☐	☐

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
		b.	Uses a range of information technology applications in creating the product or performance.	☐	☐	☐	☐	☐	☐
		c.	Incorporates principles of design and communication.	☐	☐	☐	☐	☐	☐
		d.	Communicates clearly and with a style that supports the purposes of the intended audience.	☐	☐	☐	☐	☐	☐
5.	1.	a.	Identifies and discusses issues related to privacy and security in both the print and electronic environments.	☐	☐	☐	☐	☐	☐
		b.	Identifies and discusses issues related to free vs. fee-based access to information.	☐	☐	☐	☐	☐	☐
		c.	Identifies and discusses issues related to censorship and freedom of speech.	☐	☐	☐	☐	☐	☐
		d.	Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material.	☐	☐	☐	☐	☐	☐
	2.	a.	Participates in electronic discussions following accepted practices (e.g., "Netiquette").	☐	☐	☐	☐	☐	☐
		b.	Uses approved passwords and other forms of ID for access to information resources.	☐	☐	☐	☐	☐	☐
		c.	Complies with institutional policies on access to information resources.	☐	☐	☐	☐	☐	☐
		d.	Preserves the integrity of information resources, equipment, systems and facilities.	☐	☐	☐	☐	☐	☐

Standard	Performance Indicator	Objective		Course-based (College Comm.)	Course-based (Business Research)	Embedded (Nursing)	Embedded (Automotive)	Online Tutorial (LU)	Common Hour
		e.	Legally obtains, stores, and disseminates text, data, images, or sounds.	☐	☐	☐	☐	☐	☐
		f.	Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own.	☐	☐	☐	☐	☐	☐
		g.	Demonstrates an understanding of institutional policies related to human subjects research.	☐	☐	☐	☐	☐	☐
	3.	a.	Selects an appropriate documentation style and uses it consistently to cite sources.	☐	☐	☐	☐	☐	☐
		b.	Posts permission granted notices, as needed, for copyrighted material.	☐	☐	☐	☐	☐	☐

Appendix D

Student Survey Questions

Introduction: Thank you for participating in the Georgian College and Laurentian @ Georgian Information Literacy Survey. This research project is designed to measure the success of Information Literacy initiatives delivered to College and University students. Information literacy is defined as the ability to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association, 1989). You will be asked to complete a survey at four points during a two-year term of study. This is the 1st of four surveys you will complete. Our survey was adapted from the Information Literacy Survey (2003; 2007) by the Albin O. Kuhn Library & Gallery (AOK), University of Maryland Baltimore Campus (UMBC).

Please answer all of the questions to the best of your ability. If you cannot answer a question, please go to the next question.

1. Where would you go or what would you do to find current information on the following topic? - "Tuition Increases for Ontario Colleges or Universities". Please select all that apply.
   a. Online – World Wide Web
   b. Newspaper archives
   c. Encyclopedias
   d. Magazines
   e. Library Staff
   f. Abstracts and indexes (databases) – electronic or print
   g. Professors/Teachers
   h. Friends/colleagues
   i. Television or radio news
   j. Podcasts
   k. Television/radio transcripts

2. Where do you go to find information for assignments? Please select all that apply.
   a. Use a search engine, such as Google or Yahoo
   b. Go to the Georgian College Library web page (catalogue or electronic databases)
   c. Ask a friend
   d. Ask Professor/Teacher
   e. Consult with Wikipedia
   f. Use a course website (e.g., Blackboard)
   g. Ask Library Staff
   h. Consult a Peer Tutor or Learning Skills Assistant (i.e., in the Library Hubs)

3. Before you start to work on your class assignment, how often do you make a plan or outline to gather information (i.e., search words, sources of information needed, etc.) for your project?
   a. Always
   b. Sometimes
   c. Rarely
   d. Never

4. This citation is from a journal index.
   Tremblay, L., Garg, R., & Levin, E.[1] (2007)[2]. The double cohort retention and academic success comparison: Are students in a new Ontario secondary school program disadvantaged?[3] *Social Psychology and Education*[4], *10*(2)[5], 193-212[6].

Please identify each part of the citation by selecting the correct response from the drop-down list to the right.

a. Volume of journal
b. Page numbers
c. Date
d. Title of article
e. Authors of article
f. None of the above
g. DOI
h. Accession number
i. Database

5. What is missing from the following citation of journal article?

Rasmussen, K. Dancing around the elephant: Creating a prosperous Canada in an era of American dominance, 1957-1973. *English Historical Review, 124(506),* 250-251.

a. Title
b. Source
c. Author
d. Date
e. The citation is complete

6. When looking for books or articles using electronic databases for homework or assignments, how often do you use the *Truncation* searching technique (conduct search using * or $ as the last letter(s) of word, e. g., child*)?

a. Always
b. Sometimes
c. Rarely
d. Never

7. When looking for books or articles using electronic databases for homework or assignments, how often do you use the *Boolean operator "AND"* (e. g., rivers AND pollution) while searching?

a. Always
b. Sometimes
c. Rarely
d. Never

8. When looking for books or articles using electronic databases for homework or assignments, how often do you use the *Boolean operator "OR"* (e.g., Aboriginals OR Natives) while searching?

