



Reconceptualising the notion of finding information: How undergraduate students *construct* information as they read-to-write in an academic writing class

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ABSTRACT

This paper seeks to problematise the concept of finding information in EAP (English for Academic Purposes) writing programs. Drawing on the experiences of a group of female Emirati undergraduate students in an academic writing class in the United Arab Emirates, the paper argues that the act of finding information is not straightforward or universal, but is a social construction. Through the theoretical lens of activity theory (Engeström, 1987; Leont'ev, 1981/2009), the paper presents the view that information is constructed as a goal oriented, socially situated activity mediated by physical and symbolic artefacts. The present study examined the types of mediating artefacts students used as they constructed information and the tensions and contradictions they experienced as they did so. Data collected via screen capture recordings, student reflections and interviews suggested that students constructed information by drawing on Discourses of being proficient Internet users, local Discourses of truth and the norms and assumptions underpinning the academic writing class they were enrolled in. The findings of the study are significant in shaping the reading-to-write processes and practices of EAP writing pedagogy.

1. Introduction

The process of reading-to-write is integral to EAP (English for Academic Purposes) writing classes where students are expected to present a written argument by drawing on published texts (Hyland, 2009). During this process students read, understand and evaluate written texts with the intention of extracting ideas to integrate into their own writing (Bailey, 2011; Fawcett, 2004; Geyte, 2013). Expert voices serve to legitimise the voices of apprentice academic writers (Fawcett, 2004; McCormack & Slaght, 2009). Such a process, it is argued, develops a critical awareness in students of reading and writing that is transferable across academic disciplines (Council of Writing Program Administrators, 2014).

A key concept commonly associated with reading-to-write in academic writing classes is that of finding information. Students are expected to locate, evaluate and use information appropriately and effectively (Council of Writing Program Administrators, 2014; Fawcett, 2004; Grabe & Stoller, 2011; Horning, 2017; Howard, Serviss, & Rodrigue, 2010; NCTE, 2009). I seek to problematise the assumption underpinning many academic writing courses that information is an already existing entity waiting to be found. In this paper I argue that information is not a universally recognised object, but rather a social construction situated in meanings and practices available to an individual at a particular time and place. I argue that the activity of socially constructing information is multi-layered and complex, and is achieved by recognising particular meanings as valuable and relevant.

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In this article I present a snapshot of how a group of female Arab undergraduate students in the United Arab Emirates constructed information as meaningful and relevant to their needs as they interacted with online texts in an EAP writing class. Using activity theory (Engeström, 1987; Leont'ev, 1981/2009) as a theoretical framework for mapping and understanding the complexities of student learning behaviour, I examined the types of mediating artefacts students used as they constructed information and the tensions and contradictions that occurred as they did so. The present research fills a gap in the existing literature on academic writing by examining EAP students' online reading-to-write activities, which typically occur beyond the gaze of the educator (Horning, 2017).

2. Teaching and learning information in academic writing

A number of studies have examined the teaching/learning of information within academic writing contexts. Some have investigated how information is 'found' and have assumed libraries to be holders of information. Liao, Finn, and Lu (2007), for example, compared how international and mainstream graduate students in a US university searched for information in the university library. They found that international graduate students found information in library books and the library catalogue more actively and more often than mainstream US students. Analysing the information seeking behaviour of predominantly female international students in a US university, Yi (2007) reported that the higher education level a student had, the more likely they were to search for information in library databases and electronic journals. Some studies pointed to the challenges international students face when searching for information in a library. Liu and Winn (2009) found that international Chinese students at a Canadian university had difficulties in using library resources to find information due to linguistic and cultural challenges. Unfamiliarity with using libraries in home countries was also identified as an obstacle in international students' searches for information (Hughes, 2010). A number of studies have proposed strategies to train students to locate information within library resources (Macdonald, 2008; Martin, Birks, & Hunt, 2010; Ulmer & Fawley, 2009).

Students' information seeking behaviours with online texts and platforms have also been examined. Research articles and journals (Robinson & Schlegl, 2004), websites (Stapleton, 2005), Google (Hughes, 2013; Williams & Rowlands, 2007) Google Scholar (Purdy, 2012) and Wikipedia (Blackwell-Starnes & Walker, 2017; Purdy, 2010b) have been identified as sites in which information can be located. Students' needs to develop background information on a topic before they write their essays and ease of use are identified as factors that impact students' search for information in these online artefacts (Purdy, 2012). Students' engagement with texts other than research articles and journals are often perceived as undesirable as such texts are considered to be non-scholarly (Robinson & Schlegl, 2004). Purdy (2010a), however, argues that the inclusion of such texts in academic writing instruction can help bridge the gap between unfamiliar academic writing tasks and students' online proficiencies.

In the process of reading-to-write, the activities of reading and writing are intricately connected, mutually shaping how the other is practised (Bazerman, Reiff, & Bawarshi, 2013; Broussard, 2017). A number of studies have examined how students 'use' the information once they find it. The Citation Project suggests that students can identify, locate and access information but cannot use information effectively (Jamieson, 2017; Jamieson & Howard, 2013). An examination of 174 undergraduate research papers from 16 universities in the US showed that 1st year university students "lack the critical reading and thinking skills necessary to engage with the ideas of others and write papers reflecting that engagement in any discipline" (Jamieson & Howard, 2013, p. 16). Students were predominantly found to incorporate information into their essays at sentence-level, in the form of quotations or paraphrases from the first one or two pages of a text with each text cited once or twice. Jamieson and Howard (2013) describe this as "sentence-mining" (p. 127) and Jamieson (2017) refers to essays produced in this way as "information dumps" (p. 133) with little or no relationship created between students' own ideas and those of others.

Howard et al. (2010) too report that students' use of information is problematic. They found that the mainstream US and ESL students in their study paraphrased, copied from or patchwrote sentences from the texts they found. They argue that incorporating information in the form of sentences demonstrates little reader comprehension of the source and information. Rosenblatt (2010) makes a similar case for summarising of information in sources. Although half of the students in the study did summarise information from scholarly sources, they did not make connections between their own assertions and the summaries. Hirvela and Du (2013) examined in detail the paraphrasing practices of two undergraduate ESL students and found that the paraphrases students used demonstrated little evidence of understanding of the topic or the text from which information was selected. Davis (2013) reported that for the international postgraduate students in her study, proficiency in using information did not necessarily improve over time as students progressed in their academic studies. In these studies students are described as failing to demonstrate critical thinking and academic scholarship.

While the studies cited above provide insights into the processes of essay composition, they are underpinned with a view that information is a visible, static entity. Information is assumed to be obvious and discoverable. Libraries and print and online texts are assigned locations in which information can be sought and found. In cases where students do not engage in these activities in ways that meet experts' expectations, students are labelled as being deficit and incompetent. Policies and guidelines on higher education practices also adopt a notion of information as a discoverable body of text (American Association of Community Colleges, 2008; Association of Colleges and Research Libraries, 2015; Australian and New Zealand Institute for Information Literacy, 2004). Information is assumed to be a thing that can be found, stored, dissected and retrieved, and that can be transferred from one place to another. The task of finding and using information is constructed as a non-political, unproblematic activity. Information is an entity that students simply find or fail to find.

A smaller number of educators present an alternate view to the assumptions above. Kapitzke (2003) and Pawley (2003) criticise the reification of information as a commodity confined to libraries and written texts and argue for a move away from positivist assumptions of information and library practices. Lloyd (2010) proposes a view of information as co-constructed when individuals

interact with artefacts, actions, symbols and other individuals. Drawing on such a view of information, [Lloyd \(2007\)](#) and [Lloyd and Somerville \(2006\)](#) demonstrate how fire-fighters construct workplace information by making sense of textual understandings, embodied practices and social relationships. Pregnant women have been found to recognise what makes a difference to their understandings by evaluating their thoughts and feelings about authority and truth within different contexts ([Papen, 2013](#)). [Lloyd, Kennan, Thompson, and Qayyum \(2013\)](#) examined how a group of refugees in Australia construct information. Visual texts and social interactions were found to be important in assisting refugees in utilising their existing, familiar understandings to make sense of new contexts and practices. These studies are underpinned with a view of information as a complex social production that is constructed through social, textual and bodily practices. However, these studies do not shed light on how students, in particular, construct information during the process of reading-to-write or the complexities and tensions that are experienced during this process.

