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BINARY FLUENCY:  
BIBLIOGRAPHIC PEDAGOGY IN JAPANESE STUDIES AT PENN

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PROLOGUE

Information
Information is a conceptual synthesis that represents a set of related ideas which, when recorded and preserved, induces purposeful and effectual human communication (Anderson, 1983; Belkin, 1978). On the basis of this definition, this paper constructs the following behavioral framework as to how information works. Information originates in the creator's mind as incipient ideas. These ideas grow and mature into a structured conceptual whole represented by a symbolic means such as language, image, sound, or number system among many others. The represented conceptual whole, then, becomes transferable as it actualizes itself through an expressive medium such as book, CD-ROM, online image, and so on. When information seekers come in contact with the information that is mature, represented, and actualized, this information evokes certain reactions in the seekers' mind, initiating a process of communication. For example, a print journal article is a form of recorded and preserved information. This linguistic representation of structured ideas framed in the medium called "print journal" establishes a communication between the author and the reader. If, for instance, the reader decides to use this article in his/her research paper, the communication is purposeful because the reader's decision establishes a certain aim for the content of this article; on the other hand, if the reader sets out to prove the insufficiency of the primary claim of John Doe's thesis by utilizing this article as his/her ammunition and succeeds, then the communication is effectual because this article causes the reader to modify some elements in the knowledge environment built around the veracity of John Doe's thesis. Moreover, information is dynamic: it affects no two persons in exactly the same way; and, conversely, no two persons perceive, grasp, and assimilate it exactly alike. Complex and dynamic, recorded information transfers a conceptual synthesis to its seekers, establishing a communication arena that is uniquely individuated and unduplicable.

Expressive media
Given that information transforms itself through symbolic means, it is possible to pinpoint today's two most prevalent channels through which information manifests itself: (1) electronic media and (2) print media. With their capability to quantify related data taxonomically and to provide superior accessibility, some of the electronic media have successfully established their viability in today's academic communication environment. Digitized reference material, which includes bibliographies, dictionaries, encyclopedias, citation indexes, is one such genre whose positive contribution has resulted from its reshaped functionality as database endowed with the capability to continuously update its data content (Lynch, 2001). While Benoit (2002) maintains that the success of electronic resources, such as this genre, depends on how users assimilate the information content and give value to it, Lynch (2002) offers a technological explanation claiming that its success and enduring value as information needs to be ascribed to the "reusability" marked out by the frequent scholarly rediscovery.
There are other types of electronic genres: Internet sites, e-books, and e-journals, for example. As Lynch (2001) observes, users generally turn to these genres in order to get a quick look at various source options or simply to engage in non-committal, non-sequential reading. As long as users continue making cursory use of these electronic genres aiming at quick results, these genres will serve them well. However, full-fledged research activity requires more than non-sequential reading. For example, the rereading that requires a deep level of concentration for the comprehension of information content, and the kind of reading that requires summarizing and annotating—all of which link eventually to writing—are not well supported by non-sequential reading (Palmer, 2002).

Yet when users commit themselves to a high level of research activity, a number of problems emerge. For instance, although these electronic genres offer unique functionality in the rapid retrieval of information, through such features as keyword search and non-linear hypertextual structure, they lack the capability for sequential reading that requires the simultaneous checking of footnotes (Massey-Bursio, 1999). Both Massey-Bursio (1999) and Palmer (2002) underscore the importance humanities scholars in particular place on the use of footnotes to find sources. Some users appear to feel that the reading of electronic sources can be quite tasking: they often lose their places while engaging in reading, they have to scroll up and down constantly, they are unable to highlight major ideas, and they find themselves unable to engage in extensive annotations (Starkweather, 1999). The gravest problem is that electronic resources lack preservability, despite their licensed accessibility. This ability to preserve information is one of the major differences between digital and print resources (Lynch, 2001; Saracevic, 2000). Print media, though they are inferior to electronic media in terms of quantification and accessibility, can preserve information content: this is a powerful advantage over electronic media. As Clifford A. Lynch (2001), the Executive Director of the Coalition for Network Information, affirms, print media will continue to exist because of their preservability as well as their unique purpose and readership distinct from those of digitized resources.