a. Always
b. Sometimes
c. Rarely
d. Never

9. When looking for books or articles using electronic databases for homework or assignments, how often do you use the *Boolean operator "NOT"* (e.g., raptors NOT basketball) while searching?

a. Always
b. Sometimes
c. Rarely
d. Never

10. When looking for books or articles using electronic databases for homework or assignments, how often do you use *Limiters* (limit search by date, publisher, language, type of material, full text) while searching?

a. Always
b. Sometimes
c. Rarely
d. Never

11. When looking for books or articles using electronic databases for homework or assignments, how often do you search more than one field at a time (such as publisher, journal title, author, descriptors, etc.)?
a. Always
b. Sometimes
c. Rarely
d. Never

12. When looking for books or articles using electronic databases for homework or assignments, how often do you use descriptors or some other controlled vocabulary specific to a database while searching?
a. Always
b. Sometimes
c. Rarely
d. Never

13. Examine the following citation:

Roy, C., Whetsell, M.V. & Frederickson, K. (2009). The Roy adaptation model and research. *Nursing Science Quarterly, 22(3)*, 209-211.

Please decide whether the citation refers to a:
a. Book
b. Journal article
c. Newspaper article
d. Government document

14. Examine the following citation:

Heinzl, J. (2005, August 25) Surprise, surprise. Record oil price sends TSX higher. *Trident*, p. B15.

Please decide whether the citation refers to a:
a. Book chapter
b. Journal article
c. Newspaper article
d. Government document

15. Examine the following citation:

Ministry of Natural Resources. (2008, April). *Kawartha Lakes fish die-offs in 2007 summary report*. Peterborough District, Ontario: Author.

Please decide whether the citation refers to a:
a. Journal article
b. Newspaper article
c. Government document
d. Book

16. Examine the following citation:

Pardini, C., Anselmo, L., Moe, K., & Moe, M. (2010). Drag and energy accommodation coefficients during sunspot maximum. *Advances in Space Research, 45(5),* 638-650.

Please decide whether the citation refers to a:

a. Chapter in a book
b. Journal article
c. Newspaper article
d. Government document

17. Examine the following citation:

Forster, M. (2004). *100 Canadian heroines: Famous and forgotten faces*. Toronto: Dundurn Press.

Please decide whether the citation refers to a:

a. Book
b. Chapter in a book
c. Newspaper article
d. Journal article

18. Examine the following citation:

Keogh, B. K. (2002). Research on reading and reading problems: Findings, limitations, and future directions. In K.G. Butler & E.R. Silliman (Eds), *Speaking, reading, and writing in children with language learning disabilities*, pp. 27-44. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Please decide whether the citation refers to a:

a. Book
b. Chapter in a book
c. Journal article
d. Government document

19. Examine the following citation:

Ducey, A. (2009). *Never good enough: Health care workers and the false promise of job training.* Ithaca, NY: Cornell University, Sage House.

Please decide whether the citation refers to a:

a. Book
b. Journal article
c. Newspaper Article
d. Government document

20. Examine the following citation:

Mercer, R. (2009, January 20). Nice guy finishes first. Message posted to http://www.rickmercer.com/blog/index.cfm/2009/1/20.

Please decide whether the citation refers to a:

a. Wiki
b. Blog
c. Online periodical
d. Podcast

21. Examine the following citation:

Bachman, R. (2009, June 27). June 27, 2009. *CBC's Radio One Randy Bachman's Vinyl Tap*. Podcast retrieved from http://www.cbc.ca/vinyltap/audio.html .

Please decide whether the citation refers to a:

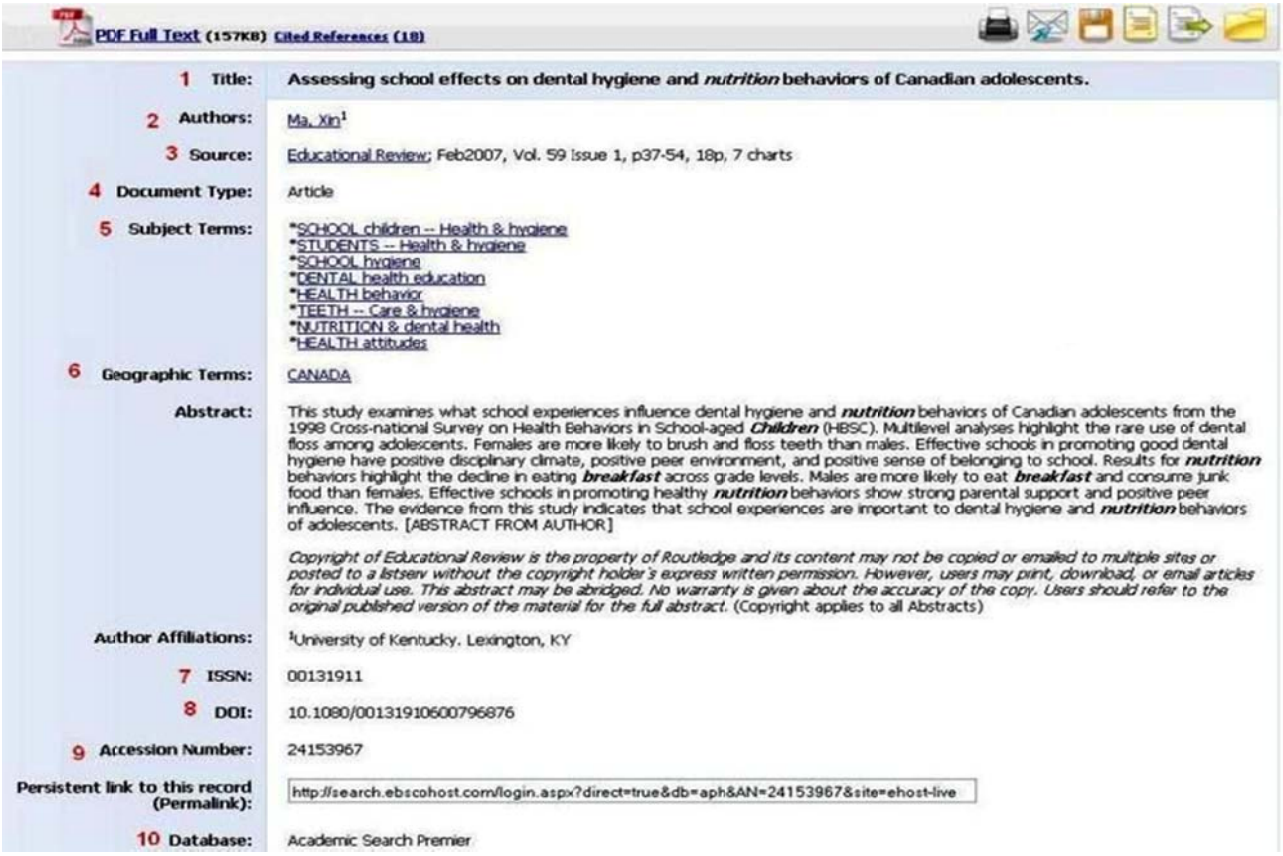
a. Blog
b. Wiki
c. Podcast
d. Online periodical

22. Examine the following citation:

Borg, M. & Stretton, E. (2009_. 'My students and other animals. Or a vulture, an orb weaver spider, a giant panda and 900 undergraduate business students...' *Journal of Information Literacy. 3(1)*, 19-30. Retrieved on July 29, 2009 from http://ojs.lboro.ac.uk/ojs/index.php/JIL/article/view/PRA-V3-I1-2009-2

Please decide whether the citation refers to a:

a. Blog
b. Wiki
c. Podcast
d. Online periodical



PDF Full Text (157KB) Cited References (18)

1 Title:	**Assessing school effects on dental hygiene and *nutrition* behaviors of Canadian adolescents.**
2 Authors:	Ma, Xin[1]
3 Source:	Educational Review; Feb2007, Vol. 59 Issue 1, p37-54, 18p, 7 charts
4 Document Type:	Article
5 Subject Terms:	*SCHOOL children -- Health & hygiene *STUDENTS -- Health & hygiene *SCHOOL hygiene *DENTAL health education *HEALTH behavior *TEETH -- Care & hygiene *NUTRITION & dental health *HEALTH attitudes
6 Geographic Terms:	CANADA
Abstract:	This study examines what school experiences influence dental hygiene and ***nutrition*** behaviors of Canadian adolescents from the 1998 Cross-national Survey on Health Behaviors in School-aged ***Children*** (HBSC). Multilevel analyses highlight the rare use of dental floss among adolescents. Females are more likely to brush and floss teeth than males. Effective schools in promoting good dental hygiene have positive disciplinary climate, positive peer environment, and positive sense of belonging to school. Results for ***nutrition*** behaviors highlight the decline in eating ***breakfast*** across grade levels. Males are more likely to eat ***breakfast*** and consume junk food than females. Effective schools in promoting healthy ***nutrition*** behaviors show strong parental support and positive peer influence. The evidence from this study indicates that school experiences are important to dental hygiene and ***nutrition*** behaviors of adolescents. [ABSTRACT FROM AUTHOR] *Copyright of Educational Review is the property of Routledge and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use. This abstract may be abridged. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material for the full abstract.* (Copyright applies to all Abstracts)
Author Affiliations:	[1]University of Kentucky. Lexington, KY
7 ISSN:	00131911
8 DOI:	10.1080/00131910600796876
9 Accession Number:	24153967
Persistent link to this record (Permalink):	http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=24153967&site=ehost-live
10 Database:	Academic Search Premier

The above record is from the online database Academic Search Premier/EBSCO. The headings on the left of the record are “fields” that describe the content of the article.

23. Suppose you have searched in the Academic Search Premier/EBSCO database for articles about school breakfast programs and nutrition. This particular article looks useful, but you wish to revise your search to find more articles like it.