The present study fills a gap in the literature by exploring the 'reading-to' aspect of the reading-to-write process. It examines how a group of university students in an academic writing class in the UAE construct information by drawing on available meanings and practices and the tensions and contradictions that are experienced as they do so. The study also fills a gap by presenting the unique experiences of female Arab EFL students in an academic writing course, voices that are under-represented in mainstream academic writing research.

3. Information as a social construction

A sociocultural view of learning posits that information is a social construction situated within a particular context ([Cornelius, 2004](#); [Lloyd, 2010](#)). Information is "a difference which makes a difference" ([Bateson, 1972](#), p. 459); it makes a change to a person's outlook or insight and has an impact on one's judgement and behaviour ([Davenport & Prusak, 1998](#)). [Davenport and Prusak \(1998\)](#) explain that every social context is constituted by a range of data, which they refer to as a set of discrete facts and events that have little relevance or purpose; data have no inherent meaning. Data are transformed into information when an individual recognises them as significant and adds meaning and value to them. Information is "whatever appears significant to a human being, whether originating from an external environment or the (psychologically) internal world ... [It] is any stimulus we recognise in our environment" ([Case & Given, 2016](#), p. 56). The transformation of meaningless data into meaningful and functional information occurs as a result of "negotiated construction between individuals interacting with ... artefacts, texts, symbols, actions and in consort with other people in context" ([Lloyd, 2010](#), p. 12).

From this perspective, information is not a static entity contained merely in texts; it is not neutral or value free. Rather, individuals co-construct information as valuable or worthless, as helpful or not, by filtering it through their existing repertoires of meanings and situated experiences. The idea of information being socially constructed is captured in [Gee's \(1999\)](#) concept of Discourse – with a capital D. Discourse refers to

a socially accepted association among ways of using language and other symbolic expressions, of thinking, feeling, believing, valuing and acting, as well as using various tools, technologies, or props that can be used to identify oneself as a member of a socially meaningful group or 'social network', to signal (that one is playing) a socially meaningful 'role'. (p. 178)

Individuals are apprenticed in the language and literacy practices, tools and technologies of particular Discourses where they construct and understand information as valuable and legitimate, or not, within that particular Discourse. Information, therefore, is not constructed in universally agreed ways. Each Discourse community assigns different values and meanings to the same set of data, creating different understandings. As individuals move between different Discourses, they demonstrate different ways of constructing information.

As educators, it is crucial for us to understand how a student writer transforms data into relevant and significant information as they engage in reading-to-write processes. What kind of Discourses do they draw on as they make sense of data? What tools and signs mediate their transformation of data into information? What kind of tensions are created in this process and what do these tensions suggest about teaching and learning? These are some of the questions that the present study will seek to address.

4. Activity theory

The present study uses activity theory as a theoretical framework to situate and understand the complex interaction between individual actions, mediational means and social context ([Engeström, 1987](#); [Leont'ev, 1981/2009](#)). Activity theory provides a focus on the dynamic and dialectical interaction between multiple individual and social forces. It conceptualises human cognition in relationship to physically and socially motivated activities. [Leont'ev \(1981/2009\)](#) explains that

With all its varied forms, the human individual's activity is a system in the system of social relations. It does not exist without these relations ... The activity of separate individuals depends on their place in society, on the conditions that fall to their lot, and on idiosyncratic, individual factors. (p. vii)

An activity refers to "high-level motivated thinking, doing and being of an individual in a given social context" ([Ryle, 1999](#), p. 413); it is aimed at fulfilling a social, psychological and/or biological need. [Wertsch \(1985\)](#) emphasises that an activity is not determined by the physical context in which an individual functions. Rather, "it is a sociocultural interpretation or creation that is imposed on the context by the participant(s)" (p. 203). Activities are socially mediated complex and dynamic sets of actions rather than individual actions in a social context ([Engeström, 1987](#)).

At the core of activity theory is the Vygotskian notion that a subject (a person) reaches an object (the goal) through the use of mediational means. [Vygotsky \(1978\)](#) claims that all forms of human mental activity are mediated by material artefacts (tools) and/or

symbolic artefacts (signs) that are meaningful within a social context. Tools mediate actions through material, concrete objects while signs mediate one's interactions with the world through language, numbers, art, diagrams and other symbolic, abstract representations. Both tools and signs have the potential to become mediating means not by virtue of their existence but only when they are used by an individual to reach a goal (Engeström, 1987). Artefacts are an integral and inseparable element of human functioning (Engeström, 1999).

Leont'ev (1981/2009) emphasised the interaction between the subject, object and mediational means by describing an activity as comprised of three elements: motivation, action and conditions. A motive drives one to fulfil a need. Motives are instantiated by specific actions with specific goals that are meaningful but may or may not be intentional; actions are carried out under particular spatial and temporal conditions. Engeström (1987) further added that motives, actions and conditions are situated in and shaped by norms, rules and traditions associated with a particular community and the division of labour between community members. A goal is transformed into a deliberate and/or desirable, or an unintentional and/or unwanted, outcome as a result of a dynamic, socially constructed way of being and doing in the world (Swain, Kinnear, & Steinman, 2015).

Engeström presents a visual representation of an activity system in Fig. 1. The representation highlights the continuous, self-reproducing, systemic and historical-cultural aspect of human functioning in the world (Engeström, 1999). It is an attempt to capture the complexity involved as an individual works towards reaching a goal by using available mediating means. Each smaller triangle in the figure represents one action situated within a collective activity system. Multiple actions occur within an activity, and a number of activities occur simultaneously to produce activity systems.

Within any social context, a number of competing activity systems operate simultaneously. An individual's different interpretations of any of the elements that make up an activity can impose a different activity on the same context. Therefore, the relationship between elements of an activity and between activity systems is not static or predictable. Engeström (2001) explains that actions within any activity "are always, explicitly or implicitly, characterized by ambiguity, surprise, interpretation, sense making, and potential for change" (p. 134). In fact, tensions and contradictions are integral and inherent to any activity as it is such incongruities that are catalysts for change and development (Engeström, 1999). In a classroom context, while a class might appear to be engaged in the same task, they might not be engaged in the same activities. Tensions and contradictions occur as students shape the outcomes of tasks set by teachers and the actions they engage in to reach these outcomes, resulting in the creation of new goals and potential opportunities for learning (Lantolf, 2000). The present study is an attempt to explore multiple actions and competing modes of learning as students

