



PERGAMON

English for Specific Purposes 22 (2003) 45–71

ENGLISH FOR
SPECIFIC
PURPOSES

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Core academic literacy principles versus culture-specific practices: a multi-case study of academic achievement

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Abstract

This multi-case study compares how three culturally distinct groups of undergraduates (Mainstream USA, Catalans, Latino immigrants to the USA) interact with course content to achieve academically. Analysis of interviews and documents reveals four informational operations—*exposure*, *extraction*, *manipulation*, and *display*—used to move content from sources to assessment. Regardless of cultural background, the more successful students inter-related these operations using an approach we call “planned information management.” This involves appreciating the character of course content, anticipating the informational demands of assignments, and grasping how to order the operations to display information on assessments to receive high grades. Less successful students adopted a “simple information processing” approach that relies heavily on exposure and focuses on facts. Cultural differences appear limited to attitudes towards learning and means of learning. Mainstream US students judged content on an individualistic utilitarian value system. Catalans assumed a socially constructed fact-centered one. The immigrants showed a high degree of dependence on teachers to guide their learning. Attitudes towards text were also split with both US groups favoring lectures over reading and appreciating instruction in writing and the Catalans favoring reading but resisting writing instruction. © 2002 The American University. Published by Elsevier Science Ltd. All rights reserved.

In recent years, researchers have become increasingly aware of the importance of the socially-situated nature of literacy in developing more effective ways to meet the needs of English for Academic Purposes (EAP) students (Blanton, 1994; Cazden,

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2000; Johns, 1991, 1997; Leki, 1995; Parry, 1996; Ramanathan & Atkinson, 1999). Empirical research in this area has explored a wide variety of academic practices, known together as “academic literacy” (Blanton, 1994; Carrell & Carson, 1997; Johns, 1997). In doing so, they have replaced the traditional notion of literates as simply possessors of certain cognitive skills with views of them as “situated artful actors whose acts of communication occur within semiotic systems” (Berkenkotter & Huckin, 1995, p. ix). Specifically, academic literacy has come to be seen in terms of how students are able to effectively create and exploit the various genres of text that they encounter in their classes (Johns, 1997; Swales 1990). Because both genres and ways of interacting with them vary by culture, such a view begins to account for the wide variation we find in the way students from different cultures perform in academic settings.

In this study, we continue and extend this exploration by looking at literacy practices in three contexts. We examine three culturally and demographically distinct groups of undergraduates—mainstream US students, mainstream Catalans, and developmental Latin-American immigrants to the USA—in terms of their dealings with course content. We explore how these students interact with the content and how these interactions both vary and remain the same across cultures and institutions. Our particular twist to the problem is that we are not concerned mainly with how these factors affect learning, admittedly the presumed primary reason for their attendance in class. Instead, we focus on academic achievement; that is, the task their institutions directly set for them—the attaining of grades. After all, if the notion of academic literacy is understood as socially situated, the relevant situation is an institutional one in which success is defined—at least in good part—in terms of grades (see also Horowitz, 1986a, 1986b; Nelson, 1990; Wineburg, 1997).

Indeed in this study we found that the higher achievers across the three settings could be differentiated from their less successful counterparts not only by more and better learning. Instead, these successful students maintained a clear distinction between learning and academic achievement, and they approached the latter as a game-like activity in which grades were points scored. This game-like approach led them to treat assessments as displays of course content that functioned as opportunities to score. They would, for example, anticipate what content their graders would reward most highly. While this game was, in essence, the same at all sites, we also note the differences in how academics played out for the different cohorts. These divergences consisted of different values in learning and in varied attitudes towards text and modality of presentation, particularly written versus spoken language. Before discussing these results in detail, however, we first give a background on research on academic literacy in EAP contexts. Then we discuss the methodology we used. Finally, we give our conclusions, including how these findings might influence pedagogical practice in EAP.

