An Investigation of the Associations between Professional Tasks and Document Genres in the Context of University Teaching
專業任務與文件體式於大學教學情境裡之關聯研究

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【摘要 Abstract】

To facilitate faculty's information use and the design of search systems, this study aimed at identifying the task-genre associations in the context of university teaching. Qualitative citation analysis was first employed to identify the genres faculty used based on citations in their teaching materials. Semi-structured interviews were then employed to collect data regarding the tasks they performed to use different genres. Qualitative content analysis was also employed to analyze interview transcripts. 27 faculty members from different disciplines contributed 28 courses. The task-genre associations this study uncovered illustrate the functions of different genres. The results indicate the teaching tasks participants performed served as the criteria that determined what genres should be included or excluded.

為促進教師之資訊使用與搜尋系統之設計，本研究旨在識別出大學教學情境裡之任務與文體之關聯。作者先以質性引文分析來分析教材裡之引文，以識別出教師使用之文體，再以半結構式訪談來搜集有關教師執行之任務之研究資料，最後以質性內容分析來分析訪

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談稿。共有二十七名來自不同學科領域之教師貢獻二十八門課程，本研究所揭示之任務與文體之關聯彰顯出不同文體之功能，教師所執行之任務決定了哪些文體會被使用或排除在外。

Keyword 關鍵詞

Genre theory；Professional tasks；Information use；Information behaviors

文體理論　專業任務　資訊使用　資訊行為

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Introduction

Institutions of higher education have adopted instructional technologies (e.g., learning management systems, wikis and blogs) to organize their courses. Online courses and blended courses that combined both face-to-face and online instruction have grown rapidly (Kim & Bonk, 2006). As instructional technologies penetrate in different types of courses in higher education, faculty's reliance on information documents in support of their teaching increases. Learning object repositories, such as *Multimedia Educational Resource for Learning and Online Teaching* (MERLOT), have been developed to support faculty's teaching. Faculty can share and reuse learning objects in different teaching contexts. The *2012 Paris OER Declaration* that the *World Open Educational Resources Congress* at *UNESCO* adopted emphasized the open availability of educational resources (Sinclair, Joy, Yau, & Hagan, 2013). Abundant educational resources are available for faculty to use. In addition to the educational resources offered by learning object repositories, faculty are free to use the resources offered by publishers and academic libraries at their home institutions and those obtained by other means. However, the sheer amount of resources available has prevented faculty from effectively using information.

A document has physical and semantic forms that require users to process and interpret for their own use (Dillon, 2008). Genre of a document is often characterized by and hence can be identified based on its socially recognized communicative purposes and forms (Crowston & Kwaśnik, 2003; Crowston, 2010). Identifying the genre of a document reduces users' cognitive load in navigating within this document and comprehending the information within it (Crowston & Kwaśnik, 2003; Dillon, 2008). Expert users who have sufficient knowledge of genres enacted in a domain can rely on their knowledge to identify genres of the documents they interact with and assess the fit to their task situations based on the architectural traits they perceive (Crowston & Kwaśnik, 2003; Rosso, 2008; Sundin & Francke, 2009). Professional tasks are associated with genres of the documents used to accomplish them (Freund, 2008). For example, instructional genres – including tutorials and lesson plans – are particularly useful to tasks related to educational pursuits (Roussinov, et al., 2001). Because previous research on scholarly information practices only investigated a small number of genres that scholars use to support their research (e.g., journal articles and listservs), our knowledge of the genres faculty use to support their teaching is insufficient. It is important to systematically identify the genres faculty use to support their teaching to increase our knowledge of the contributions of different documents to their task performance. Despite the potential benefits that the identification of genres might provide in searching, navigation and comprehension of information (Rosso & Haas,

2011; Vaughan & Dillon, 2006), researchers rarely exploit it to facilitate faculty's information use in support of their teaching. If task-genre associations exist in the context of university teaching, modeling and incorporating these associations into the design of search systems might help faculty effectively assess documents and use information. Therefore, it is important to uncover the associations between the tasks faculty perform to use information within the documents they use to support their teaching and genres of these documents to facilitate the design of search systems. Below are the research questions that guided this study.

RQ1   What tasks do faculty perform to use documents to support their teaching?

RQ2   What genres of documents do faculty use to support their teaching?

RQ3   Are the tasks faculty perform associated with genres of documents they use to support their teaching? If so, what are these associations?

Literature Review

Tasks in the Context of Information Seeking and Use

Tasks are goal-oriented activities that people perform to make progress in their work or personal life. Tasks have practical goals that can be achieved in a process and they may have an observable beginning and end (Byström & Hansen, 2005). Task performance involves physical and cognitive actions that lead to a meaningful product(s) (Vakkari, 2003). In terms of information seeking and use, most researchers classified tasks based on hierarchical relationships. Tasks were often classified into three categories – work tasks, information seeking tasks and information search tasks. Work tasks refer to the activities people perform to fulfill the requirements of their work responsibilities. Work tasks give rise to information needs and problems, leading to information seeking and use behaviors because people need information to solve their problems. Information seeking tasks refer to the activities people perform to identify and gather information (Byström & Hansen, 2005). Information seekers may use a variety of means to find information that helps solve the problems they encounter. Information search tasks refer to task situations in which information seekers rely on search systems, such as search engines and databases, to find information and accomplish their information seeking tasks and further work tasks (Li & Belkin, 2008). Tasks can also be classified in other ways. Table 1 presents examples of different types of tasks.

Table 1

Examples of Different Types of Tasks

Previous research	Context	Types of Tasks	Sub-type of Tasks
Byström & Järvelin (1995)		Tasks differ in their complexity	Genuine decision task
			Known, genuine decision task
			Normal decision task
			Normal information processing task
			Automatic information processing task
Freund (2008)	Software engineers' workplace	Work task	Architecture
			Deployment
			Design
			Implementation
			Installation & Configuration
			Integration
			Migration
			Performance tuning
			Project management
			Proof of concept
			Troubleshooting
		Information task	Learn about a topic
			Make a decision
			Find out how-to
			Find facts
			Find a solution
Xie (2009)	Corporate and academic	Search task	Update information
			Look for specific information
			Look for items with common characteristics
			Look for known items

The hierarchical classification of tasks focuses on information seeking and searching. It does not account for the variety of information activities that task performers engage in in their everyday practices. Freund (2008) noticed task performers' goals of using information had not been considered seriously. Classifying tasks according to task performers' goals can have great potential for information seeking and retrieval because it addresses goals of using information directly. Vakkari (2000) argued it is important to identify users' expected use of information to design document representations that offer clues useful for them to infer the potential contributions of documents to their tasks. The goal-based approach to tasks could be useful for

modern information environments in which a wide variety of documents are sought and used and different types of information activities are performed. Freund (2008) identified five information tasks that software engineers performed to fulfill their work tasks, including: *learning*, *fact-finding*, *decision-making*, *problem solving* and *performing procedures (how-to)*. These tasks are generic enough to be applied to other domains.