What field in the above record provides alternative search terms for you to try in your new search?

a. Source (3)
b. Subject Terms (5)
c. ISSN (7)
d. Document Type (4)

24. What field in the above record provides information that the citation is from a scholarly, peer reviewed journal that was published within the past 5 years?

a. Source (3)
b. Authors (2)
c. Digital Object Identifier (DOI) (8)
d. Author Supplied Keywords (6)

25. Does the above record indicate whether the article is full-text?

a. Yes
b. No

26. Which of the following sets of search terms would most likely retrieve useful articles to support this thesis statement?

The government revised anti-piracy laws to protect Canadian artists and increased penalties (i.e., fines) for Canadians who illegally share or download copyrighted materials.

a. Canada, copyright infringement, artists
b. Canada, anti-piracy
c. Canada, copyright infringement, consumers
d. Canada, file sharing
e. A and C

27. Which of the following search statements is most likely to retrieve a reasonable number of useful articles that support this thesis statement?

The government revised anti-piracy laws to protect Canadian artists and increased penalties (i.e., fines) for Canadians who illegally share or download copyrighted materials.

a. Canada OR (file sharing AND consumers)
b. (Canada OR copyright infringement) AND (artists OR file sharing)
c. Canada AND copyright infringement AND (artists OR consumers)
d. A or B

28. You have found an article on the Web for your assignment. You have concluded that the article is reliable and relevant to the topic. When would you use this article in a project? Please select all that apply.

a. Article written by an individual with no known subject-related credentials
b. Article written by a well-known scholar in the field
c. Article available from a website ending in .edu and/or connected to school, college, or university
d. Article published as part of a conference proceedings

e. Article found on a professional organization, association, or government website
f. Full text of article available

29. When searching an electronic database for a course assignment, how would you select the best articles to include in your project? Please select all that apply.
a. Select the most recent articles.
b. Look for articles published in scholarly journals.
c. Read the abstracts and review the subject/descriptors to find the articles most relevant to your topic.
d. Select articles with full text only

30. When using web pages for your course project, how important is finding the author or source?
a. Very important
b. Important
c. Somewhat Important
d. Not important

31. When using web pages for your course project, how important is finding up-to-date information?
a. Very important
b. Important
c. Somewhat Important
d. Not important

32. When using web pages for your course project, how important is finding accurate information that can be confirmed in other sources?
a. Very important
b. Important
c. Somewhat Important
d. Not important

33. When using web pages for your course project, how important is finding information that is acceptable or approved for course assignments?
a. Very important
b. Important
c. Somewhat Important
d. Not important

34. After you have done your initial research for a paper, how often do you discuss findings with friends and teachers?
a. Always
b. Sometimes
c. Rarely
d. Never

35. After you have done your initial research for a paper, how often do you make an outline (i.e. Introduction, Thesis Statement, Arguments, Discussion, Conclusion)?
a. Always
b. Sometimes
c. Rarely
d. Never

36. After you have done your initial research for a paper, how often do you review the original research questions to determine if additional information is needed?
    a. Always
    b. Sometimes
    c. Rarely
    d. Never

37. After you have done your initial research for a paper, how often do you discard irrelevant or useless information?
    a. Always
    b. Sometimes
    c. Rarely
    d. Never

38. After you have done your initial research for a paper, how often do you revise your outline based on research findings (i.e. Introduction, Thesis Statement, Arguments, Discussion, Conclusion)?
    a. Always
    b. Sometimes
    c. Rarely
    d. Never

39. Has a professor/teacher done any of the following this term? Please select all that apply.
    a. Referred you to a specific library staff member
    b. Invited library staff to class
    c. Encouraged you to seek a library staff member
    d. Arranged for a library staff-led tour/orientation
    e. Arranged for one or more instruction sessions in the library and/or classroom

This section asks about using information effectively for presentations and assignments.

40. In your academic career (high school, community college, college or university), have you ever been given the opportunity to present your assignment using the following methods/formats? Please select all that apply.
    a. Written research paper
    b. Visual project
    c. Presentation using PowerPoint or other presentation software
    d. Presentation using non-technical methods (flip charts, overhead transparencies, etc.)
    e. Web pages/site, blog, wiki
    f. Dramatic performance (singing/dancing/recitations/musical interpretation)
    g. VHS (video), CD, or DVD

41. If given the opportunity, which one(s) would you feel comfortable using? Please select all that apply.
    a. Written research paper
    b. Visual project
    c. Presentation using PowerPoint or other presentation software
    d. Presentation using non-technical methods (flip charts, overhead transparencies, etc.)
    e. Web pages/site, blog, wiki
    f. Dramatic performance (singing/dancing/recitations/musical interpretation)
    g. VHS (video), CD, or DVD

This section asks about the ethical and legal use of information, including plagiarism and the use of copyrighted material.

42. Plagiarism is presenting the work of others as though it were your own; it is dishonest and in some cases can be understood as theft. Which of the following are examples of plagiarism? Please check all that apply.

a. Using phrases and sentences of others as if they were your own without giving credit.
b. Using ideas of others as if they were your own without giving credit.
c. Copying text written by someone else and using it with quotation marks to give credit.
d. Rewording someone else's information and using it without giving credit.
e. Using copyrighted images from the Web without giving credit.