**Information Literacy**

Given that symbolically represented information manifests itself through expressive media, these media remain in abeyance to the information content. Users select information content according to their own interpretations and contextualizations of research topics, determine how to use the selected information content in order to broaden and deepen the level of their academic communications, and opt for a particular expressive medium that best serves their research aims. In this multi-leveled process, the expressive medium is a means, not an end in itself: the primary focus is the information content. As White (1999) suggests, the refinement, not the quantification, of highly relevant information contents is the core aim of user-based information management. And, the effective user-information interaction presupposes well-developed abilities and skills in selecting, assessing, and utilizing the information content with a highly focused topical relevance. The acquisition of such abilities and skills, then, necessitates a methodically structured educational environment that is learner-centric in which the learner takes the initiative in order to bring about the best possible result in attaining the prescribed educational goals (Dewald, 2000). McCartin (2001) and many other information specialists believe that the ARCL Information Literacy Competency Standards for Higher Education (Association of College and Research Libraries, 2000) provides the basis for the creation of just such an educational environment—one that centers around the instruction of information literacy.
The ARCL Standards build on a tiered structure which comprises five broad-based standards that divide into 22 performance indicators for which 87 outcomes are postulated. These Standards organize a conceptual framework that identifies and taxonomizes abilities and skills required for the user-information interaction to occur in the broadest possible ways. The five Standards state that an information-literate person can:

1. Determine the extent of information needed;
2. Access the needed information effectively and efficiently;
3. Evaluate information and its sources critically and incorporate selected information into one's knowledge base;
4. Use information effectively to accomplish a specific purpose; and
5. Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally. (1-2)

The current information arena in higher education has reacted to these broadly articulated Standards in terms of their practical applicability. Some information specialists have received the Standards with open arms declaring that they establish the firm fundamental principles by defining scholarship as a life-long learning process (Arp, 2002; Brown, 1999), while others have suggested that the general scope of the ARCL Standards is too far-reaching and unrealistic because they contain an unreasonably wide range of competency expectations and learning components (Marcum, 2002). These strong reactions have been offered in voluminous publications as well as via endless discussions and debates that outweigh the reality-based implementation results reported thus far (Arp, 2002). On the basis of these varied reactions, Arp (2002) further observes that the general tendency in higher education is to use these standards selectively in order to meet the student needs on an institution-by-institution basis. It seems, then, that the primary significance of the Standards lies not only in its officially stated role as an instrument for measuring an individual's level of information literacy, but also in its functionality as a point of reference--a benchmark--for designing, developing, and implementing information literacy programs based upon a specific institution's programmatic needs.

The number and types of the definitions for the term "information literacy" that have appeared in discussion papers, guideline papers, suggestion papers, and reports since the establishment of the ARCL Standards seems to suggest a lack of consensus among information specialists. For the purpose of offering a clear perspective in this paper, the following brief definitions are presented descriptively. The simplest definition of "information literacy" begins with Chu's (1999) and Marcum's (2002) reminder that the most fundamental meaning of the word "literacy" is "the ability to read, write, and speak." Chu (1999) adds that information literacy is, at base, the ability to analyze and critically evaluate information. Roth (1999) and Brandt (2001) suggest that the discovery, the assessment, and the purposeful manipulation of information lie at the center of information literacy. Sun (2002:216) condenses the ARCL Standards to their core level: information literacy is "the ability to access, evaluate, and use information effectively, efficiently, and critically, as well as ethically and legally." The discovery, the access, the assessment, and the determined use of information through critical analysis constitute the root concept underlying information literacy. The nucleus of this root concept, then, is analysis that comes from the ability to think critically. This nucleus is generally termed "critical thinking." Whitmire (1998) provides a concise explanation arguing that critical thinking refers to the capability to comprehend a discourse by extracting its main ideas and to examine and assess the consistency of the discourse structure, the validity of claims, the veracity of data, the reliability of data sources, and the qualifications of information providers, as well as the justifiability of the conclusions given. Whitmire (1998) along with Farber (1999)
proceeds to link the need for critical thinking to the use of ever-quantifying electronic media. While Whitmire's concern for effective information management through critical thinking in the face of today's explosive technological advances and through quantification of electronic information is justifiable, the application of critical thinking as a means of successful information management cannot in the least be limited only to the information manifested through electronic media. Critical thinking is an integral part of the scholarly research process, whether the researcher opts for electronic or print media. As O'Sullivan (2002), Kempcke (2000), and Kirkland (1999) advocate, functional information literacy schemes develop upon "integration and relevance." The importance of supporting critical thinking, then, prevails far beyond the electronic/print dichotomy.