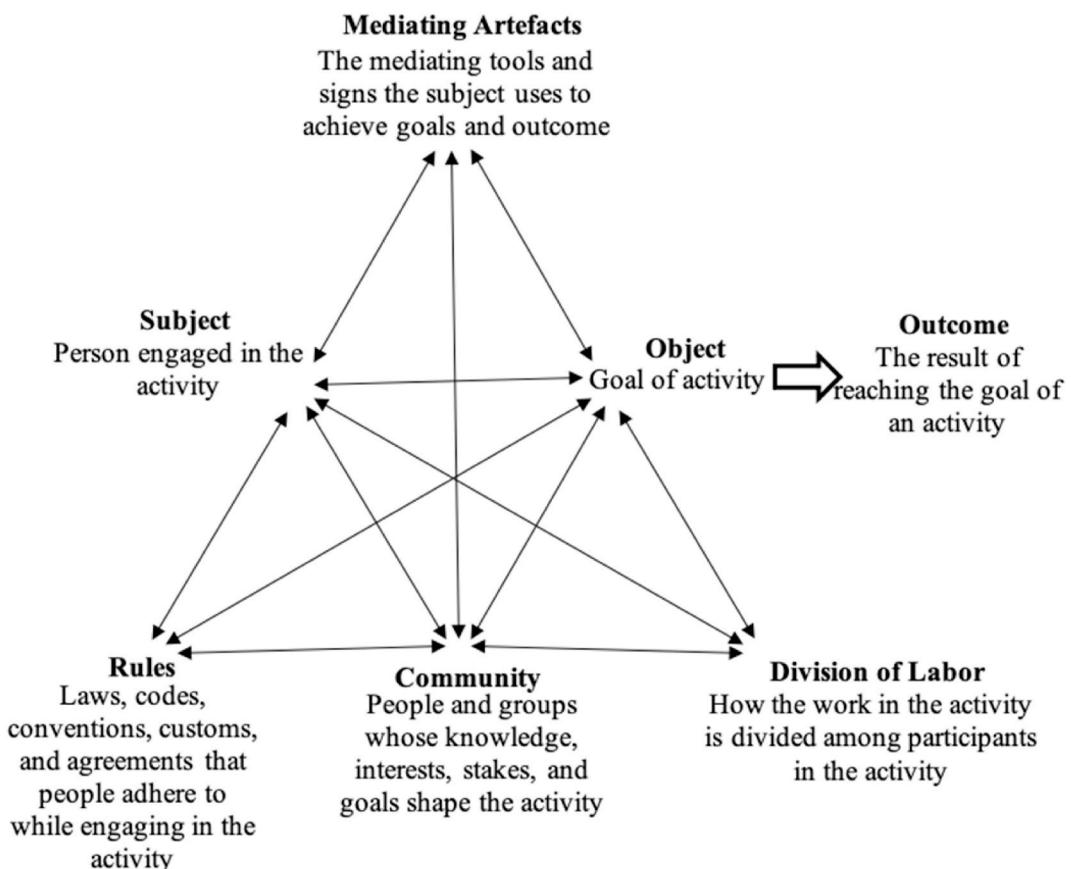


Fig. 1. A diagram of an activity system (Engeström, 1987; Leont'ev, 1981/2009). Reprinted with permission from Cambridge University Press.

transformed data into information.

5. The study

The present study took place in an undergraduate academic writing class in a federal, English-medium university in the United Arab Emirates (UAE). The UAE is an Arabic-speaking country; however, due to its large expatriate population, English has attained status as a lingua franca. Federal universities, such as the one in which this study was conducted, are gender segregated and provide instruction in English only. Tuition fees are waived for Emirati students. An overall band of 5.0 on the IELTS exam is required for students to enrol in degree granting programs at the university.

I was the teacher of an Academic Writing class, in which students were required to produce a 1500 word argumentative essay on a topic that had personal or social significance. Some of the topics students chose to write about included gender equality, capital punishment, environmental issues, education and marriage. The study took place in week four of a 16-week semester. The class consisted of 24 female students, 22 of whom volunteered to participate in the study. Participating students were Emiratis between the ages of 19–26 with two students in their mid 30s. All students spoke Arabic as a home language.

In their essays, students were expected to “select and incorporate information from academic sources in their own writing” (Course Learning Outcome 2 in [Appendix A](#)). Other course learning outcomes ([Appendix A](#)) also rested on a narrow view of information as an entity located in texts that should be unproblematically discovered by students. Each class was assigned a library faculty member whose role was to assist students with their use of library services. This made available to students the view that information was contained within the library.

In the previous two weeks in the semester students had decided on topics for their essays and possible stances they would take in relation to the topic. Students had also engaged in pair and group discussions in class to brainstorm ideas about their individual essay topics. The librarian assigned to the class had introduced to students the university library catalogue. This particular sequence was prescribed in the course syllabus. Students were then expected to produce outlines and drafts of their essays, on which they would receive teacher feedback. Students would then revise their essays and submit these for a grade. The outline and revised version of the essay were awarded grades.

All students in class had their personal laptops. The university had a bring-your-own-device system; therefore, it was common practice for students to bring their own laptops to class. All students had access to the Internet, to teaching and learning content on the course Moodle and to the online university library catalogue. As students were using their own laptops, I was unaware of the other digital resources they had access to. During class students could walk over to the campus library to access physical resources; however, due to concerns of being marked absent, it was unlikely that a student would leave class for any reason during class time.

At the beginning of the lesson in which data were collected, all students were given the prompt in [Appendix B](#). The prompt asked students to use class time to read as part of the process of essay writing. Students who had signed the research consent forms were told to submit their screen recordings and reflections to the teacher at the end of the lesson. I intended for the prompt to be broad and offer as little guidance as possible to students as to how they should respond so as to explore the myriad of actions students would engage with during the process of reading-to-write. The two research questions I investigated were:

1. What artefacts mediated the ways students constructed information?
2. What kinds of tensions and contradictions occurred as students constructed information?

With these questions I aimed to gain insights into how students constructed information during the reading-to-write process of essay composition.

5.1. Data collection

Data were collected in three sets: The first set of data came from recordings of students' actual online screen actions as they responded to the given prompt. Screen capture recordings have the potential to provide depth to data in terms of detailed, moment to moment actual interaction ([Ramey et al., 2016](#)). They provided a more accurate description of students' actions than relying on students' self-reports. Although students were not explicitly directed to use their laptops, all 22 students recorded and submitted recordings of their screen based movements. These recordings ranged from 5 min to 32 min.

A second set of data included students' reflections on the actions they engaged in as they responded to the given prompt. Students were told to complete a table ([Appendix B](#)) where they could make reflective notes of what they were doing and why they were doing it. The purpose of this task was to encourage students to make explicit to the researcher their thoughts and opinions by verbalising their actions and the motives underpinning each action. A total of 14 reflections were recorded digitally and two on paper. The reflections ranged from 5 words to 602 words in length.

In both sets of data collection, anonymity was essential in ensuring that students behaved as naturally as possible, without fear or worry that their ideas or behaviour would impact my perceptions of their essay writing abilities or on their essay grades. I recognise that a vocal think-aloud protocol could have given more insights into students' motives and actions; however, in my dual role as researcher and teacher, I chose not to employ it because it could have compromised anonymity. Instead I used interviews, a third data collection tool, to create opportunities for students to reflect on their actions without revealing the screen recordings that belonged to them.

Interviews were held during weeks 5 and 6 of semester, out-of-class at a time and location determined by students. The interview

questions were aimed at exploring the processes and practices students engaged in as they constructed information and at encouraging a discussion between the researcher and student(s) (Appendix C). A total of 20 interviews were conducted, of which six were held with pairs of students at the request of students. The interviews ranged from 7 min to 46 min.

5.2. Data analysis

Vygotsky (1978) claimed that all human action is mediated and that in some cases the mediational means are external and visible to an observer while in some cases it is not. As a researcher, my analyses are limited to the visible mediating artefacts in the study: These are screen recordings, which include online behaviour and language, as well as the written and spoken language students produced in reflections and interviews. The reflections and interviews were aimed at gaining insights into the less visible mediating artefacts.

In my analyses of screen recordings I used an inductive approach guided by the research questions framing the study (Erickson, 2006). This involved first watching all 22 of the screen recordings and making notes of how the visual data responded to each research question. On second viewing, I added notes on transitions in actions, the time spent on each action and verbal behaviour. In cases where students typed in or viewed Arabic texts, I consulted a research assistant, who was an Emirati university student in a federal university in the UAE, to assist with translations. The third viewing combined the first two notes and aimed to create a running commentary of each screen recording. From this commentary, a list of typical and atypical patterns across different actions and screens were noted.

Data that consisted of written and spoken language were analysed using a discourse analysis approach. Fig. 2 outlines the questions I asked of the verbal and written data in order to make sense of students' meaning making practices and processes. These questions allowed me to analyse what students said and wrote as socially-mediated goal-oriented actions and the tensions and contradictions that were created. An identification of the latter is particularly important as tensions and contradictions are forces for change and transformation in teaching and learning (Lantolf & Thorne, 2006).