Copyright is a form of protection provided by the laws of Canada to the authors of "original works of authorship," including literary, dramatic, musical, artistic, and certain other intellectual works. This protection is available for both published and unpublished works.

43. If you were creating your own website, could you legally use pictures of Don Cherry from the Internet on your web page without permission?

a. Yes
b. No

44. If you were creating your own website, could you legally use the theme song from "Titanic" by Celine Dion on your web page without permission?

a. Yes
b. No

45. If you were creating your own website, could you legally use the *Federal Sponsorship Scandal* (Campbell & Associates Consulting, 2004) report that you found at the Canadian National Catalogue, Libraries and Archive Canada on your web page without permission?

a. Yes
b. No

46. If you were creating your own website, could you legally use Governor General Michaëlle Jean's 2008 Throne Speech on your web page without permission?

a. Yes
b. No

47. If you were creating your own website, could you legally use pictures of Sidney Crosby scanned in from *Sports Illustrated* magazine on your web page without permission?

a. Yes
b. No

48. If you were creating your own website, could you legally use text you scanned in of the book *Fast Food Nation* on your web page without permission?

a. Yes
b. No

49. If you were creating your own website, could you legally use text of the *Bill C-38: The Civil Marriage Act of 2005*, permitting same-sex marriage, passed in Canada's House of Commons on your web page without permission?

a. Yes
b. No

50. If you were creating your own website, could you legally use text you scanned in of an article from the *Globe and Mail* criticizing the 2005 Civil Marriage Act on your web page without permission?
   a. Yes
   b. No

51. If you were creating your own website, could you legally embed Jake Shimabikuro's YouTube video clip "Ukulele weeps" on your web page without permission?
   a. Yes
   b. No

52. If you were creating your own website, could you legally use a link to the David Suzuki Foundation website on your web page without permission?
   a. Yes
   b. No

53. If you are creating your own website, could you legally use lecture notes posted by your Introduction to Psychology teacher on your web page without permission?
   a. Yes
   b. No

54. You are involved in a Co-op placement at the hospital and you are required to complete a presentation to your class on your workplace experiences. Throughout your placement you have acquired important medical documents (i.e. patient files, in-house policies/procedures, etc.) relevant to your position and job tasks. Your placement supervisor has allowed you to keep these documents so you can use them to develop your presentation. How do you store these documents after you are finished with your placement?
   a. Give the documents to a friend for safe keeping
   b. The documents should be stored in a safe and secure place that only you have access to
   c. Leave the documents in the Library Commons
   d. Give the documents out to your class during your presentation

This section gathers demographic and background information to assist us in analyzing the data for the Georgian and Laurentian @ Georgian population.

55. Where did you learn about library research skills (how to access, use and evaluate information from a variety of sources)? Please check all that apply.
   a. Course assignments and tests
   b. In-class seminars and presentations by Library Staff
   c. Online tutorial
   d. Library Seminars
   e. Professor/Teacher
   f. I did not receive instruction on these skills

56. How important was it to learn library research skills (how to access, use and evaluate information from a variety of sources) to complete course requirements this semester?
   a. Very important
   b. Important
   c. Somewhat Important
   d. Not Important

57. Indicate how often you will use library research skills for course requirements in the future?
    a. Always
    b. Sometimes
    c. Rarely
    d. Never

58. For what reasons do you use research skills outside of course work? Please select all that apply.
    a. Employment opportunities
    b. Medical information
    c. Travel information
    d. Entertainment
    e. Financial information
    f. Famous people
    g. Popular and historical events
    h. Family genealogy
    i. Politics
    j. Technology

The following section asks you about your opinions of your library research skills.

59. How comfortable are you at developing research questions?
    a. Very comfortable
    b. Comfortable
    c. Somewhat comfortable
    d. Not at all comfortable

60. How comfortable are you at identifying sources of information required for a project?
    a. Very comfortable
    b. Comfortable
    c. Somewhat comfortable
    d. Not at all comfortable

61. How comfortable are you at identifying search terms to be used?
    a. Very comfortable
    b. Comfortable
    c. Somewhat comfortable
    d. Not at all comfortable

62. How comfortable are you at searching library databases?
    a. Very comfortable
    b. Comfortable
    c. Somewhat comfortable
    d. Not at all comfortable

63. How comfortable are you at evaluating information found from searches?
    a. Comfortable
    b. Somewhat comfortable
    c. Not at all comfortable

64. How comfortable are you at summarizing new information found in a search?
    a. Very comfortable
    b. Comfortable

c. Somewhat comfortable
d. Not at all comfortable

65. How comfortable are you at writing a research paper?
a. Very comfortable
b. Comfortable
c. Somewhat comfortable
d. Not at all comfortable

66. How comfortable are you at referencing and citing sources?
a. Very comfortable
b. Comfortable
c. Somewhat comfortable
d. Not at all comfortable

67. In the library, which of the following best describes your experience finding information?
a. I find articles easily
b. I can usually find what I want, but it takes a while.
c. I have to ask for assistance to find what I am looking for
d. I generally do not use libraries