**Bibliographic Curricular Content**

Given that critical thinking forms the nucleus of information literacy, shaped definitionally by the ARCL Standards, how will librarians and instructors utilize this framework in designing, developing, and implementing their bibliographic curricula? Will some adhere strictly to the five Standards and follow the 22 performance indicators? This viable approach may, at times, result in a curriculum with a perfectly organized scheme that appears flawless on paper, but void of practical applicability. The worry here is that this approach focuses only on the Standards' taxonomical outline of the abilities and skills presumably required for the acquisition of information literacy, disregarding that the principal actors are users with highly varied skills and motivations. If, by contrast, the user constitutes the starting point of bibliographic curriculum development, then the specific user needs, stemming from the programmatic direction of the academic institution to which the user belongs, must be given the highest priority. In other words, specific user's needs, based upon the institution's programmatic direction, determine the content design, development, and implementation of the bibliographic curriculum (Brown, 1999; Buchanan, 2002; Kamhi-Stein, 1998; Leckie, 1999; Sun, 2002). In this case, then, the role of the Standards is referential.

Once the content of the bibliographic curriculum aligns with, and develops upon the basis of, the immediate needs of users in light of their institution's academic directions, it is necessary to determine how the curriculum content will be organized and implemented. Will the implementational mode be solely built on critical thinking because critical thinking is the nucleus of information literacy? If so, should critical thinking be linked directly and completely to electronic resources because, as Julien (2000) observes, the online information obtainable today is not vetted while in the previous era librarians selected the print sources critically so that users had less of a need to evaluate the credibility and/or reliability of library collections? Will the implementation of the curriculum content necessitate the deployment of a lecture-and-demonstration approach or an activity-based hands-on method?

As a variant approach to critical thinking, Olson (1999:383-384) suggests creative thinking, which he defines as: "the process of modifying ideas, from an existing knowledge base, with the ability to form or bring forth a new thought by using imagination and intellect." Balderrama (2000) concurs with Olson by stressing some significant characteristics of creative thinking, such as taking chances by experimenting with new ideas or by pushing one's limit testing the farthest extent of one's abilities. Olson (1999), using Karl Albrecht's concepts, illustrates five basic components of creative thinking: (1) *Absorption* in which the creative thinker digests relevant data while seeking answers by posing many questions about the data; (2) *Inspiration* in which the creative thinker transforms various attributes of the collected data by intuitively reconstructing and restructuring them; (3) *Testing* in which the creative thinker probes the newly hypothesized amalgamation of data in a
battery of experimentations; (4) Refinement in which the creative thinker revises, improves, and finalizes the test results; and (5) Dissemination and implementation in which the creative thinker provides the executor with the final product for its further realization and distribution. Olson (1999) asserts further that creative thinking stems from the imagination-based conceptual framework "what if ...", while critical thinking builds on the logical structure "if ... then ...." Will this type of creative thinking work well in a lecture-demonstration pedagogical environment, one which a large group of today's practicing librarians and instructors seems to support (Dalrymple, 2002)? Or will it turn out to be a far more suitable option for activity-based, learner-centric instructional environments which another population of information specialists seems to endorse (Holeman, 2000; Kamhi-Stein, 1998; Rockman, 2002)? It seems clear that creative thinking nurtures and matures in the kind of pedagogical environment in which a variety of learning types are valued, such as those taxonomized, for example, by Marybeth McCartin.

McCartin (2001) suggests four types of learning: (1) the constructivist approach focuses on learners' own direct involvement with what is to be learned through various methods such as observation, examination, exploration, analysis and synthesis, and discovery in order to build their own expertise independently and self-reliantly; (2) the experiential learning approach builds on "learning by doing"—and, as it is activity-based, it encourages learners to engage in such activities as development of skills, exploration of various concepts using a wide range of viewpoints, and examination of problem situations in order to bring solutions to them; (3) the inquiry-based learning approach has instructors guiding students through a variety of problems and processes of discovery using various sources in order to bring about appropriate solutions (here the instructor disseminates no information directly—s/he guides); and (4) the cooperative learning model nurtures a team-environment, supports meaningful interpersonal communication, as well as promotes individual responsibility among students of varying propensities and sociocultural backgrounds. Clearly, self-realization through activity-based, self-reliant, and intercommunicational experience is the common denominator fusing these types of learning. In instructional environments that foster such positive learning behaviors, critical thinking and creative thinking can co-function enriching given problem solving processes. This co-functionality, for example, may take the pattern: If A, then B; but what if A contains the sub-elements x and y instead of p and q as originally supposed—will the thought "if A, then B" still hold? The bibliographic curriculum can, then, incorporate a system in which critical thinking and creative thinking serve as a viable dyad in a holistically managed instructional setting.