6. Findings

In this section I analyse the data as situated within an activity theory framework. I provide excerpts from data to illustrate or support claims I make. When providing excerpts from interviews, I have used pseudonyms for students' names; excerpts from screen recordings and corresponding reflections are numbered as these sets of data were anonymous. I have not made grammatical or lexical

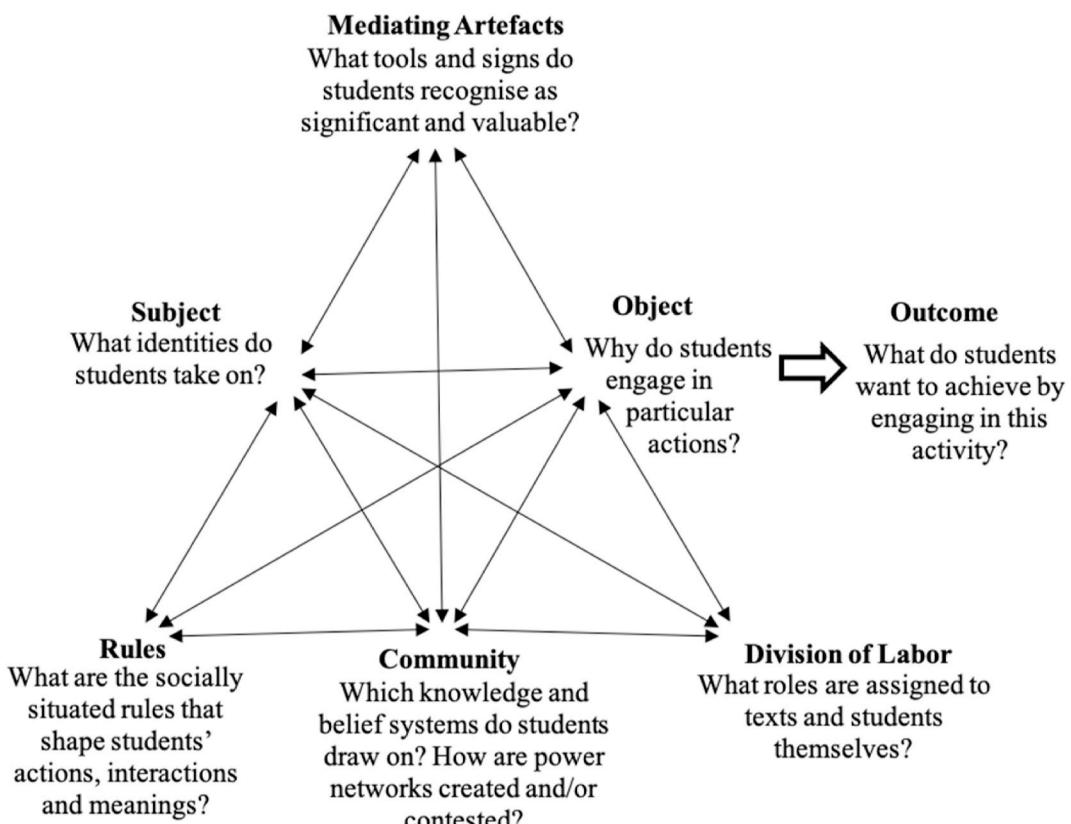


Fig. 2. Analysis of data using an activity system framework.

Mediating Artefacts

Internet, Google, English, newspapers, websites, Wikipedia, Arabic, images, sentences, paragraphs, images, quotations, paraphrases, others' opinions, statistics, graphs, tables, blogs, social media, forums, library catalogue, Google Scholar

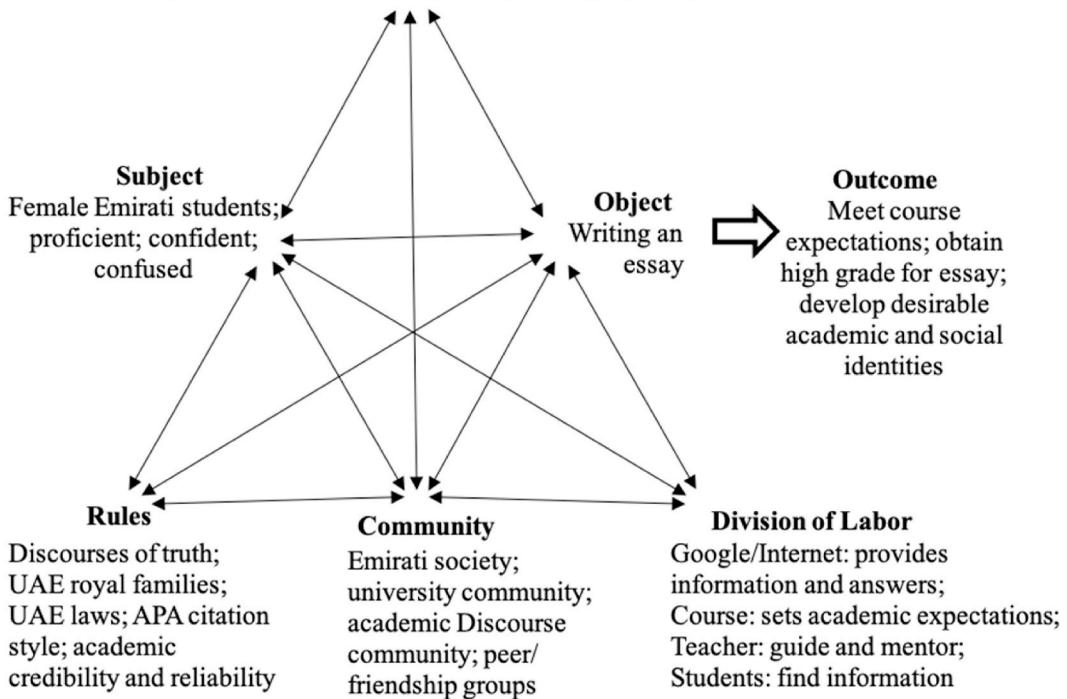


Fig. 3. The activity of constructing information based on data collected.

changes or corrections to data.

Fig. 3 summarises the data that were collected. It captures the complexity of the way information was constructed within this present study as a goal oriented, socially situated activity. I explain each element separately below.

6.1. Subjects

For the 22 students in the study, the process of reading-to-write was equated with navigating the Internet. They engaged in a range of actions on the Internet as they typed in search terms, scrolled through search results, accessed, downloaded and/or saved online texts, moved back and forth between webpages and transferred sentences and ideas from online texts to word documents. These actions and their opinions and perceptions as captured in reflections and interviews suggested that all participating students conceptualised information in ways the academic writing course made available: Information is already existing, external to students' own opinions, experiences and beliefs. Information was equated with others' ideas (17 interviewees), facts (15 interviewees), statistics (15 interviewees), quotations (14 interviewees), things that students read (14 interviewees), things that students see (10 interviewees) and paraphrases (3 interviewees). Information could be found, saved, retrieved and used.

As students engaged with the process of reading-and-to-write, attempting to locate information which they believed already existed, they adopted a number of competing identities. Students moved between being novice members of academic communities, where they were aware that expert voices were necessary to legitimise their own voices, and being established members of Emirati community. Students also navigated between differing levels of expertise and confidence as academic writers utilising the Internet to create an academically sanctioned essay. I discuss these identities as I analyse the other elements that make up the activity of constructing information.

6.2. Mediating artefacts

Google was the most significant artefact that mediated students' interactions with other artefacts that made a difference to their existing understandings. Although eight interviewees identified Google Scholar and the online university library catalogue as significant in their quest to locate information, none of the screen recordings captured any interaction with these search engines. All 20 screen recordings included the exclusive use of Google.

Google had significance to students' lives outside the classroom; they were aware of the rules and practices governing its use and

had developed expert identities in relation to it. Google made available to students a wide range of mediating artefacts. In screen recordings a total of 87 different search results were obtained, from which 132 online texts were accessed. Local newspapers in English constituted 28% of these online artefacts and appeared in all except two students' screen recordings. The second most common online text students interacted with were websites (any webpage with a.com extension) which were accessed more than once in 13 of the screen recordings. International organisation websites and/or reports (those with.org extensions) were accessed in eight screen recordings and local government websites (with.gov extensions) in six of the recordings. Four of the screen recordings captured students' interactions with Wikipedia, three with social media sites, two with blogs and two with discussion boards. Advertisements, books, sample student essays, Prezi presentations, foreign government websites, foreign newspapers were also written online texts students interacted with.