It is important to investigate how information is used to perform a task as this can help increase our knowledge of the roles of information in a task and the associations between information and task performance. Information use itself has been conceptualized in a number of different ways, including: information practices, information processing, knowledge construction, information production, applying information and the effect of information (Kari, 2010). Different conceptualizations focus on different aspects and stages of human-information interaction in contexts. For example, conceptualizing information use as information application or utilization focuses on the role of information as internalized knowledge used in certain actions that form the basis of practices (Kari, 2010). This study classified tasks into teaching tasks and information use tasks.

Document Genres

Genres are "socially recognized types of communicative actions" (Orlikowski & Yates, 1994, p.542). They are typified communicative actions performed to organize community activities. Some genres naturally emerge in response to a communication need from recurrent communicative situations, whereas some are deliberately designed to realize a communicative purpose. Genre of a document can be identified based on its socially recognized communicative purposes, and common aspects of forms and content. Form encompasses both physical and linguistic features of communication (Dillon, 2008; Yates & Orlikowski, 1992). Different genres are defined differently. Some are defined primarily based on the communicative purposes they serve; some are defined primarily based on forms; still some are defined primarily based on a fusion of purpose, forms and content (Crowston, 2010). For example, *proposal* is primarily defined based on its communicative purposes. *Poem* is primarily defined based on its physical forms. *Dictionary* is defined based on a combination of its purposes and forms. A community tends to use a set of genres together. Members of a community create and/or use a set of genres to organize their activities and achieve their communicative purposes. Different genres are used in combination to structure community activities. The set of genres routinely used in a community could be called a "genre repertoire" (Crowston, 2010). Each genre may serve a distinct communicative purpose but it interrelates with other genres in a genre repertoire.

Additionally, genres vary in their levels of granularity. A genre might be a sub-genre of a larger genre that is composed of multiple sub-genres.

Different genres have different normative scopes. Some are known and used by a large, loosely defined community (e.g., web users), while some are known by a relatively small, restricted community (e.g., a local company) (Rosso & Haas, 2011). Genres aid in communication because they are used by and shared among community members. As different communities and individuals move to the web, genres they use offline are introduced to structure their online communications. New genres – such as personal homepages – naturally emerge as community members' online communications become typified over time (Dillon, 2008). Whether one can understand and use genres enacted in a community appropriately is a capacity that determines whether he is an expert or novice (Bishop, 1999; Dillon, 2008). Knowing the genre of a document allows users to understand the intention and creation context of this document, thus reducing the cognitive effort required to process the information within it. Understanding the intention and context of document creation allows users to judge its utility according to their tasks at hand. They can relate the information within a document to their current situations. Users' knowledge about a genre also allows them to effectively interact with the information it materializes. Genre knowledge facilitates information use in terms of reading, comprehension and interpretation (Dillon, 2008). Acquiring knowledge about a genre requires accumulating experiences in interacting with it.

Task-genre Associations

Studies on document genre in information seeking and use were conducted at two levels: among-document and within-document. Both streams found genres are associated with the tasks users perform. Users' perception of how useful a document or a specific section of a document is relies on the types of task they perform and the genre or sub-genre of this document. Genres of documents are associated with professional tasks that trigger information seeking and use as well as information tasks users perform to complete these professional tasks. Such associations exist based on functional matching. The genre or sub-genre perceived to be the most useful is aligned with the purpose of a task. The more specific a domain is, the stronger the task-genre association is (Freund, 2008; Zhang, Kopak, Freund, & Rasmussen, 2011). The task-genre associations at the among-document level have been found in the following domains: graduate students' information seeking on the web (Roussinov, et al., 2001), software service consultants' workplace setting (Freund, 2008) and the Internet community's use of Canadian e-government information (Freund, 2013).

The task-genre associations at the within-document level have been found in the context of scholars' reading of journal articles. To help scholars effectively use journal articles, Zhang and his colleagues (2011) investigated the associations between information use tasks and functional units. Functional units refer to the smallest units of information within four major sections of journal research articles. Each section of a journal article – including introduction, methods, results and discussion – comprised multiple functional units. Each unit serves a distinct communicative purpose. Their results demonstrate some functional units were particularly useful to certain information use tasks. Each task was strongly associated with one or multiple functional units in a major section. Other functional units in the same section or in other sections were also useful to a particular task, but to a lesser degree. For example, the functional unit *support explanation of results* in the *discussion* section was particularly useful to the task *refer to arguments*. The functional units *indicate a gap in previous research* and *claim importance of topic* in the *introduction* section were also useful to this task, but they were not as useful as the unit *support explanation of results*.

Research Methods

Sampling and Recruitment

This study was conducted at Syracuse University (SU) from spring 2013 to summer 2015. It attempted to include a variety of courses to uncover possible variations of task-genre associations. It assumed courses were crucial contextual factors that shaped the tasks faculty performed and the genres they used. University courses varied in their sizes, student levels, course levels (e.g., introductory or advanced), course orientation (e.g., theoretical or practical), course requirements and delivery modes (e.g., face-to-face, blended or distant). Different courses required different sets of genres. Including a variety of courses in the sample helped diversify teaching contexts. Thus, the author recruited faculty from as broad a range of academic disciplines as possible to ensure a diversity of teaching contexts. These covered social sciences, humanities and sciences.

The author adopted several strategies to recruit participants, primarily snowballing and e-mail recruitment. To start with the recruitment, the author's academic advisor introduced her to several faculty members in other disciplines. These faculty referred to more faculty after completing their participation. Recruiting e-mails were sent to faculty who have won the teaching recognition awards at the university in 2011-12 and faculty in several schools and departments. This has helped recruit more participants.

Data Collection and Analysis

This study took a mixed-method approach to data collection. Qualitative citation analysis and semi-structured interview were employed in sequence. To identify the genres participants have used, they were instructed to select a course they were teaching or have taught within the last year when they agreed to participate. They were invited to grant the author access to their courses on Blackboard, a learning management system that SU adopted. The author downloaded their teaching materials (e.g., syllabi, lecture slides and lab notes) and analyzed citations to identify the documents they have used. Entries in Excel were created to organize the documents and determined the genres of these documents. To reflect the granularity of genres in use, entries were created based on the ways participants used documents. Each entry represented a document, which was identified as a genre (e.g., the "about page" of a website or a book chapter). Entries were created using the following facets: (1) Bibliographic information: Titles, publishing years, authors and sources of the documents (e.g., publishers or conferences); (2) Genres of the documents, which were determined primarily based on participants' descriptions and the original documents. Problematic genres were marked in red for discussion and correction in interviews. The facet of *genre* was shaded in yellow to enhance participants' understanding of what document genre was and facilitate their identification; (3) Purpose, when and where the documents were used in the courses; and (4) Hyperlinks to the original documents or bibliographic records. These facets were used to capture the contexts in which specific genres were used. They were developed based on the six structural dimensions of communicative actions that genre invokes, including: purpose (why), content (what), participants (who/m), form (how), time (when) and place (where) (Yates & Orlikowski, 1992).