1. Previous research on L2 academic literacy

It is significant that EAP students have never been treated as a homogeneous population in terms of their academic literacy needs. One common division consists

of separating them into two broad classes depending on a clustering of socio-economic, cultural, and educational factors, as in Bernhardt (1991). On one side, are (typically) middle class or socioeconomically privileged students who come to an L2 setting specifically for educational purposes and have strong educational backgrounds in their L1. With reference to EAP, Leki (1995) calls these English language learners “visa students”, presumably because they tend to hold student visas in post-secondary institutions. On the other side, there are generally working class students who come to the L2 setting for economic reasons, and often have relatively weak formal educational backgrounds. Since they tend to study in English-speaking institutions in their capacity as immigrants, we will refer to them as immigrant students.¹

There are many learners who do not fit either profile (e.g. well-educated immigrants). Also, there is considerable variation within each group culturally, linguistically, and educationally. A high-achieving immigrant student may be comparable to a visa student in terms of literacy, and a lower-achieving visa student might function similarly to an immigrant student. Still, the division has an institutional reality in terms of how the students are likely to be treated. For example, a visa student typically takes the TOEFL (in the USA) and tends to be denied admission or placed in intensive academic English program in response to a low score. An immigrant student is likely to take an in-house competency test and, if he or she fails, will land in developmental ESL classes and/or literacy classes with under-performing native speakers. Relatedly, the two groups tend to attend different types of institutions. Visa students can be found in graduate programs or selective undergraduate institutions, whereas immigrant students are usually in open-admissions undergraduate or two-year community colleges in North America and similar institutions in other English speaking countries. They also shape a kind of disciplinary division since they have received different treatments in the literature. We review each in turn.

1.1. Studies focusing on visa students

The main focus of work on visa students involves how they deal with the issues posed by initially unfamiliar literacy practices. For example, in an influential qualitative multi-case study, Leki (1995) examines five students at both undergraduate and graduate levels writing in non-ESL classes. She discusses how they actively responded to the challenge of crossing cultural and linguistic boundaries through a series of “coping strategies.” These range from subversion to accommodation and reliance on prior knowledge to requesting help from “insiders.” On the whole, Leki depicts her respondents as highly conscious of the intellectual and cultural challenges they were facing as they crossed boundaries and as resourceful in their responses.

In a longitudinal case study, Spack (1997) examines the developing competence of Yuko, a Japanese undergraduate, over a 3-year period. Like Leki’s respondents, Yuko expected differences between her well-honed Japanese academic literacy practices and her new US ones and actively searched out strategies to cope with the changes. Spack emphasizes the

¹ The term is chosen for convenience as it is non-judgmental and corresponds to the equally bureaucratic ‘student visa’ criterion.

inadequacy of test scores and the situatedness of literacy and literacy learning. Much of what Yuko had to overcome to achieve her goals in US classes were culturally embedded presuppositions about knowledge and ways of taking from texts and classes.

Looking at these issues on the graduate level, Riazi (1997) teases apart social, cognitive, and affective dimensions of the acquisition of academic literacy practices appropriate to a discipline in a qualitative multi-case study of Iranian education students in Canada. He describes how respondents developed detailed though evolving task representations for assignments, as opposed to naively learning and viewing assessments as measures of that learning. This finding supports our separation of learning from educational achievement.

Most recently, Angelova and Riazantseva (1999) discuss cultural predispositions affecting the writing of four ESL graduate students from three countries: Russia, Indonesia, and Taiwan. They found that the respondents had difficulties adapting to US rhetorical expectations. The students were reluctant to express opinions, criticize published texts, and select their own topics. Also, they had trouble asking for guidance from professors. The authors consider these responses to be reflexes of an ingrained deference to authority, which may have arisen from the authoritarian political structures that the students grew up in. Another problem was that some of these students were surprised at the amount of writing required since so little had previously been requested of them in their home countries.

The most robust description of the influence of culture on literacy practice comes from Scollon (1995) and Pennycook (1996), who point out how the notion of plagiarism, so central to western literacy practices, is a reflection of an individualistic stance towards the notion of authorship. Similarly, Ramanathan and Atkinson (1999) argue that the ideology in L1 composition pedagogy in the US favoring individual voice, textual ownership, critical thinking and peer editing is imbued with specifically American cultural values.

In sum, there appears to be a consensus in these findings that academic literacy practices are inherently situated in a culture and so reflect larger cultural norms. Therefore, far from only needing to learn new conventions, students who cross cultural boundaries are faced with systems of values that provide both opportunity and challenges.