A range of visual texts, such as photographs, which seven of the screen recordings captured interaction with, graphs and tables (in 6 screen recordings) and videos (in 4 screen recordings) also created opportunities for students to recognise unstructured meaningless data as potentially relevant to their essay writing needs. Screen recording 12 captures the student conducting an almost exclusive Google image search on the history of education in the UAE, spending close to 6 min exploring photographs of past Emirati leaders and schools.

In interviews, students referred to this range of written and visual artefacts as valuable and significant spaces in which other people's opinions, experiences and claims created differences to their own opinions and views. The range of texts that students assigned meaning and value to were more diverse than that reported in current literature (e.g. Jamieson, 2017; Stapleton, 2005). The majority of students moved between these different genres, registers, tones and modes of text, recognising each as significant and relevant to fulfilling academic needs.

Students' recognition of Google as important and valuable conflicted with course expectations in that Google was not sanctioned within the course; the university library catalogue, on the other hand, was. In eight interviews students described the library catalogue as a place where "you can find academic information" (Shamsa). However, while Google was identified as a valuable mediating artefact, the library catalogue was not perceived as having any significance in contributing to their existing understandings. Meera explained why she did not use the library catalogue:

After Google I will check the library because Miss [name of the librarian] said all sources in library are credible. But I don't like the library catalogue. I understood the library session, that's not a problem but actually I never use this library catalogue. Never. Only just in this course and maybe one more course.

For Meera and nine others, using the library catalogue was unnatural and insignificant to their everyday lives. Six students mentioned that the texts available on the library databases posed linguistic challenges and three referred to difficulties in accessing the library catalogue from off campus. These students lacked confidence in and familiarity with using the library catalogue and associated texts. It was not integral to students' lives and remained a course imposition.

Familiarity with concepts, genres and meanings contributed to students' recognition of particular texts as being relevant and valuable. Being able to relate the content of an online text to the student's essay topic was the most crucial factor for all interviewees in their decisions to engage with a text. Muna explained "if information fits my essay I read it. The topic must match my essay" and Ayesha stated "I check words from my topic sentence or thesis statement. If they same or something then it's OK for me. I will read it". A large group of students also referred to text credibility as shaping their recognition of texts as valuable. Amira explained that she chooses texts "if it have author and date" and Alya mentioned "I check the URL. I see if there is an author and date". Half of those interviewed echoed the strategies Amira and Alya employed to evaluate the production and reliability of texts. These students reproduced the criteria that librarians and teachers had introduced to them in the current course and previous academic writing classes regarding credibility of online resources. They demonstrated awareness that academic Discourses expect them to use scholarly resources.

Students demonstrated confidence in recognition of the genres of the artefacts they were engaged with. In interviews and the reflections in screen recordings, they referred to their interactions with websites, newspapers, reports and journal articles. In eight of the reflections, however, the genre of the text the student was engaged with was misidentified. For example, in screen recording 13, the student wrote "I like this website because it include a lot of informations about my topic. It have introduction and conclusion and I can understand easily". This was in reference to a journal article. The reflection in screen recording 19 referred to a journal article and two local government reports as websites. In screen recording 5 the student wrote "I will save all of websites because they have good information and I can find the writer and date". This comment was made in reference to a newspaper article, a discussion board and a graph. Other examples include a magazine article being referred to as an organisation, a discussion forum identified as a newspaper article, a sample student essay, a foreign newspaper and a blog referred to as websites. It appeared that students were not familiar with all of the digital genres that they were interacting with. Hughes (2013) argues that unfamiliarity with academic style and jargon can lead students to misinterpret the genres of texts. While the students in the present study were familiar with the names of genres, they did not recognise the distinguishing features of each genre. In attempts to make sense of the purpose of a text and its usability, students were mapping unfamiliar genres to their existing repertoires of understandings.

English was significant in mediating students' constructions of information. In 20 of the screen recordings English was used exclusively. In an interview, Najla explained that "the course is English. Everything is in English, our essays, our exams, our discussions. Also you [the teacher] actually you don't know Arabic so it's impossible to use Arabic in this course". English was recognised as the only language that was sanctioned in the course. Six other students explained their choice of English due to a perceived lack of interest in Arabic within the broader academic community of the university. Maryam explained: "We all we are Emirati and we speak Arabic but this university, it's just acting like Arabic isn't, like it's not existing". These students questioned the way Arabic was

positioned as insignificant in the academic Discourses within the university. A number of students also referred to more practical reasons for participating in English-only online spaces, such as to avoid linguistic problems that could result when translating from Arabic to English. English was also seen as enabling access to more mediating artefacts than Arabic. In screen recording 21, the student wrote that “The Internet it’s all in English. That make me prefer English”.

Screen recordings 8 and 11 involved participation predominantly in Arabic-only linguistic spaces. In both recordings, students’ first search terms were written in English, after which the student engaged with Google solely in Arabic. There were no reflections written for these. In these two recordings Arabic newspapers, discussion boards and local organisation websites in Arabic appear to be significant in students’ attempts to transform data into information. In the interviews, none of the students made any references to using only Arabic. Alanood, Mona, Shareena and Alya explained that they believe both English and Arabic are useful when reading-to-write. Shareena explained “Arabic is useful for understanding of the texts. It help me get some good, some useful ideas. But also English is important because I can learn many new vocabulary”. Arabic assisted in the comprehension of texts and in generating ideas while English contributed to expanding an existing linguistic repertoire related to essay writing. These four students described their navigation between English and Arabic linguistic spaces, where both languages were perceived as mediating learning. The majority of students though participated in English-only spaces, as was expected in the course.

6.3. Object and outcome

Students’ goals in interacting with Google based artefacts were driven by academically-grounded motives. The primary goal was “to find information to write my essay” (Alanood, interview), which was voiced by all 20 interviewees. The outcome of this goal was perceived as significant in meeting course expectations and obtaining high essay grades. Similar to [Blackwell-Starnes and Walker’s \(2017\)](#) findings, many of the students in the present study were engaged with texts to conduct “preliminary research that could be used to help them focus on … [their essay] topic” (p. 74). In 19 interviews and 13 reflections, information was equated with any difference that made a difference to students’ existing repertoires of understandings. For instance, Ameera and Zainab conceptualised information as equivalent to learning about the topic of their essay:

I choose this topic because I thought it is exciting to write essay on topic which is new. But there was problem. I don’t know anything. So, yes, I found some information … information let me understand the topic because really I don’t know anything. (Ameera)

I wanted to learn more about divorce, that why I am choosing it. Divorce you know is big in the Emirates. I mean it’s good many woman are getting divorce but I want to learn why are they getting this divorce? One day inshallah I will marry and I want to, I don’t want to divorce. (Zainab)

Moreover, in 12 reflections and 15 interviews information was recognised as what consolidated existing meanings. For example, Alya discussed how she experienced a difference that expanded her already existing understanding of the essay topic:

I already know something about capital punishment [her essay topic] because I watched a TV series. But this was American. I don’t know about it [the essay topic] in the UAE or other countries like Middle East. So now I search for something that can explain to me.

For Amna too, the topic of her essay was one that she sought to expand her knowledge of:

My essay is about why should the UAE stop dependence on oil. I studied this subject actually in high school and also last year with Dr [name of a teacher] and he said that we must not oil, we must find money from difference sources.

A number of students explained that when they perceived a text as being significant in contributing to their understandings of a topic, the initial step they took was to identify the main ideas of the text. Eight of the interviews explained the specific strategies they adopted in their recognition of main ideas. One strategy was to read only particular sections of a text: “I just read the topic sentence of the paragraph and I read the title and I read the conclusion and introduction” (Nada). Shahad too explained that “I read couple of sentences from each paragraph” and Maryam stated “I read first paragraph and then first sentence of each paragraph. If I see it’s related I read more”. These students were attempting to be efficient and strategic in their engagement with written texts by searching for main ideas in particular sections of a text. Ameera and Shereena demonstrated knowledge of metalanguage as they describe the strategy they use as scanning: “I scan quickly because it will take time for reading everything” (Ameera). Zainab commented that Google Translate helped speed up the process of identifying main ideas. Screen recording 14, which may or may not belong to Zainab, does demonstrate a student inserting several paragraphs of an article in a foreign newspaper into Google Translate and then copying and pasting the translation in a word document.