Entries created based on a course's unique teaching materials formed a genre repertoire, as Figure 1 illustrates. Frequency reports of genres were created in the same Excel file. The genre repertoires and frequency reports, which revealed the range of genres and use patterns, were used to facilitate interviews. Each participant received a customized genre repertoire before the interview. In interviews, participants first answered questions about their courses. They were then instructed to identify genres of the documents they used and verify their genre repertoires. 10 genres, including two that were the most heavily used in a course, four that appeared the most frequently and four that appeared the least frequently, were then selected and displayed for in-depth interviews designed to collect data about the tasks they performed. Interviews were fully transcribed. Qualitative content analysis was employed to analyze interview transcripts. Open coding was first employed to identify the information use tasks participants performed to use the

selected genres and classify these into teaching tasks. A complete codebook of tasks was developed. These tasks were then differentiated among different documents that belong to the same genres to reflect the granularity of participants' information use. All of the genres used to perform a task were added up to calculate frequencies of different genres and identify similarities and differences in genres used to perform a task. The author created summary results based on the frequencies of genres for each task.

Figure 1   An Example of Customized Genre Repertoire

Results

Overview of the Courses and Participants

Twenty-seven participants taught the 28 courses this study analyzed. One of them contributed two courses. The rank of participants was quite diverse, including: 10 assistant professors, four associate professors, seven professors, one assistant professor of practice, three associate professors of practice and two research associate professors. Participants' teaching experiences varied. It was the first time 10 participants taught the courses they selected. It was the second time five participants taught their courses. Eight participants taught from three to 10 times. Three taught more than 20 times. There was a special case in which the participant re-taught the course he selected since 1998. Thus, it was his first time to teach it since a long time ago. Additionally, most participants were very familiar with the documents they used. Four were

partially familiar with the documents they used. Two were not very familiar with the documents they used.

The courses varied in a number of different ways, so while they were not representative of university teaching practices in general, they did reflect a wide range of characteristics. Most of the courses (17 out of 28) belong to social sciences; eight belong to sciences; and three belong to humanities. These courses were opened in diverse disciplines, including: library and information science, information management, political science, chemical engineering, Spanish, journalism, math, higher education, computer science, linguistics, advertising, architecture, and so on. Some targeted students in specific academic programs or departments; some were open to students in different programs in the same school; still some were cross-listed in different programs in different schools. Most of the courses were taught in the semesters of spring 2013 and fall 2012. Others were taught in the semesters of summer and fall 2013. These courses varied in requirements, including: 10 required courses, 10 selective courses and three highly recommended courses. These courses were developed in four ways, including: *from scratch*, *partially inherited*, *inherited* and *department determined*. First, most of the courses were developed *from scratch*. Participants determined what documents to use. Second, the documents used in five courses were *partially inherited*. Participants used some of the documents previous instructors used, while adding their own documents. Third, a participant completely inherited another instructor's teaching materials and used the documents another instructor used. Fourth, the textbook used in a course the math department developed for general undergraduate students was determined by the department.

These courses varied in levels, including: 11 undergraduate courses, seven master courses, two doctoral courses, four courses had both Ph.D. and master students, three had both undergraduate and master students and one Massive Open Online Course (MOOC) opened for practitioners in a specific field. These courses also varied in student numbers. Three were particularly small, which had 5-8 students. 16 courses had 10-25 students. Five courses had 30-60 students. Three courses were particularly large, which had 80-200 students. Approximately 2000 students enrolled in the MOOC.

Teaching Tasks and Information Use Tasks

One interview question asked participants their purposes in using the selected genres. Another question asked how they used these genres. Their responses were analyzed to identify the information use tasks they performed, which were further classified into teaching tasks. Table 2 presents the teaching tasks and information use tasks participants performed to use documents

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belong to the selected genres. Each teaching task consists of several information use tasks. The teaching task *prepare the course* refers to situations in which participants used documents to plan their courses, such as deciding how to structure their courses. *Teaching about the field* refers to situations in which participants used documents to help students acquire knowledge and develop skills in specific fields. This knowledge included learning what was considered as foundational, influential thinkers, important or unusual perspectives, professional organizations, conceptual vocabulary or terminology and code of ethics. Several courses had lab components. Students developed skills in labs when they performed specific tasks. *Enhancing students' understanding* refers to situations in which participants used documents to help students better understand the learning content. They used documents to provide an example(s), explain or demonstrate the learning content in different forms, provide theoretical or background information, or present what the authoritative figures said to enhance students' understanding. *Making the learning content concrete and real* refers to situations in which participants used documents to make the learning content tangible and realistic. Documents were used to present a real problem, object or person. Participants present the learning content in different forms. They also used documents to associate the learning content with what was happening in the real world and help students visualize the goals they were heading to. *Obtaining reference information* refers to situations in which participants used documents or provided students with documents to find different types of information that helped accomplish specific tasks, such as solving a problem or writing a literature review. *Developing students' advanced learning skills* refers to situations in which participants used documents to help students develop higher-level learning skills, including critical thinking and applying what they have learned. *Enhancing students' participation* refers to situations in which participants used documents to encourage students to actively participate in the learning process. *Pointing students to resources* refers to situations in which participants provide students with different types of documents, such as documents from which specific approaches or concepts originated. *Improving teaching immediately* refers to situations in which participants used documents to obtain feedback from students. This allowed them to adjust their teaching immediately. *Encouraging students to read* refers to situations in which participants used documents to help students reflect on their reading habits so that they could improve. Participants also used documents to ensure students read the required readings. *Continue to learn* refers to situations in which participants provided students with documents that contained information on specific topics or what was happening in specific fields to keep learning.