1.2. Work focusing on immigrant students

Compared to the work on visa students, immigrants have received comparatively scant research attention. This gap stands in sharp contrast to these students' need for the best research-informed education possible and reflects their marginalized status in the academy generally. Quite apart from questions of equity, the imbalance is unfortunate because there are theoretical questions of interest that these students can help answer. In particular, there is a tradition dating at least to Cummins (1980) that has argued that there are core competencies in literacy that support students as they cross linguistic and cultural boundaries. However, almost all support for this hypothesis has consisted of comparisons of children in early stages of literacy acquisition. Therefore the examination of immigrant students will provide researchers with a new and different set of examples of academic literacy. Such a

wider range can be useful in determining what, if any, core competencies exist in academic literacy across cultures. Put more concretely, without seeing what it is that less successful students lack, it is hard to determine exactly what useful knowledge the more successful ones are bringing from their home literacy practices.

One effort to examine this question is Block's (1986) think-aloud protocol study of undergraduates from three cultural backgrounds—native US, Latino, and Chinese—reading expository passages. She found that whatever their cultural background, one characteristic of the more successful developmental students was that they centered their attention on the meaning of the text as an autonomous unit. By contrast, the less successful ones were oriented towards their own feelings about the text or aspects of their lives that the text brought to mind. Block speculates that the text-centered focus of the more successful students was the result of their attunement to the nature of the tasks given, which required information gathering rather than writing a response. This view is supported by the work on tests of Gordon and Hanauer (1996: 317), which shows that tasks constitute “an additional information source” in developing mental models associated with an act of reading. Therefore, differences between levels of academic achievement may respond more to a facility for constructing task-appropriate mental models than of literacy skills *per se*.

Such conclusions are also supported by Johns' (1991) depiction of the travails of Luc, a Vietnamese immigrant student. Luc achieved considerable success in writing in biology, but he was stymied by an English competency exam. Crucially, his way of approaching writing in his English class varied enormously from how he approached it in science; he seemed unable to transfer his successful approaches from one domain to the other—clearly a task-related issue. The difficulty of adjusting strategies to specific tasks is also a common theme in studies of native-speaking developmental college students, (e.g. Spore, 1997/1998; Steinberg, Bohning, & Choning, 1992). They show that developmental readers can possess potentially helpful learning and study strategies but implement them in a disordered and ineffective fashion.

Nelson and Carson (1998) show how culture can impinge on developmental students through an examination of a single literacy practice: peer-response groups in a writing class. They found that English language learners from different cultural backgrounds responded in different ways to this activity. For example, the Chinese students appeared to resist instructions to critique, while Latino students had little difficulty in this regard.

Finally, Parry (1996) provides a picture of a different type of EAP from the other studies since she describes L2 literacies in students' home countries, Nigeria and China, rather than in North America. She finds major differences between the Nigerian readers, who preferred top-down approaches to comprehension and Chinese ones who preferred bottom up ones. It should be noted that the Nigerians presented a demographic profile similar to immigrant students, while the Chinese appeared to be more like visa students.

1.3. Research questions

In sum, this review presents us with a number of problems regarding academic literacy in an L2 context. There is no question that there are cultural obstacles facing

any student who studies in a foreign setting, and yet there is also reason to believe that there is core academic literacy knowledge that can transfer across cultures and languages. At least some of this knowledge appears to relate to a facility for constructing academic tasks and applying strategies and skills appropriate to them. Beyond that, we do not know, or know well, which challenges are cultural and which may exist regardless of culture. These issues can be phrased as two research questions, which this study sets about to explore:

1. Which practices constitute the common core of academic achievement and learning? In other words, what kinds of practices consistently associate with successful outcomes and so aid transfer from L1 to L2 settings in achievement, learning, or both?
2. Which practices respond to parochial cultural norms? In particular, which kinds of factors associated with success in an L1 setting would not be transferable and might even hinder performance in an L2 one?