Several interviewees also referred to the ways they saved main ideas for later retrieval. In four of the screen recordings students are seen copying sentences or sections of a text and pasting these on to a word document. Saving main ideas on word documents was referred to by five interviewees. Mona and Shareena explained that when they could not identify main ideas, but thought the text might be useful, they saved the whole text. In six screen recordings students are seen as saving the webpage of the written text either as a pdf document or as a favourite on their web browser.

Students’ motives to identify main ideas also appear to have shaped the duration of their online actions: Students’ navigations in and between texts were quick and impressionistic. Students spent an average of 68 s on a search result they obtained. There were 13 screen recordings in which 5 s or less was spent scrolling through search results. In nine of these recordings, 3 s or less was spent on a search result and in six of these, there were more than two search results on which students spent less than 3 s before changing the search term.

In terms of student engagement with an online written or visual text, in screen recordings an average of 56 s was spent interacting with an online text. 15 of the screen recordings showed students spending 5 s or less on a text and in 13 of these recordings 3 s or less was spent on a text. Five of these recordings involved 3 s or less spent on more than three texts. In 12 of the screen recordings, students engaged with at least one text without scrolling down to beyond what the student could see on her laptop screen. Recording 11 shows a student accessing a total of 11 texts. In all except two of these texts, the student limits her interaction to only what can be seen on her laptop screen.

Sentence-mining ([Jamieson & Howard, 2013](#)) was another motive that facilitated students' recognition of particular texts as meeting academic needs. In an interview Najla explained: "When I read a source and find good information, I copy the sentence because I have to use quotes for my essay. I copy link too because I need that for my APA citations". Seven other interviewees repeated the idea that they analysed written texts to identify sentences they could quote or paraphrase in their own writing. One of the course learning outcomes did, in fact, explicitly state that students were expected to incorporate ideas from other texts into their own in the form of quotations, paraphrases and/or summaries ([Appendix A](#)). Students' actions were in line with course expectations.

[Jamieson and Howard \(2013\)](#) claim that sentence-mining involves little critical engagement with others' ideas and is a form of copying. Zainab and Hind's explanation below of their motives for mining texts, on the other hand, suggests a critical engagement with issues broader than texts and sentences:

Zainab:	When I find a good source, the first thing I do is I look for quotations. OK sometimes I paraphrase but honestly it's easy to quote.
Hind:	And I do that too. For example I take some sentences and put it on my notes so I can use it later when I write my essay. Of course I write the APA citation.
Zainab:	[laughs] me too. Oh don't forget citations [students laugh together]
Researcher:	It's interesting that you are laughing. Why is this funny?
Zainab:	Oh no miss. I mean. You, and I mean every, all, of English teachers say like where's the citation, where's the citation? So now we are obsessed. And honestly miss, if I give you my essay without quotations it will fail. You say check the rubric and I checked and it says students must use quotations and paraphrases.
Hind:	And also quotations mean I don't lose points in grammar. If I paraphrase I know I will have mistakes.

Zainab and Hind acknowledge that mining a text has the advantages of saving time and effort as well as reducing the risk of being penalised for making linguistic errors in their writing. These students are aware of the practices the course expects them to demonstrate in their essays, namely the incorporation of others' ideas into their own writing, and are seeking ways of displaying this competence as effectively as they can. [Kocatepe \(2020\)](#) points out that it is not fair to describe students as unable to think critically or as unskilled when, in fact, these students are producing the meanings and identities that the course presents as desirable.

6.4. Division of labour

All interviewees assigned themselves the task of locating and utilising information while the teacher was perceived as being facilitator and mediating students' interaction with texts. Maryam described the teacher's role as "you [the teacher] can help me for the key words, like when I'm searching for information what key words I should write" and Shahad explained "I think the teacher must check like am I on the right track or something and warn mistakes so I don't do this in the essay, but I will of course find my information. It's my essay". These students' comments suggested an awareness that information is central to their essay writing and demonstrated that students are taking ownership of their own learning.

Google was attributed a much more significant role in providing students with an already existing body of information than teachers or students themselves. The size and volume of Google, in particular, were perceived by students as desirable. Ayesha explained "Maybe I will get like two million results in Google but that's good because it will show that I can find two million informations about my topic". Students trusted that Google would meet their needs. In fact, when Google did not provide students with the answers they expected, students questioned themselves and their choice of essay topics rather than lose faith in Google. In an interview Shamsa stated: "I found some books on Google but not about my topic. I think I did some wrong searching. If Google isn't showing me then it's my mistake. Maybe I should change my thesis statement."

6.5. Rules and communities

Three Discourses and associated practices shaped students' constructions of information. Students engaged with online texts with the anticipation that information, as a static, already existing body, is located within texts. Information was conceived of as existing in sentences, statistics, experts' views, which students could use to legitimise their own voices. These were the assumptions that this particular academic writing course, and previous ones students had taken as an ungraduated student, had made available. Students were adopting and displaying the identities and practices that the course expected of them. Students' identities as proficient users of the Internet, in particular of Google, also shaped students' recognition of differences that made a difference to their views and understandings. Actions and practices associated with Google were already familiar to students beyond their lives outside the classroom. Students transferred this out-of-class expertise in using Google to meeting their academic needs.

Third, students' actions in determining the value of texts as mediators of learning were shaped by local assumptions of truth. [Foucault \(1976/2001\)](#) explains that every community has a set of taken for granted meanings and practices with which members make judgements on what they believe to be real and true. These Discourses of truth are grounded in socially situated norms and practices, which sanction particular ways of assigning and recognising what constitutes a truth. To the students in this study, the UAE itself and

its leaders constituted undeniable truths. The seven ruling monarchies of the UAE are highly revered within society and the vast majority of Emiratis seem to have a genuine respect and admiration for them (Rugh, 2007). Five reflections suggested that students assigned truth value to images of or references to UAE leadership in written or visual texts. For example, in screen recording 18, the student wrote the following after having clicked on a link to a blog: "my second source is good because there is picture of Sheikh Zayed and some ideas and statistics about him. I should use this source because it have Sheikh Zayed information and picture". The student here assigns credibility to the text as it matches the meanings available to her about a past leader of the UAE, someone who is accepted in society as being honest and trustworthy. To this student, the image of the leader helped verify the text and the meanings it constructed. In an interview, Alanood explained her view on the relationship between texts that made references to UAE leaders and perceptions of truth:

- Alanood: If a website or newspaper or anything, if they have pictures of Sheikh Mohammed or Sheikh Maktoum or others, then you must believe them.
 Teacher: Why?
 Alanood: Because these are our leaders.
 Teacher: Yes, but why would I believe in a website just because it puts a picture of Sheikh Maktoum?
 Alanood: Well, because it will be a big problem for the website. If they are lying and website have picture of Sheikhs, then maybe they will go to prison. In UAE you cannot lie and put picture of a sheikh. It's illegal.

Alanood assumes that a text that contains images of UAE leaders constructs the truth. She extends her trust in the leaders and UAE law to the production of a text. These students' familiarity with and trust in the royal family sanctioned the particular version of reality produced in a text. Similar to Alanood, six other interviewees suggested a belief that the UAE law would not allow the publication of false or misleading content. Newspapers, in particular, were seen as trustworthy as they were locally produced. These students perceived the legal system of the UAE as ensuring the publication of only honest and factual texts.

It is perhaps naïve of Alanood and other students to associate the UAE legal system and government with text production. However, what is significant in students' meaning making practices is that they were drawing on a socially-devised, locally meaningful criteria in their interpretations of texts. Their actions were purposeful and the meanings they made were relevant to the social norms and beliefs in which they participated. Their local ways of viewing the world were significant in how they assigned value and meaning to the artefacts they engaged with.