BIBLIOGRAPHIC PEDAGOGY AT PENN

Overview
The bibliographic pedagogy in graduate level Japanese Studies at the University of Pennsylvania encourages the interplay between critical thinking and creative thinking in an activity-based intercommunicational environment. This design enables students to experience substantial information discovery processes through the predominantly Japanese language-based setting. Bearing the title "Japanese Bibliography and Problems of Research," this bibliographic course is an integral part of the Japanese Studies curriculum offered by the Department of Asian and Middle Eastern Studies at Penn. Established by the unanimous recommendation of the Japanese Studies faculty, and aligned with the faculty's belief that the highest priority is for the students to familiarize themselves with the contents of as many major reference tools as possible, regardless of their media and formats, this bibliographic pedagogy continues to evolve through four ongoing academic subject categories: Buddhism, Japanese Civilization, Japanese History, and Japanese Literature. The
bibliographic pedagogy aims to meet the immediate academic needs of the students, by exposing the students to a set of carefully selected humanities-based resources in the way that enables the students to apply their new bibliographic knowledge and experience directly to their day-to-day research projects while they move forward in their academic trajectories toward the completion of their degree programs. This aim allies with the justification that the familiarization with a broad array of representative reference tools constitutes a precursor to the successful development and acquisition of abilities and skills detailed in the ARCL Standards. The bibliographic pedagogy in Japanese Studies at Penn, then, centers upon the specific needs of the graduate students. These needs are framed by the Japanese Studies faculty to match the current scholarly direction at the institutional level.

Exploring further this institutional level, it becomes important to note that Japanese Studies belongs to the family of area studies. Koide (1999) affirms that the comparative analyses of various human undertakings shaped in cultural, linguistic, sociopolitical, and philosophical phenomena is the essence of area studies. Makino (2000) observes that in the past decade Japanese Studies has transformed from a highly compartmentalized discipline into a multidisciplinary one. Balderrama (2000) suggests that all forms of communication (scholarly, intercultural, and interpersonal) build on diversity. These postulates, when integrated together, form the contextual basis of Japanese Studies: to analyze comparatively human phenomena relevant to Japan from multidisciplinary viewpoints and, subsequently, to disseminate the multiform research results in order to enrich and further the present Japanological Studies fostering continued scholarly advancement. Here, the three key concepts are: (1) topical relevance to Japan; (2) analyses of Japan-based human phenomena; and (3) communication of variform research results. How do these core concepts link within the Japanological informational arena? First, researchers' familiarity with appropriate resource contents usher them into the relevant topical foci of their Japanological research projects. Second, researchers' experiences in the integration of critical thinking and creative thinking facilitates and heightens the analytical process of their research projects. And third, the dissemination of their research results reflects the depth and breadth of their binary fluency in wielding original Japanese texts and in transforming the original texts into the language chosen for publication of their finished research products. The bibliographic pedagogy in Japanese Studies, then, builds on the familiarization with representative resource tools and the comprehension of the resource contents through the synergy of critical and creative thinking, supported by the binary fluency in reshaping original Japanese texts into the research context and utilizing the language chosen for final knowledge transmission.

**Binary Fluency**

Generally, Japanology graduate students in North America comprise three types: (1) native speakers of English whose research projects involve original Japanese texts and who disseminate their research results in English; (2) native speakers of Japanese whose research projects involve original Japanese texts and who disseminate their research results in English; and (3) native speakers of languages other than English and Japanese whose research projects involve original Japanese texts and who disseminate their research results in English. This paper concerns itself with Type-1 and Type-2 students because these two types constitute the population of the Japanese Studies graduate students at Penn. The Type-1 graduate students, the native speakers of English, are required to have completed all of the Japanese language courses before taking the Japanese bibliography course. The reason is that 90 percent of the representative resources to be covered either in class or on an individual basis during the semester, and all the projects and exercises that are integral part of this
course, are in Japanese; thus, the course mandates a high level of proficiency in the Japanese language. For the Type-1 students, the primary aim of this bibliographic course is to grasp the given Japanese resource contents and realize how best to utilize them. In terms of the final dissemination of their research results, the students’ work goes smoothly because the transmissive medium is in English—their native tongue. The Type-1 students simultaneously gain familiarity with the selected Japanese resources and further their skills in the Japanese language. In contrast, the Type-2 students grasp the given Japanese resource contents more easily because these contents are in Japanese—their own native language. The primary task for the Type-2 students is to acquire skills in how best to utilize these resource contents, transforming, not just translating, them from Japanese into English, in the analytical processes of their research projects and in how best to disseminate their research results in English whose syntactical structure as well as semantic convention differs considerably from those of the Japanese language. The binary fluency, then, is a dyadic system that comprises bibliographic and linguistic fluency. In the bibliographic pedagogy at Penn, all students strive to develop bibliographic fluency; and, along with this fluency, the Type-1 students further their linguistic skills in Japanese while the Type-2 students aim for a higher level of English proficiency.