Table 2

Teaching Tasks and Information Use Tasks

Teaching Tasks	Information Use Tasks	Definitions
Prepare the course	Structure the course	Participants consulted the organization of a document to structure their courses and framed students' assignments and class activities.
	Prepare lectures	Participants used documents to create their lectures, including: copying formula, borrowing lecture slides, and synthesizing information in different documents.
Teach about the field	Provide foundational text	Participants used documents to provide foundational, basic, and/or core learning content.
	Enable students to understand an area/a topic	Participants used documents to help students understand different aspects of an area or a topic.
	Complement/Supplement other resources	Participants used documents to complement or supplement another document, usually the main textbooks. It often resulted from the insufficient depth of information of the latter.
	Enable students to explore interests	Participants provided documents containing information on the topics students might be interested in.
	Provide learning content	Participants wanted students to understand the information in the documents.
	Expose students to influential thinkers	Participants used documents written by subject experts whose thinking was influential in specific fields in the historical context. Students were able to understand these influential thinkers and their thinking through their writing.
	Expose students to important perspectives	Participants used documents containing ideas, perspectives or opinions they wanted students to understand.
	Introduce a professional organization	Participants used documents created or published by professional organizations in their fields to let students understand these organizations and what these organizations do.
	Teach the highest expectations	Participants used documents to help students understand what the best was and encourage them to achieve it.
	Highlight a topic(s)	Participants used documents to emphasize the importance of a topic.

Table (Continued)

Teaching Tasks	Information Use Tasks	Definitions
Teach about the field	Prepare students for the job	Participants used the documents students will use in the work practice in the future. They also used documents to prepare students to interact with professionals or become familiar with professional practices.
	Draw on scholarship	Participants used scholarly work to teach students about a subject.
	Develop students' conceptual vocabulary/terminology	Participants used documents to help students develop conceptual vocabulary or terminology.
	Walk students through the process	Participants provided students with documents containing procedural information. These documents walked students through specific processes step by step.
	Facilitate lab practices	Participants used documents to help students perform specific tasks in the lab.
	Balance research and practices	Participants used documents to balance the emphases they placed on theories and practices.
Enhance students' understanding	Provide an example(s)	Participants used documents to provide students with example(s) of what they were learning or their assignments.
	Explain/Illustrate/Demonstrate	Participants used documents to explain the learning content, illustrate a point they wanted to make or to show something.
	Improve students' understanding	Participants used documents to reinforce or improve students' understanding of the content they learned from other documents, usually the major textbooks.
	Provide theoretical/contextual information	Participants used documents containing theoretical or contextual information. This information was used as background information to understand the learning content.
	Present different authorities	Participants used documents created or spoken by figures they perceived as authorities. The authoritative figures helped emphasize the learning content.
Make the learning content real and concrete	Present reality	Participants used documents to present real problems, facts, persons, objects or events.
	Provide multimodal information	Participants used documents to present the learning content in visual, audio or audio-visual modes. It made the learning content more concrete, not abstract.
	Connect with the real world/make a connection(s)	Participants used documents to help students relate what they were learning to what happened in the real world or make connections between different things.

Table (Continued)

Teaching Tasks	Information Use Tasks	Definitions
Make the learning content real and concrete	Help students visualize the goals	Participants used documents to help students visualize what the best looked like or what they will be doing in the future.
Obtain reference information	Look up/Provide references	Participants used documents to look for data or other types of reference information. They also provided students with access to these documents so that they could find different types of reference information.
	Look for examples/problems	Participants used documents to find examples or problems for students to work on. They may adapt the examples or problems. Sometimes students also looked for examples or problems in the documents.
	Help students find jobs	Participants provided documents to help students find job information.
	Enable students to get citation information	Participants' documents contained bibliographic information. Students could cite in their assignments.
	Provide guidelines for writing	Participants provided documents to help students write.
Develop students' advanced learning skills	Help students apply the learning content	Participants encouraged students to use what they have learned to analyze and interpret the information in specific documents.
	Develop students' critical thinking skills	Participants used documents to encourage students to think critically or think beyond what they have learned.
Enhance students' participation	Trigger discussion	Participants used documents to initiate discussions in the class.
	To engage students	Participants used documents to keep students involved in the learning process.
	Have fun	Participants used documents to entertain students.
Point students to resources	Provide authoritative references	Participants provided students with documents created or maintained by professional organizations in specific fields for authoritative information.
	Provide original sources	Participants provided documents from which a concept or the learning content was originated. It also included situations in which participants provided students with access to the original documents.
	Provide access	Participants provided students with access to documents.
Improve teaching immediately	Get timely feedback	Participants designed questions about their teaching in the documents to elicit students' responses every week. They then adjusted their teaching according to students' responses.

Table (Continued)

Teaching Tasks	Information Use Tasks	Definitions
Improve teaching immediately	Understand students' learning situation	Participants used documents to design questions for students to answer. Students' answers helped them understand whether students understood the learning content.
Encourage students to read	Motivate reading	Participants used documents to ensure students read the required readings.
	Enable students to reflect on self-learning	Participants designed questions to elicit students' responses regarding their study habits. Students were able to see and compare their responses with their classmates'. This helped them reflect on their study habits and hopefully to improve.
Continue to learn	Provide suggested readings/more information	Participants provided students who were interested in a topic with readings or more information to dig in. They also pointed students to documents containing information for assignments or projects.
	Keep up	Participants subscribed or visited specific documents on a regular basis to keep updated with specific fields.

The Selected Genres

Table 3 presents an overview of the selected genres. In this classification, several genres were classified in multiple categories because the same genre labels had different identities in different courses in these cases. For example, poems were classified twice because they were used differently in different courses. It was classified as an example genre because the poem format *Where I am From* was used as an example of homework assignment in a course in education. The participant wanted students to think about their own identities and write in this format. Poem was also classified under others because in a course on Spanish literature, poetry was one of the most important literary genres that represented different eras. Students had to learn this important literary genre.

Table 3

An Overview of the Selected Genres

Major Genre Categories	Genres	Sub-types
Textbook genres	Textbook	
	Textbook chapter	

Table (Continued)

Major Genre Categories	Genres	Sub-types
Academic, research genres	Book	
	Book chapter	
	Non-fiction book	
	Scholarly book	
	Academic publication	
	Monograph	
	Journal article	
	Conference paper	
	Law review article	
	Unpublished doctoral thesis	
	Masters thesis	
Professional publications	Practitioner journal article	
	Magazine article	
	Journal/Magazine article	
	Essay	
Opinion-based genres	Editorial	
	Book review	
	Blog post	
Review genres: Present the status quo or an overview of a topic	Encyclopedia entry	
	Online encyclopedia entry	Wikipedia
	Annotated bibliography	
	Handbook	
	Handbook chapter	
	Review article	
Report genres: Created by professional organizations or groups for specific purposes	Report	Internal research report
		Research report
		Advocacy report
News genres: Report the latest information	News article, news report, news video	
Research news genres: Report the research for the public or they are popular	News article about study/Study reports	
	Articles from RSS feed	
	Survey article	

Table (Continued)