7. Discussion

7.1. Research question 1: What artefacts mediated the ways students constructed information?

In response to the first research question, the present study found that students perceived Google as significant in mediating their interactions with new or additional understandings and meanings. In interviews several students referred to the library database and Google Scholar as online sites with significance in academic communities, yet in screen recordings Google was the only search engine students utilised. Rowlands et al. (2008) claim that "many young people do not find library-sponsored resources intuitive and therefore prefer to use Google ... [which offers] a familiar, if simplistic solution, for their study needs" (p. 296). Describing students' engagement with Google type search engines as simplistic positions students as unwilling or unable to make strategic decisions to meet their needs. The students in the present study, however, demonstrated that they perceived Google as valuable in meeting their academic needs and perceived themselves as competent in its use.

Using Google was a strategic choice in that Google could present to students multiple opportunities to meet the course outcome of creating an essay. Google gave access to students to a range of written and visual texts: Newspaper articles, websites, reports, social media, blogs, photographs and other digitally available texts mediated students' interaction with differences that made a difference to their outlook, insight or behaviour (Bateson, 1972). These artefacts acted as symbolic mediators in producing affordances for students to create desirable learning spaces and facilitating the demonstration of topic-specific expert identities.

Moreover, students made use of the language assistance that Google offered: Google corrected spelling mistakes and produced comprehensive search results despite grammatical errors in search terms. All screen recordings included at least one spelling and/or grammatical error in students' search terms. Google was able to correct the error and produce a list of texts for students to engage with. Approximately half of the recordings also showed students clicking on Google's suggested search terms and Google's suggestion of related searches. Students were utilising practical features inherent to Google that could potentially make their engagement with online educational spaces effective and efficient.

Students' familiarity with Google encouraged them to transfer an out-of-class available social practice to an academic context. Using Google was a practice they had developed expertise in and one which students believed created spaces in which they could embody and perform identities as competent and proficient learners-researchers-writers. A transfer of learning from one context to another was happening, though in ways alternative to that expected by the course.

It appears that the artefacts students identified as significant in their reading-to-write practices did not mediate learning by virtue of their existence as texts, but were mediating tools in their construction of information only when students recognised them as fulfilling a purpose and meeting a goal. These artefacts did not hold, display or convey information; rather students imposed their own interpretations and meanings on the artefacts they engaged with, constructing information as relevant and significant to reaching a goal. During this process they drew on the practices and assumptions normalised within the Discourses familiar to them: Students assigned value and significance to texts and interpreted the realities they created by drawing on their existing understandings of academic

writing as created in the course, their identities as proficient Internet users and assumptions of truth as practiced in Emirati society. Information was constructed as an embodied practice as students moved between texts and images, reading, translating and comprehending realities in ways that they believed were important and necessary. These students demonstrated that there are multiple ways in which information can be constructed, each meaningful and relevant within a particular Discourse.

7.2. Research question 2: What kinds of tensions and contradictions occurred as students constructed information?

[Engeström \(1999\)](#) describes ambiguity and surprise as characteristic of any activity system and argues that tensions and contradictions are desirable for initiating change and development. He explains that these are not necessarily problems individuals encounter or difficulties consciously experienced but instead are historically accumulating disturbances within and between elements of activity systems. Tensions and contradictions are deviations from what has been assumed to be normal and natural.

One set of tensions occurred as a result of the conceptions of information the academic writing course had normalised. The course learning outcomes specifically stated that students were expected to demonstrate that they can “select and incorporate information” ([Appendix A](#)) and course syllabus and associated teaching/learning tasks specifically instructed students to *find* information. Such language was echoed by students in interviews and reflections where students used the verbs “find”, “search” and “look for” to refer to their behaviour related to the concept of information. Students categorised information as being “good”, “useful”, “not useful” and “wrong”. A view of information as an already-existing, discoverable entity was adopted by students and shaped their behaviour and meanings. In screen recordings a furore of action accompanied students’ efforts to locate this entity: they carried out multiple searches on Google, scanned numerous search results and downloaded texts of almost any kind. There appeared to be a dissatisfaction with these efforts as within mere seconds students changed search terms or closed documents, believing information had once again eluded them. Students’ needs to find information was unsatisfiable and their efforts to do so were futile because information did not simply exist, nor was its identification an unproblematic act. Familiar local and personal discourses were drawn on in attempts to make sense of unfamiliar meanings as students strived to recognise the differences that were significant in making a difference to their views and experiences. Many of the meanings the course made available did not facilitate or support students’ constructions of information in ways that developed their identities as academic writers.

A second set of tensions and contradictions was between the practices students engaged in and perceived as valuable and those that are sanctioned within academic Discourses. The students in the study defied prescribed pathways of participating in academic writing contexts. For example, students recognised Google as significant in meeting their learning needs whereas academic writing courses expect students to use library databases. Students engaged with a range of online texts, ranging from research articles to social media posts. Students perceived these texts as significant in creating differences to their views and outlooks. In addition to written texts, visual texts such as photographs were assigned significance by students in terms of contributing to their learning. Academic writing courses, on the other hand, tend to expect students to engage with and value only written texts that are categorised as scholarly and written for an academic audience.

Furthermore, students perceived sentence-mining as an effective and efficient means of reaching course learning outcomes. It was a strategy many intentionally employed to avoid making grammatical errors and hence avoid being penalised in the marking rubric. Academic experts, however, criticise the practice of sentence mining as they believe it demonstrates that students have limited scholarly engagement with texts. Furthermore, students applied local assumptions of truth and credibility when assigning value and legitimacy to texts. Locally produced texts were situated within local norms and interpreted through a worldview available specifically to local Emirati nationals. Academic Discourses, however, tend not to encourage students to move between local and academic identities, nor do they value the richness of local repertoires of meaning making practices. These contradictions occurred due to discrepancies between the practices and norms that students were familiar with and which they drew on to create meaningful learning spaces and the rigid sets of norms and practices that underpinned the academic writing course.

Contradictions were observed between students’ lived realities and the realities created within academic writing courses because many academic writing courses are based on a positivist philosophical foundation, where there is a single, fixed reality. This reality is assumed to be neutral and unproblematic, obvious and universal. In many academic writing classes, it is assumed that students commence their academic apprenticeship with a clean slate, removed of any prior experiences and meanings that are not associated with the norms and assumptions of English speaking academic communities. The wealth of students’ existing knowledge and skills tends to be ignored: Students’ identities as digital natives and their familiarity with digital resources are often seen as irrelevant; their experiences of being native speakers of Arabic within a society where English is a lingua franca and of shifting between Arabic and English linguistic spaces on a daily basis are not acknowledged. The multiplicity and complexity of students’ lives beyond the classroom contradicts with the singularity and neutrality of the lives they are expected to adopt as academic writers.

7.3. Pedagogic implications

I do not intend the present study to suggest an anything-goes approach to academic writing where students make any meanings they want and engage in any practices they perceive to be significant. I acknowledge that academic writing courses fulfil an important role in universities in terms of providing apprenticeship to students in academic literacies ([Gee, 2004](#); [Wenger, 1998](#); [Scarino & Liddicoat, 2016](#)). Such courses are significant in creating opportunities for apprentice academic writers to participate in the language and literacy practices of academic communities and construct identities in relation to these communities ([Wenger, 1998](#)). However, what is concerning is that academic literacies are being homogenised into outdated, decontextualised practices targeting generic learning outcomes. [Gee \(2004\)](#) argues that “young people today are often exposed outside of school to processes of learning that are

deeper and richer than the forms of learning to which they are exposed in schools". This applies to academic writing courses where students are asked to leave behind their existing identities and to ignore, disregard or suppress the complex worlds of knowing in which their out-of-class identities are based (Purdy & Walker, 2013).