**Pedagogical Content**

**Class Activity**

The pedagogical content of the bibliography course at Penn has two components that provoke the cognitive processes of critical and creative thinking: (1) examination and interpretation and (2) comparative analysis and subsequent synthesis. The examination and interpretation component forms the basis of class activity, while the comparative analysis and synthesis frames the individually assigned projects. The class activity has two modules: (1) Search Practice and (2) Paraphrase Practice by means of "ASC method." Each weekly session allows 80 minutes for the Search Practice module and additional 80 minutes for the Paraphrase Practice module, with a 20-minute intermission between the two. For these modules, the class divides into groups of two, each group composed of one student with a higher proficiency in Japanese than the other so that the stronger of the two peers mentors the weaker. When possible, a native speaker of English is paired with a native speaker of Japanese. The group members rotate each week so that everyone has the opportunity to share their unique cultural knowledge and their individual thoughts, views, and sociocultural characteristics.

On the first day of the class, each student receives a reference material entitled "Representative Reference Titles for Japanese Studies." This document is a guide book compiled in-house by the Japanese/Korean Bibliographer at the VanPelt-Dietrich Library Center of the University of Pennsylvania. The guide book contains 199 core reference titles, 19 of which are in English and 180 in Japanese, sorted first by subject category and then by call number. Identified by its call number, each entry spells out its bibliographic features divided into two parts: (1) content description and (2) content data elements. The content description outlines the general overview which includes chronological coverage, material coverage, subject focus, entry arrangements, and physical traits. The content data elements detail the structural components such as how the guide word is entered, how the definition is provided, what type of definition it is, how bibliographic/cross references are incorporated, and how indexes are put together and what they contain (see Appendix 1). The students use this guide book as a reference while they are taking the bibliography course; and, after completing the course, they continue to use it as a guide to the Japanese reference collection housed in the East Asian Seminar Room in the library. In addition to this guide book, each student frequently receives handouts throughout the semester. These handouts include a set of Japanese romanization tables, an outline of the steps suggested for transforming search conditions from
English to Japanese, an illustration of some elements necessary for constructing well-formed search conditions, and so on.

In the first module, search practice, the instructor provides each group with a list of three reference titles accompanied by three search questions. The match between the title and the question is already established for the group. The point here is to focus on describing search processes in detail and on providing solutions to the given problems by means of the contents of the reference titles in question. Each question is carefully structured, aiming simultaneously at bibliographic skills acquisition and at Japanological content recognition. As Appendix 2 illustrates, each search question given to the corresponding reference title requires two levels of solutions: (1) the search process describing the steps used to arrive at solutions and (2) the answers deduced from the actual content of the given reference title. Each group spends the first 40 minutes searching for solutions without the instructor’s help. During this period, the group members interact with each other; and, in many instances, they communicate with the members of the other groups as well, thus self-generating a highly intercommunicational environment. In the next forty minutes, each group shares its findings with the class. If there are eight students in four groups, a total of 12 representative reference titles are discussed in light of bibliographic techniques and content recognition. Often, new Japanological discussions relevant to their mini-presentations emerge spontaneously. The instructor guides and facilitates their mini-presentations and discussions. Yet, one might ask, why does this activity concentrate heavily on print material? Frank J. Schulman (2002) answers this question: Even in the age of technological advancement and electronic resources and their superb accessibility, the scholarly research on Asia builds primarily on established print resources. Palmer (2002) supports Schulman’s view by observing that, despite today’s highly standardized digital resources, original physical texts remain the primary sources humanities scholars and their research programs most use.