Major Genre Categories	Genres	Sub-types
Reference genres: To look up information or data	Handbook	
	Database	Online property databases
		Concept test database
	Specialized search engine	
	Resource website	
	Data website	
	Documentation	
	Job search website	
Resource genres: Resources or sources for information	Website	
	Subject guide	
	Authoritative references	
	FAQ	
	Bibliography	
	Webinar	
	Online resource	
	Bibliographic information (Web page with book information)	
Instructional, multimodal genres	Educational video, instructive video, video	
	Training video	
	Video lecture, Video lesson	
	Online training course	
	Comedy	
	Talk	General
		Interview
		Keynote speech
Audio genres	Song	Contemporary song
		Traditional song
	Podcast	
Procedural genres	Demonstration	
	Tutorial	General
		Chapter overview tutorial
	Guide, online guide	
	Manual	
	Handbook	
Professional genres	Professional organizations' websites	
	Listservs	
Image genres: Visual documents	Photo	
	Chart and graph	
	Image, online image, picture/image	Logo

Table (Continued)

Major Genre Categories	Genres	Sub-types
Law genres: Law, case law, and documents that have the force of law	Law	
	Docket report	
	Executive order	
Professional work genres: Use in the work practices	Code of ethics	
	Guidelines	
	Standard	
	Recommendation, recommendation report	
	Rating rubric/standards, rubric	
Example genres: Professional work genres used as an example(s) and genres used as an example	Collection development policy	
	Framework document	
	Lesson plan	
	Copyright license	
	License agreement	
	Example deliverable	
	Example chart	
	Advertisement (e.g., banner ad)	
	Search result	
	Response to reviews	
	Overview report: Explanatory document	
	Project website	
	Poem	
Genres about people	Genres that summarize subject experts' contributions	Biography
		Technical report
		Survey article
	Self-represented genres: Actors' own representation	Memoir
		Political speech
Genres used for writing and citing	Book/Product information page	
	Reference guidelines	
Instructional webpages	Instructional material	
	Webpage	
Case genres	Case study	
	Case story on a website	
Teaching tool	Clicker assessment	
Others	Website about search terms	
	Statistical data	
	Documentary	
	Poem	
	Lecture slides	

Task-genre Associations

Table 4 presents the task-genre associations identified by qualitative content analysis. The column *the selected genres* illustrates genres of the documents participants used to perform the corresponding tasks. Because participants used the documents that belong to the selected genres at different levels of granularity, N refers to the frequency of occurrence. N in the column *the selected genres* does not refer to the number of genres. It refers to how often a genre was associated with a task.

Table 4

Document Genres Used to Perform Teaching and Information Use Tasks

Teaching Tasks	Information Use Tasks	The Selected Genres (N)
Prepare the course	Structure the course	Textbooks*8 (including one scholarly book)
	Prepare lectures	Textbooks*2, Books*2, Book chapters*1, Conference papers*1, Lecture slides*1
Teach about the field	Provide foundational text	Textbooks*20, Scholarly book*1, Law*1, Charts and graphs*1, Poems*1
	Enable students to understand an area/a topic	Mainly articles, individual pieces, including: Journal articles*4, Book chapters*4, Magazine articles*2, Review article*1, Law review article*1, Blog post*1, Website*1, Monograph*1
	Complement/Supplement other resources	Textbooks*4, Book chapters*3, Journal articles*3, Book*1, Review article*1, Conference papers*1, Handbook*1, News*1, Blog post*1, Instructional material*1, Chapter overview tutorials*1, Demo*1, Video*1, Online encyclopedia entry*1, Image*1, Online image*1
	Enable students to explore interests	Textbooks*3
	Provide learning content	Research reports*3, Rubrics*3, Textbook chapters*2, Journal articles*2, Survey article*1, Educational video*1, Guide*1, Standard*1, Recommendation*1, Law*1
	Expose students to influential thinkers	Journal articles*1, Conference papers*1, Technical report*1, Review article*1, Keynote speech*1, Biography*1
	Expose students to important perspectives	Textbooks*4, Book reviews*4, Book chapters*2, Journal articles*3, Conference papers*2, Magazine articles*2, Editorials*2, Blog posts*2, Documentaries*2, News*1, Instructional material*1, Master thesis*1, Ph.D. dissertation*1, Memoir*1, Keynote speech*1

Table (Continued)

Teaching Tasks	Information Use Tasks	The Selected Genres (N)
Teach about the field	Introduce a professional organization	Professional organizations' websites*2, Internal research report*1, Rating rubrics/Standards*1
	Teach the highest expectations	Guidelines*1, Standards*1
	Highlight a topic(s)	Magazine Article*1
	Prepare students for the job	Guide*2, Standards*1, Recommendations*1, Video lecture*1, Code of ethics*1, Executive order*1, Rating rubrics/Standards*1
	Draw on scholarship	Academic publications*1
	Develop students' conceptual vocabulary/ terminology	Academic publications*1, Books*1, Guides*1, Standards*1, Recommendations*1
	Walk students through the process	Tutorial*2, Guide*2, Handbook*1, Video lessons*1
	Facilitate lab practices	Textbook*2, Tutorial*2, Handbook*1, Documentation*1
	Balance research and practice	Journal articles*1
Enhance students' understanding	Provide an example(s)	Demonstrations/Comedies*3, Rubrics*3, Book reviews*3, News*3, Textbooks*2, Book chapters*2, Magazine articles*2, Videos*2, Professional organizations' websites*2, Project websites*2, Memoirs*2, Framework documents*2, Journal articles*2, Example deliverables*1, Book*1, Copyright license*1, License agreement*1, Research report*1, Lesson plan*1, Collection development policy*1, Blog post*1, Instructional material*1, Video lesson*1, tutorials*1, Advertisement*1, Search results*1, Speech video*1, Poems*1, Documentaries*1, Response to reviews*1
	Explain/Illustrate/ Demonstrate	News*5, Demonstrations or comedies*4, Book chapters*2, Journal articles*2, Tutorials*2, Pictures/Images*2, Photos*1, Internal research reports*1, Report*1, Law*1, Professional organizations' website*1, Website*1, Statistical data*1, Bibliographic information*1, Webpages*1, Executive order*1, Rating rubrics/Standards*1, Response to reviews*1, Documentaries*1, Political speech*1, Magazine articles*1, Essay*1, Articles from RSS feed*1, Review article*1, Blog post*1, Instructional material*1, Instructive videos*1
	Improve students' understanding	Pictures/Images*3, Essays*2, Journal articles*1, Magazine articles*1, Blog post*1, Instructional material*1, Online training courses*1, Tutorials*1, Talk*1

Table (Continued)