68. Overall, which word best describes how you feel when you receive an assignment requiring research?
a. Confused
b. At ease
c. Interested
d. Anxious
e. Intimidated
f. Challenged

69. Overall, which word best describes how you feel when you gather information from library databases?
a. Confused
b. At ease
c. Interested
d. Anxious
e. Frustrated
f. Challenged

70. What resources at Georgian College do you use to complete course work and assignments? Please select all that apply.
a. Write On Centre
b. Peer Tutor
c. Professors/ Teachers
d. Friends
e. Library Staff
f. Library Databases
g. Turnitin software

71. What year were you born in? 19__ __

72. Which of the following education credentials do you **currently have**? (Not what you are in the process of earning) Check all that apply.
    a. Secondary School diploma
    b. Trade or Apprentice Certificate
    c. College certificate
    d. College diploma
    e. College degree
    f. University bachelor's degree
    g. University master's degree

73. To receive your reward for completing this survey, please provide use with your Georgian student number? __ __ __ __ __ __ __ __ __

74. Please indicate your program of study? (e.g., Nursing, Business, ECE, Automotive Management, etc.)

75. Thank you for your responses. Please share any additional comments with us in the space below.

76. Did you receive any library research instruction **this semester** (how to access, use and evaluate information from a variety of sources)?
    a. Yes
    b. No

77. Where did you learn about library research skills **this semester** (how to access, use and evaluate information from a variety of sources)? Please check all that apply.
    a. Wrote course assignments and tests requiring research
    b. Attended in-class seminars and presentations by Library Staff
    c. Attended library seminars (outside of class time)
    d. Participated in online tutorial
    e. Interacted with Professor/Teacher
    f. Referred by Professor/Teacher to library for instruction/assistance
    g. Asked for assistance from the library staff myself
    h. I did not receive instruction on these skills

78. What campus will you be attending in September 2010?
    a. Barrie campus
    b. Orillia campus
    c. Laurentian at Sudbury campus
    d. Other Georgian College campus (Collingwood, Midland, Muskoka, Orangeville, Owen Sound, etc.)
    e. Other post-secondary institution
    f. I am not returning to school in the Fall of 2010

Appendix E

Faculty Interview Questions

Interview 1 Questions (Intervention Evaluation)

Thank you for participating in the Georgian College and Laurentian@Georgian Information Literacy Interview. This research project is designed to measure the effectiveness of information literacy initiatives delivered to College and University students. Your views and perceptions of the IL intervention will be collected.

Do you consent for the interview to be recorded to ease data analysis?

1. What kinds of courses are you teaching this semester
   - In what programs?
   - Total # of courses instructed this semester: _____

2. In your own words, can you define Information Literacy?
   - [If yes, please define]
   - [If cannot provide definition say: Information literacy is defined as the ability to access, use and evaluate information from a variety of sources]

3. What is your opinion of IL skills of post-secondary students? (Hints: common sense; skill lacking in post-secondary institutions, etc.)

Follow-up Questions
   - How important are IL skills in academic success?
   - Do students use shortcuts to complete research oriented assignments? (If yes, please expand)

4. Prior to coming into your program/course, how ready are first-year students to complete research oriented assignments?

The next set of questions is worded based on the American College and Research Libraries' Information Literacy Competency Standards for Higher Education, (so at times the wording may be awkward).

Follow-up Questions: For the following questions about student library research activities/skills, please respond "Yes", "No", or "Don't Know"

Do your students demonstrate the ability to:
- "Use various search systems to retrieve information in a variety of [Citation] formats" (2.3.a) such as books, journals, websites, etc.? (Clarification Question: Can they identify citations?)
- "Identify key concepts and terms that describe the information need[ed]" (1.1.e) for assignments (Clarification Question: Do they know what kind of information is required for assignments?)
- "Construct a search strategy using appropriate commands [such as Boolean operators, truncation, proximity] for the information" searches? (2.2.d) (Clarification Question: Do they know how to search for articles through Internet or Library Databases?)
- "Select information that provides evidence for the topic" of their assignments (e.g., Selects information that addresses the original information request and supports or argues against the thesis statement) (3.4.g) (Clarification Question: Can they find the information needed?)
- "Examine and compare information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias" (3.2.a) (Clarification Question: Can they identify credible/reliable sources of information?)
- "Demonstrate an understanding of intellectual property, copyright, and fair use of copyrighted material (fair dealing of copyrighted material) (5.1.d) (Clarification Question: Are they familiar with Academic Misconduct Policies within the College/University? Do they know of the concept/consequences of plagiarism or copyright infringements?)

- "Demonstrate an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own" (5.2.f) (Clarification Question: Can they synthesize information accurately and without plagiarism?)

5. Do your students experience frustrations with research related assignments?
   - If yes, what are their frustrations?

6. Students vary in their ability to complete course work. What are the defining characteristics of a good research-oriented paper?

7. Think about your students' skills levels this semester. Did you perceive an enhancement of information literacy skills in your students after their IL intervention?