While the first module is bibliographic in its intent, design, and practice, the second module, the Paraphrase Practice, is linguistic. The aim of this module is to familiarize the students with full-fledged academic Japanese, through the ASC method. This will in turn support the methodical development of a holistic contextual comprehension of Japanese texts—a core skill to be deployed in their research processes. The ASC Method transforms Japanese texts into English through Analysis, Synthesis, and Contextualization: that is, the reconfiguration of phraseological and/or sentential relationships on the bases of their syntactical and semantic functionality. As Appendix 3 demonstrates, the first phase, Analysis, accomplishes three tasks: (1) categorizes the sentence into structural and prolongational components in a nested pattern that at once distinguishes visually the structural elements (subject and verb are aligned left: line numbers 1 and 5) from the prolongational elements nested according to their modificative hierarchy (line numbers 2-4), (2) establishes the conceptual parallelism mostly found in English noun-phrases, and (3) reconfigures these English phrases. The second phase, Synthesis, transforms the reconfigured English phrases into a group of more functional phraseological segments which, as a whole, constitute an English sentence. And the third phase, Contextualization, heightens the sentence into a full-fledged and refined English sentence which paraphrases the original Japanese text—one that is appropriate for use in the researcher’s writing. All the Japanese texts used in this module are excerpts from Japanese academic journals. The level of complexity ranges from one-sentence texts to eight-sentence texts, and the groups challenge these texts progressively and cumulatively throughout the semester.

The pedagogical design of the second module is slightly different from the first module in that, while each group receives a list of three dissimilar reference titles to work on in the first module, every
group receives the identical Japanese text in the second module. The aim of this scheme is to produce end results that are diverse in their interpretation which will facilitate various Japanological discussions based upon intercultural and interdisciplinary viewpoints. The rest of the second module is similar to the first module: during the first 40 minutes, each group examines and interprets the given text interactively, utilizing the ASC method in order to arrive at a solution, without any help from the instructor; and then each group shares its interpretive results with the other groups during the next 40 minutes. Once again, the task of the instructor is to guide and moderate their mini-presentations and to facilitate further discussions.

The class activity in the bibliographic pedagogy at Penn, then, embodies all four learning types proposed by McCartin. The class activity is at once constructive, experiential, and inquiry-based because the scheme of the activity necessitates the involvement of all students in critical examination and interpretation as well as in creative thinking toward solutions while they acquire bibliographic and linguistic skills through activity-based exercises provided and guided by the instructor. Furthermore, the activity is cooperative because the group setting encourages the creation of team efforts and fosters both interpersonal and intercultural communications among the students involved: by design all aspects of this class activity embrace diversity.

Projects
While examination and interpretation exercises generate the class activity, comparative analyses and subsequent syntheses constitute the basis for the other segment of the pedagogical content of Penn's bibliography course: the individual student projects. There are three projects assigned to the class on an individual basis: (1) a cross-media comparative analysis, (2) a set of 30 search exercises, and (3) a literature review. Assigned in this order, these projects stand independently—each with its own distinct aims; however, when they are linked together, they form a highly coherent whole since they are designed to be progressive and cumulative. As the student advances from one project to the next, the demand for knowledge and skills intensifies and the breadth and depth of problem solving expands and deepens, simultaneously. The final project, the review of literature, amalgamates all that has been learned during the semester.

Project One, the cross-media comparative analysis, aims at investigating critically the veracity of an Internet article in light of print material. This project begins with the selection of one Internet article and three print reference titles—one in English, and the other two in Japanese. For example, a scholarly synopsis of The Tale of Genji on the Internet constitutes an excellent document for this project. To this electronic source, Kodansha Encyclopedia of Japan (in English), Nihon Koten Bungaku Daijiten (in Japanese), and Nihon Dai Hyakka Zensho (in Japanese) may be juxtaposed. The criteria for this comparative investigation are: (1) application of topic, (2) presentation of information content, and (3) scholarly authenticity. These criteria may transform into the following questions:

- How broad or narrow does the topic apply?
- For whom is the article intended?
- How is the topic represented?
- How descriptive, analytical, and/or comparative is the presentation of the information content?
What qualifications does the author have? Are there any citations given? What types of citations are they?
The results of this critical investigation take the form of four-page report with an evaluative conclusion to be shared with the class in a 10-minute oral presentation.