Teaching Tasks	Information Use Tasks	The Selected Genres (N)
Enhance students' understanding	Provide theoretical/contextual information	Biographies*2, Memoirs*1, Documentaries*2, Statistical data*1, Book review*1, Editorial*1, Magazine articles*1, Journal articles*1, Book chapters*1, Book*1, Academic publications*1
	Present different authorities	News*3, Editorials*2, Executive order*1, Webpages*1
Make the learning content real and concrete	Present reality	Authoritative references*2, Tutorials*1, Demonstrations/Comedies*1, Documentaries*1, Interviews*1, Photos*1, Example charts*1, Statistical data*1, Search results*1, Blog post*1, Instructional material*1, Webpages*1, Political speech*1
	Provide multimodal information	Training videos*2, Tutorials*2, Demonstrations/Comedies*1, Interviews*1, Instructive videos*1, Podcast*1, Video lessons*1, Talks*1, Videos*1
	Connect with the real world/make a connection(s)	News*5, Journal articles*2, Contemporary songs*1, Traditional songs*1, Blog posts*1, Tutorials*1, Comedy*1, Code of ethics*1, Articles from RSS feed*1
	Help students visualize the goals	Rubrics*3, Technical marketing videos*1, Guidelines*1, Interviews*1
Obtain reference information	Look up/Provide references	Handbook*5, Online property databases*4, Specialized search engine*1, Database*1, Resource website*1, Documentations*1
	Look for examples/problems	Textbooks*8, Concept test database*1
	Help students find jobs	Listserv*2, Professional organization's website*2, Website for job search*1
	Enable students to get citation information	Book/Product information page*1
	Provide guidelines for writing	Reference guidelines*2, Guide*1
Develop students' advanced learning skills	Help students apply the learning content	Academic publications*1, Memoirs*1, Demonstrations/Comedies*1, Journal articles*1, Clicker assessments*1
	Develop students' critical thinking skills	Book reviews*3, Journal articles*2, Law*2, Videos*2, Documentary*1, Book chapter*1, Clicker assessments*1, Editorial*1, Demonstrations/Comedies*1, Photos*1, FAQ*1
Enhance students' participation	Trigger discussion	Clicker assessments*1, Podcast*1, Video*1
	Engage students	Pictures/Images*2, Instructional videos*2, Clicker assessment*2, Advertisements*1, Speech video*1, Documentaries*1, Poems*1, Magazine articles, News*1
	Have fun	Demonstrations/Comedies*4, Videos*2, Pictures/Images*1

Table (Continued)

Teaching Tasks	Information Use Tasks	The Selected Genres (N)
Point students to resources	Provide authoritative references	Authoritative references*2
	Provide original sources	Conference Papers*2, Book chapter*1, Law*1, Websites*1, Practitioner journal article*1
	Provide access	Subject guides*1, Annotated bibliographies*1
Improve teaching immediately	Get timely feedback	Clicker Assessments*3
	Understand students' learning situation	Clicker Assessments*2
Encourage students to read	Motivate reading	Clicker Assessments*1, Essay*1
	Enable students to reflect on self-learning	Clicker Assessments*2
Continue to learn	Provide suggested readings/more information	News*3, Textbooks*2, Handbooks*1, Scholarly book*1, Book chapters*2, Journal articles*2, Websites*2, Professional organizations' websites*2, Bibliographic information*2, Online encyclopedia entry*1, Encyclopedia entry*1, Books*1, Handbook*1, Conference papers*1, Survey articles*1, Executive order*1, Blog posts*1, Online resources*1, Annotated bibliographies*1, Bibliography*1, Webinars*1, Biographies*1, Memoirs*1, Documentaries*1
	Keep up	Professional organizations' websites*3, Research reports*2, Journal articles*1, Conference Papers*1, Articles from RSS feed*1, Website for job search*1

Teaching task: prepare the course

Genres used to *prepare the course* were not diverse. Textbooks were the only genre used to *structure the course*. Participants consulted the organization of the content to perform this task. The textbooks they used framed their courses. Genres used to *prepare lectures* included textbooks, books, conference papers and lecture slides. Most of these belong to academic, research genres. Although textbooks were used, participants did not heavily rely on textbooks to prepare lectures. This probably was because they treated textbooks as a self-study guide. They expected students to read the textbooks before the class. Several participants mentioned they wanted to emphasize important learning content or worked on difficult problems in the class. They also wanted to save class time for group activities. Thus, they used genres that complemented textbooks to prepare lectures. They also integrated the information within the textbooks and genres used to perform this task in their lectures.

Teaching task: teach about the field

Participants performed a range of information use tasks to teach about specific fields. Some tasks involved a narrow range or genres, while some involved a wider range of genres. Specifically, genres used to *provide foundational text*, *enable students to explore interests* and *facilitate lab practices* were not diverse, whereas genres used to *complement/supplement other resources* and *expose students to important perspectives* were relatively diverse.

Genres used to *provide foundational text* were not diverse. The major one was textbooks, which included a scholarly book written by a participant. Genres related to the subjects of the courses or the professions participants were teaching were used as well. For example, in a course about the laws in the news profession, different types of laws were used as foundational texts. Participants used these genres to help students learn foundational knowledge or basic concepts. Because these genres contained the major learning content, participants tended to assign these as required readings. Most of the genres used to *enable students to understand an area/a topic* were articles, individual pieces, including: journal articles, book chapters, magazine articles, review article and blog post. Most of these belong to academic, research genres. The topics of these genres were relatively specific and focused. Genres used to *complement/supplement other resources* were relatively diverse, as Table 4 illustrates. These were used to complement or supplement the major textbooks. All of the genres used to *enable students to explore interests* were textbooks. Textbooks were used to help students find out the topics they might be interested in.

Genres used to *provide learning content* included: research reports, textbook chapters, journal articles, survey articles, rubrics, standards, and so on. These tend to be individual pieces, rather than big, whole documents. They contained the content participants wanted students to learn, such as concepts or terminology. Genres used to *expose students to influential thinkers* included: journal articles, conference papers, technical report and keynote speech. Most of these were influential thinkers' publications. Genres used to *expose students to important perspectives* were diverse, including: textbooks, book reviews, journal articles, blog posts, documentaries, memoir, and so on. These contained ideas or perspectives participants wanted students to know, which were perceived as important or unusual. Sometimes the unusual perspectives a document contained were against the main stream, and not all of the perspectives were valid. Textbooks used to perform this task were written by authors who approached the subjects participants were teaching from unique perspectives. Genres such as book reviews, editorials and blog posts were opinion-based. Genres used to *introduce a professional organization* included: professional

organizations' websites, internal research report and rating rubric/standards. These were created by professional organizations.