A key element of apprenticeship in a community is active participation in social practices. Participation is "an ongoing, social, interactional process" (Wenger, 1998, p. 102) and involves understandings of both explicit rules and relationships as well as more tacit assumptions and worldviews. These understandings are not passed down from higher level members to apprentices, but are negotiated and co-constructed. Negotiated understandings involve the mutual engagement of members in social practices, each bringing to the context the repertoires of meanings they have gained through participation in other Discourses (Lave & Wenger, 1991; Wenger, 1998). This is what is lacking in many academic writing courses – the engagement of students as valuable members of academic Discourse communities, contributing to meaning making practices. Most academic writing courses hand down to students a set of practices and expect students to adopt these unproblematically and systematically. When students impose their own interpretations on these practices, they are perceived as disengaged, as unwilling or unable to participate effectively in academic Discourses.

Curriculum designers and educators need to create pedagogic practices that encourage students to analyse the relationships between artefacts, rules and communities and to examine how these elements shape and are shaped by students' motives and actions. One way to achieve this would be to base academic literacies courses in an activity theory theoretical framework. Such a framework would encourage academic writing educators to move away from perceiving students as simply learners of academic Discourses to recognising them as participants with an array of meaning making practices at their disposal, each of which have social and personal significance. Teaching and learning through the lens of activity theory would make available the view that academic writing is a complex, goal-directed, socially situated practice.

Fig. 4 below exemplifies how students can be guided to engage with reading-to-write processes and practices within an activity theory framework. The framework adopts an interrogative stance where students are encouraged to be reflective and reflexive. Students question their motives for engaging in particular actions and identify strategies that will afford learning opportunities. The framework allows for a focus on how local social practices merge with, extend, add to as well as contradict and refute the practices and identities valued in academic communities. Students can identify how their local languages, identities and worldviews can be useful and relevant to participating in English-speaking academic contexts as well as the discrepancies and confusions this might cause. Within the framework students are also encouraged to investigate power relations, such as whose voices are privileged and legitimised

Mediating Artefacts

What kinds of textual and social resources will assist my learning? Who decides on which of these are valuable? How will these resources help me learn? How will I make sense of these resources? How will I interact with them in ways that will develop my knowledge on the topic?

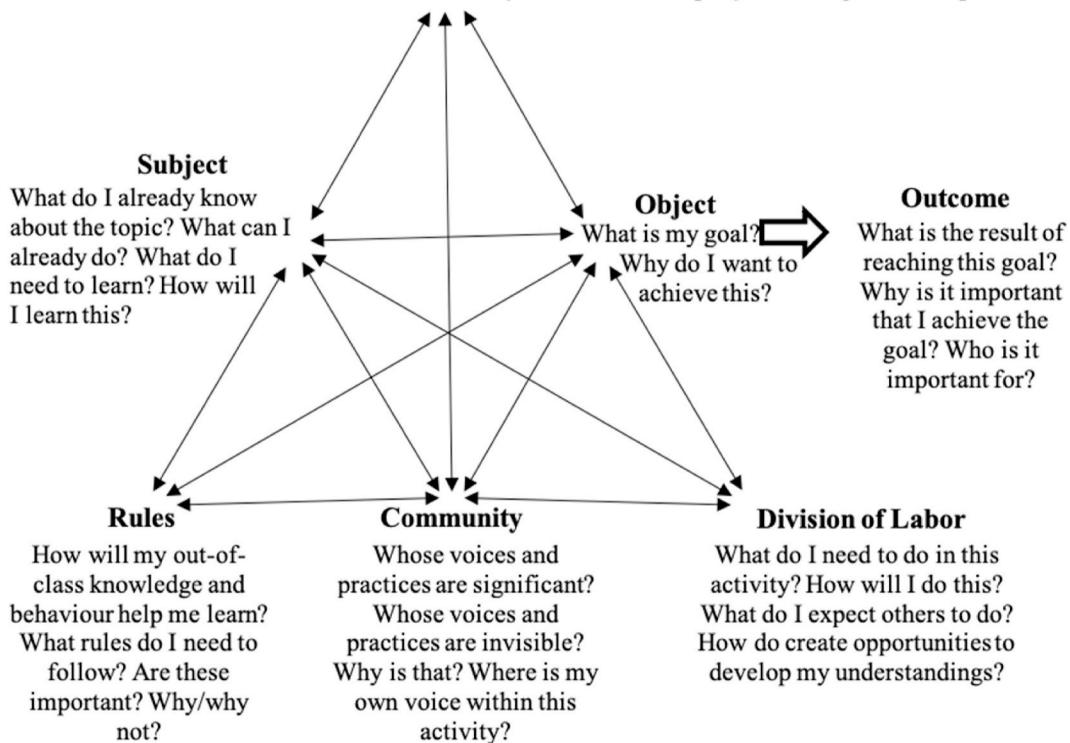


Fig. 4. Reading-to-write as a complex, socially situated academic activity.

in academic writing and whose are silenced, and what the real world impacts of these are. Such practices can help to create opportunities for apprentice writers to actively participate in different communities as they move between different elements of an activity system, adopting and contesting different meaning making practices.

Holliday and Rogers (2013) point out that the language used in classrooms is a powerful tool in normalising particular norms and assumptions. For this reason, the language of the framework intentionally avoids referring to the construction of information and to academic writing itself as a monolithic construct. Instead, words and phrases such as understanding, learning and making sense are used to highlight that the process of recognising differences that make a difference is not a one-step act with a clearly defined beginning and end. The arrows in the diagram are intended to emphasise that this is a continuous interactive process of comprehension, questioning, consolidation, refutation, interaction and learning. Such a theoretical framework can be a powerful tool in transforming academic writing classes into ones where students develop and demonstrate robust academic identities.

8. Conclusion

The goal of the present study was to problematise the notion integral to many academic writing courses that finding information is a simple, universally obvious activity. Screen recordings of the online actions of a group of undergraduate Emirati female students in an academic writing course as well as their reflections and interviews suggested that neither the concept of information nor the action of finding it is straightforward. Drawing on the theoretical tenets of activity theory (Engeström, 1987; Leont'ev, 1981/2009), the paper argues that constructing information is a goal oriented, socially situated activity mediated by physical and symbolic artefacts. Information was constructed as students assigned value and meanings to the artefacts they engaged with and the actions they performed. Students created information by drawing on available, familiar Discourses as they participated in new and foreign practices of text production and consumption. The social practices and identities relevant to being proficient Internet users, to the academic writing course and to local Emirati society shaped the ways students assigned significance to a range of tools and signs to mediate their understandings of and participation in the processes and practices of reading-to-write. The students in the study adopted flexible and practical attitudes to becoming competent academic writers, imposing their own interpretations of desirable goals, motives and actions to the academic context in which they were situated.

The study seeks to bring a focus on what students are already capable of doing and being in academic writing classes. A deficit view of students as illiterate or unskilled presents educators as the all-knowing authority in the classroom and fails to acknowledge the wealth of knowledge and practices students are already equipped with when they come to our classes. A recognition of the multiple ways students bring their own interpretations to an activity is crucial to enrich academic writing pedagogy. Understanding the complexity of the ways students assign value to mediating artefacts and the assumptions underpinning their actions is crucial for creating equitable relationships in the writing classroom where both students and teachers are active participants in the power networks inherent in academic Discourses. Such recognition and understandings can help to produce confident writers who create and claim ownership of meaningful learning spaces.

The findings of the study are relevant to this particular group of students at a particular point in time and cannot be generalised to other groups of students. However, what can be generalised is the view that constructing information is a socially situated, complex activity that involves the interplay of multiple and competing meanings and practices. Academic Discourses should not be seen as replacing already existing practices, but as co-existing with them. Students need to be aware that such co-existence can be messy and complicated and involve tensions and contradictions – that is the nature of producing meanings as one shifts between diverse, often competing, practices and identities. Students' voices and existing meaning making practices need to be recognised as valid and valuable and used in academic writing programs in ways that develop students' identities as legitimate and significant participants of academic communities.

Author statement

I would like to thank both reviewers for the time they have invested in providing feedback on the article. I thank them for their positive comments and their suggestions on how I can take the information from this particular study further. Reviewer 3 in particular has identified translanguaging as an area I could explore in relation to some of the findings in the study. This is indeed (Scarino and Liddicoat, 2016) a topic I am interested in.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jeap.2021.101042>.

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