One alternative to this Internet-Print comparison is an electronic-print comparison of the same title: Zasshi Kiji Sakuin, Nihon Dai Hyakka Zensho, Ronbunshu naiyo saimoku soran, or Kodansha Encyclopedia of Japan, for example. This electronic-print comparison of the same title can be used either as a substitute for the Internet-print comparison or as a full-fledged additional project. However, the investigative content of the electronic-print comparison of the same title will focus closely on the structural facets of these genres primarily in light of data accessibility. The comparative analysis centers around such issues as the scope of the bibliographic matter to be considered, the exhaustiveness of information content, structures of primary files, the display of records, arrangements of fields within records, differences in search methods, and differences in accession processes. These issues may develop into the following investigative questions:

- What is the scope of the bibliographic matter incorporated into the resource system at hand?
- How exhaustive is the data content?
- How is the primary file structured?
- How do the data elements in the record display?
- How are the records within the file arranged, and how does such a record arrangement enable access?
- How does the resource system in question function in terms of document retrieval and/or informational retrieval?
- How do search methods differ between electronic and print?
- And how do the accession processes differ between electronic and print?

The very nature of this comparative analysis is more pointedly technological rather than scholarly. Whether or not to opt for this alternative assignment depends on the intent of the bibliographic course which is in turn dependent upon the institution's academic mission.

**Project Two**, the 36 search exercises, reinforces and enriches the knowledge and skills that the students have gained through the group-based class activities. This project is an extension of the class activity module-1 with the following modifications: the matching of the question and the corresponding reference title is not given; the list of reference titles includes both electronic and print media; and the students rely on their own critical and creative abilities on an individual basis, away from the intercultural and intercommunicational group settings. The project contains 36 problems, and each problem requires a two-fold answer consisting of a detailed outline of the search process involved and a set of definition and explanation demonstrating the highest possible content recognition.

In designing and sequencing these projects, the underlying questions must address measuring the outcomes of student learning. McCartin (2001:17) suggests:

Outcomes are observable demonstrations of student learning that occur after a significant set of learning experiences. Typically, outcomes reflect three things: what the student knows; what the student can actually do with what he or she knows; and the student's confidence and motivation in carrying out the demonstration.
In other words, the outcomes of learning reveal: new knowledge and skills; the breadth (or coverage) of the new knowledge and skills; and the qualitative production of definitive results through the practical application of the new knowledge and skills. Put into the context of performance evaluation, these three facets pose the following questions: (1) What are the new knowledge and skills that the student has acquired? (2) How extensive is the coverage of the new knowledge and skills that the student has acquired? and (3) How effectively and skillfully is the student able to bring about viable results through the practical application of the new knowledge and skills that s/he has acquired? Although all of the three projects answer these evaluative questions to varying degrees, Project Three, the literature review, reveals most clearly the level of the bibliographic and linguistic knowledge and skills that each student has acquired during the semester.

Howard D. White (1992:141-142) gives a succinct view of what the review of a literature entails:

The review of a literature is not an account of one book, but a synthesis, at least implicitly evaluative, of many authors' research over a certain period. On a continuum of bibliographic content, it ranges from articles in which almost every sentence is studded with a citation, to articles, such as appear in encyclopedias, that cite only a few key works. The review is sometimes confused with the bibliographic essay because both forms refer explicitly to other writings, to which both are in some degree "guides." But in fact reviews of literatures have a markedly different function. Bibliographic essays are intended to tell what resources exist for study within a given field. Reviews of literatures, in contrast, are intended to integrate the statements in a given body of writings into a theoretically meaningful design. Reviews will be organized to answer the questions, "What do these writings allow us to conclude? What is known? What is the state of the art?" The reviewer will be concerned with assembling the various claims and counterclaims suggestively and interrelating them so as to explain some range of phenomena. Thus the reviewer may be able, after the survey, to say where expert knowledge is relatively strong and where it is weak—that is, where further research is needed. The bibliographic essayist, surveying merely what writing exist, is in no such position.