Genres used to *teach the highest expectations* were guidelines and standards. These contained visions that will guide students to navigate through the daily dilemma they will face in the future once they become working professionals in the fields. Participants used these to help students understand what the best looked like. Students were encouraged to achieve the best. *Highlight a topic(s)* was only performed once and the genre used for it was a magazine article. Genres used to *prepare students for the job* included guides, standards, recommendations, code of ethics, executive order and rating rubric/standards. Most of these belong to professional work genres. Participants used these to help students become professionals in specific fields because they will use these genres in professional practices in the future. *Draw on scholarship* was only performed once by a participant who wanted students to learn from scholarly work. The genre used to perform this task was academic publications. Only two participants performed the task *develop a conceptual vocabulary/terminology*. Genres used for it included academic publications, books, guides, standards and recommendations. Genres used to *walk students through the process* included tutorials, guides, handbooks and video lessons. All of these contained step-by-step, procedural information. Genres used to *facilitate lab practices* included textbooks, tutorials, handbooks and documentations. Most of these contained how-to, procedural information that helped students perform specific tasks step-by-step. As a participant described,

> "In order to do the same task on different databases, the steps would be different. If you wanted to create a database in MySQL versus in Microsoft SQL Server, it's different… so it's always easier for the students to watch the video about how I do this in Microsoft SQL Server before they go do the lab exercises."

Genres used to perform this task overlapped with those used to *walk students through the process*. Students usually had to perform specific activities step-by-step to accomplish their tasks in the lab. However, not all of the genres that *walked students through the process* could be used to *facilitate lab practices* because some were not related to the lab. *Balance research and practices* was only performed once by a participant. Journal articles were used to perform this task.

Teaching task: enhance students' understanding

The most frequently performed task was *provide an example(s)* and several participants emphasized the importance of examples in their teaching. As a participant described,

> "These are examples of how people have come up with really clever advertising in an online context… I think the tremendous advantage is this is the most important thing. The most important thing is for them

to see and appreciate successful strategies… If I get to throw out everything, I'll throw it all out, but keep that."

A wide variety of genres were used for this task, as Table 4 illustrates. Some genres were used in professional practices in specific fields. These were related to the subjects participants were teaching. For example, copyright license and license agreement were used as examples in a course on copyrights. In some cases, the content in genres provided examples for participants to use. As a participant described,

"These kinds of issues are usually debated in the US and maybe Europe. But obviously these issues are the most important in developing countries, and India is a very good example of a developing country. So I wanted to have an article about India."

Textbook genres and academic, research genres were not frequently used for this task because examples were often used to explain the concepts or theories participants were teaching. Hence, documents providing the major learning content, such as textbooks and recommendations, were excluded.

Explain/illustrate/demonstrate was one of the most frequently performed task, which indicates its importance in the courses. Genres used for this task were very diverse, as Table 4 illustrates. Textbook genres and most of the academic, research genres were not used to perform this task. This probably was because participants tried to explain concepts or illustrate the major learning content. Thus, documents used as foundational text or used to provide the major learning content were excluded. Genres used to *improve students' understanding* included: pictures/images, essays, blog post, online training courses and talk. Most of these belong to instructional, multimodal genres and Internet genres. Genres used to *provide theoretical/contextual information* included: biographies, memoirs, documentaries, statistical data, and so on. Information in these genres was used as background information for students to better understand the major learning content. Genres used to *present different authorities* included: webpages, executive order, news and editorials. Participants used genres created or spoken by sources to whom they perceived as authoritative or historically important to illustrate the points they wanted to make. Students were able to learn from different authorities and understand the points participants tried to illustrate.

Teaching task: make the learning content concrete and real

Genres used *to present reality* included: demonstrations/comedies, interviews, photos, example charts, statistical data, search results, and so on. Most of these belong to instructional, multimodal genres and Internet genres. Genres used to *provide multimodal information* included:

training videos, tutorials, demonstrations/comedies, interviews, podcast, and so on. All of these belong to instructional, multimodal genres. The learning content was presented in audio, visual, or audio-visual modes. The most frequently used genre to *connect with the real world/make a connection* was news. Other genres were also used, including: contemporary songs, traditional songs, comedy, articles from RSS feed, and so on. These genres shared a common characteristic in that they were created for public consumption. Their target audience was relatively broad, which enabled students to connect the learning content to real-world occurrences. Genres used to *help students visualize the goals* included: rubrics, technical marketing videos, guidelines and interviews. Technical marketing videos and interviews helped students visualize what they will be doing when they become professionals in the future. Rubrics and guidelines helped students visualize what the best looked like and develop a concrete picture.

Teaching task: obtain reference information

Genres used to *look up/provide references* included: handbooks, online property databases, specialized search engines, and so on. All of these belong to reference genres. Participants looked for data or other types of reference information from these genres. As a participant described,

"[The subject guide is] full of these very common resources that chemical engineers use to find information… You need to know information about different chemical compounds we call this property information and it's very important."

Genres used to *look for examples/problems* included textbooks and a concept test database. Participants used these to look for examples or problems for students to work on. Some of them adapted the examples or problems. As a participant described,

"[The concept test database is] literally just a series of PowerPoint questions. I picked some of them and others I didn't use them exactly how they were written but I changed them a little."

Although participants in social sciences also used problems in textbooks for students' assignments, this task was only performed in sciences. Textbooks were the major genre used. Students could use textbooks to look for examples or problems as references. As a participant described,

"The textbook also has some work example problems. It gives them a reference for looking at work example problems."

Genres used to *help students find jobs* included listservs, professional organizations' websites and a small website for job search. These were provided by a participant for students to search job advertisements. As she described,

"The reason I listed all of these is because these are places that students can find jobs."

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Enable students to get citation information was only performed by a participant who provided students with book/product information pages that contained bibliographic information for students to cite. Genres used to *provide guidelines for writing* included guides and reference guidelines. These contained information about how to write and hence helped students complete assignments.

Teaching task: develop students' advanced learning skills

Genres used to *help students apply the learning content* included: academic publications, memoirs, demonstrations/comedies, journal articles and clicker assessments. The memoirs and demonstrations/comedies participants used contained real events that could be analyzed by theories. Genres used to *develop students' critical thinking skills* were diverse, including: book reviews, editorial, demonstrations/comedies, and so on.

Teaching task: enhance students' participation

Genres used to *trigger discussion* included clicker assessments, a podcast and a video. These helped start discussions in the class. Genres used *to engage students* included: pictures/images, instructional videos, documentaries, speech video, and so on. These helped enhance students' involvement. All of the genres used to *have fun* were multimodal, including: demonstrations, comedies, pictures/images and videos. Some demonstrates were also identified as comedies. These were used to entertain students. Participants were also entertained by these.

Teaching task: point students to resources

Providing authoritative references was only performed by a participant who provided students with access to two professional organizations' websites. He called these websites authoritative references because both were created by authoritative bodies in his field. These websites served as the ultimate guide for students who wanted to be certified as professionals. Genres used to *provide original sources* included: conference papers, a practitioner journal article, a book chapter, and so on. Genres used to *provide access* included subject guides and annotated bibliographies. The subject guides enabled students to access to reference genres. The annotated bibliographies were full-text documents that students could use if they did not purchase the textbooks.