Follow-up Questions:
- If so, what were the skills you perceived as improving?
- What skills do you need to be further enhanced?
- Is there too much focus on a particular IL topic (such as searching, search tools, etc.)?
- Is there too little focus on specific IL topic (i.e., writing, and answering thesis questions/statements)?
- If not, what skills need more focus within IL Interventions?

8. How are students prepared to complete required work after the intervention? If yes, how so?

9. Have your students made comments about the IL intervention they received? If so, what were their comments?

10. Have your students made comments about library research (in general)? If so, what were their comments?

11. Did you provide additional library research interventions this term?

12. If there were no restrictions in budget, curriculum, or human resources, what library instruction options would you like to see more of? What is the ideal model of IL instruction?

Interview 2 Questions (Retention; Provide baseline of IL activities in current semester)

Thank you for participating in the Georgian College and Laurentian@Georgian Information Literacy Interview. This research project is designed to measure the effectiveness of information literacy initiatives delivered to College and University students. Your views and perceptions of the IL intervention will be collected.

Do you consent for the interview to be recorded to ease data analysis?

1. What kinds of courses are you teaching this semester
   - In what programs?
   - Total # of courses instructed this semester: _____

2. In your own words, can you define Information Literacy?
   - [If yes, please define]
   - [If cannot provide definition say: Information literacy is defined as the ability to access, use and evaluate information from a variety of sources]

3. Do you encourage library use to complete coursework or assignments in first year courses?

Follow-up Questions:
- Does your course have a specific research component (IL) in first-year?
- What does your research component entail (assignments, debates, tests, etc.)
- How many IL or research assignments are included within your curriculum?
- What types of sources do you expect from coursework/assignments?
- What types of sources do you see in coursework/assignments? Are the sources credible or not? (wiki, databases, web)

[If not, Why not?]

4. Does library staff contribute to students' IL skill development?

Follow-up Questions:
- What is the library's role in course development for IL skills?
- Do you involve library staff in the development of a course to ensure IL/research standards are instructed and applied?
- What is the library's role in IL instruction?

5. Have you provided any of the following IL instruction within your course this semester? (Please respond "Yes", "No" or "Don't Know")
   - Library tour by professor/teacher
   - Library tour by library staff
   - Research skills class facilitated by library staff
   - Research skills class facilitated by professor/teacher
   - Topic-specific research class by library staff
   - Topic-specific research class by professor/teacher
   - Library directed seminar/class on effectively using library (databases, catalogues, internet, etc.)
   - Any other IL instruction used:_____

6. When you are instructing/assisting your students this semester, how much time do you spend instructing/assisting your students on:

Please respond: Always, Sometimes, Rarely, or Never

- Search techniques
- Appropriate sources according to topic
- Construction of research statement
- Organization of document
- Synthesis of materials found
- Development of final product
- Academic misconduct as it relates to Copyright and Plagiarism

7. Do first-year students encounter difficulties when applying IL skills to complete coursework and assignments? If yes, what are these difficulties?

8. What is your biggest concern when marking/reading first-year class papers/assignments this semester? (What's missing or not covered properly, problems)

9. Have your students made any comments about library research (in general)? If yes, what are they?

10. Other than Georgian/UPC IL Intervention Initiatives, where do students learn IL Skills? (*POTENTIAL TO DROP*)

Follow-up Questions

- Are students independent learners for IL skills? (Clarification: learn as they go, trial and error approaches)
- Do they require additional programming/instruction to be more effective IL skills?
- Do they require additional instruction from library staff to be more effective?

11. As students finish their first-year in your program/course(s), how ready are they to complete research oriented assignments?

The next set of questions is worded based on the American College and Research Libraries' Information Literacy Competency Standards for Higher Education, (so at times the wording may be awkward).

Follow-up Questions: For the following questions about student library research activities, please respond "Yes", "No", or "Don't Know"

Do your students demonstrate the ability to:

- "Record all pertinent citation information for future reference *(according to college wide standard – APA)" (2.5.D)* needed for assignments *(*Clarification Question: Can they identify citations?)
- "Define or modify the information need" (1.1.d) to obtain the information they need for their assignment? (Clarification Question: Do they know what kind of information is required for assignments?)
- "Construct a search strategy using appropriate commands [such as Boolean operators, truncation, and proximity]" (2.2d) (Clarification Question: Do they know how to search for articles (through Internet or Library Databases)?)
- "Define a realistic overall plan and timeline to acquire the needed information" for their assignments? (Develops a timeframe to research the information request and allots sufficient time to search and obtain sources.) (1.3.c)(Clarification Question: Can they find the information needed?)

- "Examine and compare information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias" (3.2.a) (Clarification Question: Can they identify credible/reliable sources of information?)
- "Demonstrate an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own" (5.2.f) (Clarification Question: Are they familiar with Academic Misconduct Policies within the College/University? Do they know of the concept/consequences of plagiarism or copyright infringements?)
- "Integrate new information with previous information or knowledge" (Incorporates new information with previously known information to increase their knowledge base on a particular topic.)(3.4.f) (Clarification Question: Can they synthesize information accurately and without plagiarism?)