With the larger goal of helping graduate students understand the openings present in their fields of research, in Project Three, the literature review, the students select topics that generally relate to their Japanological research projects. Their reviews integrate at least 12 bibliographic sources (electronic and print), one-fourth of which may be in English while the rest must be in Japanese. There are two major stipulations in the selection of these bibliographic sources: (1) the sources must be taken from the in-house guide book and (2) the sources outside the in-house guide book can be incorporated into the review as long as these outside sources are derived from the titles listed in the in-house guide book. For example, suppose graduate student John Doe writes about medieval Japanese Confucianism, and he looks up the guide word "Jukyo" and then the subcategory "Kodai, Chusei" in Kokushi Daijititen, volume 7. There is a list of bibliographic references at the end of this extensive article, the first entry of which is "Ienaga Saburo. Nihon Dotoku Shisoshi. Iwanami Zencho." Doe may use the Ienaga book as one of the 12 bibliographic sources to review; however, he is required to endnote and list the Ienaga citation in the "Works Cited" section of his review along with its "parent" reference title Kokushi Daijititen which is included in the in-house guide book. In addition, students are required not to provide direct quotes in their reviews; instead, they are encouraged to furnish paraphrased quotations in order to demonstrate the techniques acquired through mastery of the ASC method. The final result of this project, integrating all the components introduced in the 15-week bibliography course, takes a form of a 7-to-10-page paper with an academically unique and sound conclusion derived from a body of information synthesized through this review process. On the last day of the class, the students share their reviews with the class in their 20-minute oral presentations.
CONCLUSION

Functional bibliographic pedagogy in Japanese Studies evolves as its curricular design is deeply rooted in the institutional scholarly direction articulated by the Japanese Studies faculty who frames the immediate bibliographic needs of the graduate students. This premise presupposes that the curricular content of the bibliographic course defines itself as learner-specific. The implementation of the learner-specific curricular content necessitates a holistically managed pedagogical environment that is activity-based and participatory--one that amalgamates constructive, experiential, inquiry-based, and cooperative learning schema. This environment enables students to venture freely into a high level of Japanological problem solving. Through dyadic cognitive processes that combine critical and creative thinking, the ultimate aim is the eventual acquisition of highly refined bibliographic and research-based linguistic skills: BINARY FLUENCY.
APPENDIX-1
(For demonstration purpose only)

DS833.K64 1979
Kokushi daijiten
国史大辞典

Content Description

a. Chronological coverage: Inclusive
b. Material coverage: Japanese history (comprehensive)
c. Language: Japanese
d. Subject focus: History -- Japan
e. Entry Arrangement: In Japanese syllabary order
f. Physical Traits: 15 volumes
g. Other: Indexes

Content Data Elements

For each entry unit:

a. Entry word in hiragana followed by Kanji
b. Explanation in essay form (signed)
c. Cross reference
d. Bibliographic references

INDEX

Volume 15/a Source and geographical names
Volume 15/b Personal names
Volume 15/c Historical events
   (a) Entry in Japanese syllabary order
   (b) Volume number
   (c) Page number
   (d) Row locator (a - d)
   (e) Information source
APPENDIX-2
(For demonstration purpose only)

DS833.K64 1979
Kokushi daijiten
国史大辞典

Sample Search Question

「幕藩体制」 is a sociopolitical structure prevalent in early modern times in Japan. What is the basis of this concept? And what characterizes it?

ANSWERS

Part-1: Search Process

|→ Look up the key term 「幕藩体制」 in the Subject Index (Vol-15 (下))
|→ The subject index indicates: (11)507b
|→ Go to Vol-11, p.507, row-b|

Part-2: Content Recognition

(1) The co-functioning of the Tokugawa shogunate central government and feudal domains

(2) Although domains functioned independently of one another, they were under the strict centralized control of the Tokugawa shogunate in Edo. The system of alternate attendance (参勤交代) epitomizes this control.
APPENDIX-3
(For demonstration purpose only)

(One-sentence exercise)


柳田国男は、日本人にとっての神は、壯麗な教会や神殿を必要としない、
暮らしに密着した神々であったとのべている。

ANALYSIS

[1] Structural Recategorization

1 柳田国男は,
2 日本人にとっての神は,
3 壮麗な教会や神殿を必要としない,
4 暮らしに密着した神々であった
5 とのべている


Yanagita Kunio

1 柳田国男は,
2 日本人にとっての神は,
3 壮麗な教会や神殿を必要としない,
4 暮らしに密着した神々であった
5 とのべている

states that

[3] Reconfiguration

1 Yanagita Kunio
2 gods for the Japanese [Japanese gods]
3 no need for solemn sanctuaries [no need for religious institutions]
4 gods who were part of everyday life [gods belonging to Japanese people's daily life]
5 states that

SYNTHESIS

Yanagita Kunio states that
Japanese gods did not need religious institutions
as they belonged to Japanese people's daily life.

CONTEXTUALIZATION

According to Yanagita Kunio, Japanese gods belonged to Japanese people's daily life, not to religious institutions.
WORKS CITED