Teaching task: improve teaching immediately

Clicker assessments were used to *get timely feedback*. Participants asked students questions

about their teaching. They received students' feedback immediately, which allowed them to respond and improve their teaching immediately. They did not want to wait for students' feedback until the end of the semester. Clicker assessments were also used to *understand students' learning situation*. Participants designed questions to understand whether students understood the learning content in the class, which allowed them to adjust their teaching accordingly.

Teaching task: encourage students to read

Genres participants used to *motivate reading* included clicker assessments and an essay that gave students advice on study habits. These helped ensure students read the required readings before the class. Genre used to *reflect on self-learning* were clicker assessments. A participant used these to design questions that helped students reflect on their study habits. Students were able to see their own responses and their classmates', and made comparisons. Such comparisons helped students reflect on their own study habits and hopefully to improve.

Teaching task: continue to learn

Genres used to *provide suggested readings/more information* were very diverse, as Table 4 illustrates. These genres share common characteristics in that they contained information on topics that have not been covered in the courses. These were used as optional readings or resources for more information. Genres used to *keep up* included: professional organizations' websites, journal article, conference papers, and so on. Participants subscribed or visited these genres on a regular basis to keep updated. They also provided students with these to help them keep up.

Overall, the information use tasks participants performed served as the criteria that determined what genres should be included or excluded. For example, when *providing foundational text*, most participants used textbooks and genres used in the professions they were teaching (e.g., law and news). Scholarly books were used when scholarship was an integral part of courses. Because this task was performed to teach students foundational knowledge of the subjects, genres containing such knowledge were used. In this way, tasks served as the inclusion criteria for genres. Tasks also served as an exclusion criterion for genres because they determined what genres were inappropriate to use. For example, when *providing multimodal information*, genres that were not multimodal, including academic, research genres, were excluded. In this way, the information use tasks participants performed served as the exclusion criteria for genres.

Discussion

Teaching Tasks and Information Use Tasks

Freund (2008) argued because the goal-based approach focuses on the use of information, taking this approach to investigate information-seeking and selecting behaviors provides untapped potential, especially in the environment in which various types of documents are used. This study took the goal-based, bottom-up approach to identify the tasks participants performed to use information in the selected genres. This approach was suitable because genres in use were diverse, including those specifically created for this context as well as for other contexts (e.g., different fields of profession and the public's consumption). The information use tasks were identified from bottom-up, so they were context-specific. They were not generic tasks that could be transferred to other domains without a careful consideration of contextual differences. These tasks reflect participants' rationale of information use, the functions of genres in their courses and the teaching activities that different genres organized and accomplished (Andersen, 2008).

Since genres participants used were identified based on their citations and use, the granularity of genres in use was reflected in their tasks. Different tasks relied on genres at different levels of granularities. Some tasks required one or more documents; some required sub-genres or information elements in different documents; still some required packaged documents (e.g., textbooks with supplementary materials). For example, performing the task *providing foundational text* usually required documents that covered most of the topics or the most important concepts in specific fields. Performing the task *look for examples/problems* required the questions and problems at the end of each chapter in textbooks. Because different tasks required genres at different levels of granularity, building an effective system to facilitate faculty's genre use needs to allow them to flexibly navigate documents at different levels of granularity.

Document Genres

This study took the bottom-up approach to identifying genres participants used to support their teaching. Genres in use were directly identified from their use context. Participants went through the genres they used in interviews. Their perspectives were reflected in the genre labels they came up with and their descriptions. The selected genres included the most heavily used ones, the most frequently appeared ones and the least frequently appeared ones. These included genres specifically created for this study's context as well as those created for other contexts. Genres such as textbooks were created specifically for this study's context. Documents belong

to academic, research genres were created to report research, but they were used in the courses in which scholarship or research was an integral part. Most of the example genres were used in specific fields of profession. The example genres and professional work genres were used in professionally oriented courses. Most of the instructional, multimodal genres, audio genres, procedural genres, opinion-based genres and news genres were obtained through online searching. These genres were not specifically created for this study's context, but participants were able to repurpose different genres for their own use.

Task-genre Associations

Freund (2008) argued that task-genre associations acted as an implicit link between task performers and document creators who share similar intents in the same organizational and domain contexts. Creators of genres used to perform the tasks *prepare the course* and *teach about the field* probably share similar or closely related intents with participants. Participants were familiar with genres created for the teaching context, the research context and their professional domains. Participants may not share similar or related intents with creators outside the teaching context. However, faculty and students in this study could be viewed as users of genres that had broader normative scope (Rosso, 2008). For example, genres used to *explain/illustrate/demonstrate*, *provide multimodal information* and *connect with the real world/make a connection(s)* tended to have a broader normative scope. Users share similar knowledge about these genres. Thus, participants were able to repurpose these genres without causing understanding difficulties.

Conclusions and Suggestions

The task-genre associations this study uncovered illustrate functions of the selected genres in the university teaching context. This study enhanced our knowledge of task-genre associations in two ways: (1) Exploring these associations in a new context. Genre use has been investigated in the context of scholarly research, but not in the teaching context. This sheds new light because both domain experts and novice users were involved. Faculty transformed their students from novice users to domain experts through their use of genres. Additionally, genres used in this context were pretty diverse. The genres faculty used included those specifically created for this context (e.g., textbooks), those created for professionals in specific areas (e.g., license agreements) and those had broader normative scopes (e.g., news and articles from RSS feed). The diversity of genres in use brings challenges to system design because designers must allow faculty to effectively find genres originated from heterogeneous sources. Furthermore, this context provides insight into task-genre associations because faculty's information use was not

affected by the peer-review mechanism. They had more freedom in their teaching; and (2) Explicating these associations by identifying a set of context-specific information use tasks. This study took the bottom-up approach to identifying the tasks faculty performed to use information to achieve their teaching goals. It uncovered the associations between these tasks and genres faculty used.

Modeling the task-genre associations in search systems to facilitate information-seeking and selecting activities would be the most effective when the creation and use contexts of documents overlap because it helps evoke knowledge about genres (Freund, 2008). To design information systems that facilitate genre use for the context of university teaching, one needs to take into consideration the differences in the creation and use contexts of documents. The genres in use were created by a variety of sources and the normative scope of these genres varied. Building search systems that allow faculty to search for genres specifically created for this context as well as those created for other contexts might help facilitate faculty's genre use. The task-genre associations this study uncovered can be exploited to design search systems that filter or rank genres based on the tasks faculty wish to perform as tasks served as the inclusion and exclusion criteria for genres.

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