12. If there were no restrictions in budget, curriculum, or human resources, what library instruction options would you like to see more of? What is the ideal model of IL instruction?

Interview 3 Questions (Retention; Provide baseline of IL activities in current semester)

Thank you for participating in the Georgian College and Laurentian@Georgian Information Literacy Interview. This research project is designed to measure the effectiveness of information literacy initiatives delivered to College and University students. Your views and perceptions of the IL intervention will be collected.

Do you consent for the interview to be recorded to ease data analysis?

1. What kinds of courses are you teaching this semester
   - In what programs?
   - Total # of courses instructed this semester: _____

2. In your own words, can you define Information Literacy?
   - [If yes, please define]
   - [If cannot provide definition say: Information literacy is defined as the ability to access, use and evaluate information from a variety of sources]

3. Do you encourage library use to complete coursework or assignments for second-year courses?
   - How do your courses assess IL?
   - How many IL or research assignments are included within your curriculum?
   - What types of assignments require library use and IL skills?
   - What types of sources do you expect from coursework/assignments?
   - What types of sources do you see in coursework/assignments? Are the sources credible or not? (wiki, databases, internet)

4. Have you provided any of the following IL instruction within your second-year classes?
(Please respond “Yes”, “No” or “Don’t Know”)
   - Library tour by professor/teacher
   - Library tour by library staff
   - Research skills class facilitated by library staff
   - Research skills class facilitated by professor/teacher
   - Topic-specific research class by library staff
   - Topic-specific research class by professor/teacher
   - Library directed seminar/class on effectively using library (databases, catalogues, internet, etc.)

5. As students finish their second-year in your program/course(s), potentially preparing for their graduation and entry into the workforce, how prepared are they to complete research oriented projects?

The next set of questions is worded based on the American College and Research Libraries’ Information Literacy Competency Standards for Higher Education, (so at times the wording may be awkward).

Follow-up Questions: For the following questions about student library research activities, please respond “Yes”, “No”, or “Don’t Know”

Do your students demonstrate the ability to:
- “Select an appropriate documentation style and use it consistently to cite sources” (5.3.a) in their assignments? (Clarification Question: Can they identify citations?)
- “Define or modify the information need to achieve a manageable focus” for their assignments (1.1.d) (Clarification Question: Do they know what kind of information is required for assignments?)

- "Implement the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters" (2.2.e) (Clarification Question: Do they know how to search for articles (through Internet or Library Databases)?)
- "Select efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system" (Establishes how the results will be recorded and stored (e.g., saving/downloading, note taking, photocopying, printing))(2.1.d). (Clarification Question: Can they find the information needed?)
- "Examine and compare information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias" (3.2.a) (Clarification Question: Can they identify credible/reliable sources of information?)
- "Comply with institutional policies on access to information resources" (5.2.c) (Clarification Question: Are they familiar with Academic Misconduct Policies within the College/University? Do they know of the concept/consequences of plagiarism or copyright infringements?)
- "Integrate new information with previous information or knowledge" (Incorporates new information with previously known information to increase their knowledge base on a particular topic.)(3.4.f) (Clarification Question: Can they synthesize information accurately and without plagiarism?)

6. Do your students experience frustrations with research related assignments? If yes, what are their frustrations?

7. Do second-year students encounter difficulties when applying IL skills to complete coursework and assignments? If yes, what are these difficulties?

8. What is your biggest concern when marking/reading second-year class papers/assignments? (What's missing or not covered properly, problems)

9. When you are instructing/assisting your students this semester, how much time do you spend instructing/assisting your students on:
   Please respond: Always, Sometimes, Rarely, or Never
   - Search techniques
   - Appropriate sources according to topic
   - Construction of research statement
   - Organization of document
   - Synthesis of materials found
   - Development of final product
   - Academic misconduct as it relates to Copyright and Plagiarism

10. How would you deliver IL content in your course(s)?
    - What would it focus on?
    - Would you have library staff lead or assist with delivery of information? Would you deliver the instruction?
    - Would your deliver the content outside class time? In class?

11. Compared to previous second-year students you have instructed or observed, are students more fluent in library research skills?

Follow-up Questions:

- How do students become more engaged in IL? What is the mechanism (trial error, instruction, learn as they go, course work, motivation, personal interest, etc.)? How does this happen?
- What can you do to help students retain IL skills?
- How do/can students apply IL skills outside school?
- How do you improve IL skills in the classroom (i.e., assignments, lectures, debates, etc.)?
- Other:_____

12. Do you encounter any barriers/difficulties educating post-secondary students in IL? If so what are they? (i.e., resources, space, staff, time, course development, equipment)

13. Think about your students' skills levels this semester. Did you perceive a difference in information literacy skills in your students this semester?
    - If so, what were the skills you perceived as improving?
    - What skills do you need to be further enhanced?
    - If not, what skills need more focus within IL Interventions?

14. If there were no restrictions in budget, curriculum, or human resources, what library instruction options would you like to see more of? What is the ideal model of IL instruction?

15. (describe interventions in preface) Which method of intervention do you feel would be most effective? Why?

Higher Education Quality Council of Ontario

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