To chip away at these questions we adopted a qualitative multicase study with three groups of students. These participants vary widely in culture since they speak three different L1s, come from three disparate geocultural regions, and attend demographically distinct post-secondary institutions. The idea is that any factors that emerge as common elements of academic literacy across the settings would be candidates for core academic literacy principles. Factors limited to one setting would be candidates for culture-specific components. Of course, this being a qualitative study, the goal is hypothesis building rather than confirmation (Merriam, 1988). It will be the task of quantitative research to confirm or disconfirm the proposals made here and of further qualitative work to generate more hypotheses and further refine those made here and elsewhere.

2. Methods of research

In order to better isolate literacy practices and cultural factors from problems arising from language learning, it was decided to examine three groups of students studying in both L1 and L2. One cohort includes four European-American undergraduates taking a variety of liberal arts classes in their native language at Midwestern State University (MSU) in the USA.² The second group consists of five—Catalan/Spanish bilinguals who were studying a variety of humanities courses including one in EFL at Universitat Humanística de Catalunya (UHC) in Barcelona, Spain. The third group is composed of four immigrants to the USA—native Spanish speakers—studying liberal arts while learning English at Urban Community College (UCC). These students took two courses in English—including ESL—and two in Spanish, and so they were in a bilingual rather than a purely EAP setting.

Two main criteria were used to select students. This included balancing a broad range of levels of achievement, from those who were barely passing to those who

² The names of all institutions and student participants have been altered.

were doing very well, with common types of classes. Those included literacy and language, history, and social sciences.³ Table 1 classifies respondents by their respective sites relevant categories:

As can be seen in Table 1, the native-speaking US students at MSU and the Catalans at UHC share characteristics that separate them from the US immigrants at UCC. The first two groups present the traditional profiles of public university undergraduates in their countries with respect to socioeconomic origins, native languages, and educational backgrounds. In addition, the institutions they attended bestow the standard university degree in each country, the *Bachelors* and the *Llicenciatura*, respectively. If members of either group were to study at the others' institution, they would be visa students. On the other hand, the immigrant students at UCC receive a lesser degree, the *Associates*, upon graduation. In fact, these students were marginalized in at least three other ways. They belong to a minority ethnic group; they come from lower social-class backgrounds, at least in their new country; and they have inferior secondary education in their home countries and in the USA. Finally, they were institutionally defined as developmental students because they had failed a holistically scored English writing exam.

As in other qualitative case studies of L2 academic literacy, data were collected by various naturalistic means. These included periodic open-ended interviews and review of documents such as tests, papers, exercises, and assigned readings. Data at all sites were collected separately by the three researchers, and at MSU this collection was aided by a research assistant. During the data collection, transcripts of the previous week's interviews were read before sessions to locate problematic or confusing depictions in students' accounts. In subsequent sessions students were asked about these difficult issues and/or relevant documents, such as assignments or exercises,

Table 1
Respondents and institutions

Institution	MSU (Native USA)	UHC (Catalans)	UCC (Immigrant US)
Location	US	Spain	US
Type of degree granted	Bachelors (4 years)	Llicenciatura (4 years)	Associates (2 years)
First language	English	Catalan/Spanish	Spanish
Languages of study	English	Catalan, English as a Foreign Language, Spanish	Spanish, English
Academic preparation	Standard	Standard	Developmental
Duration of academic unit	11-Week quarter	15-Week semester	15-Week semester
Socio-economic origins	Natives, of all socioeconomic origins	Natives, of all socioeconomic origins	Working class from Dominican Republic (3) and Ecuador (1)

³ The main exception is that the MSU students were, evidently, not taking English as an additional language.

were requested. In each site, the duration of the data collection corresponded to the normal academic period, 15-week semesters at UHC and UCC and 11-week quarters at MSU.

We began interview sessions with various openings depending on circumstances. Some were general (“How was your week?”). Others focused on a particular reading when it was considered to provide a particular challenge (“Did you read anything from the Kaufmann packet?”). After tests were given or papers handed in, we generally invited their impressions about their performance (“I guess the first thing I should ask you is about any tests this week.”). We also solicited news about any grades received (“All right, you got two test scores back.”). In a few cases the participants’ faces foretold their concerns (“Well, you were... you look you have something to say.”). Often questions arose from reading the previous week’s transcripts, although these issues were often saved for the middle of the interview. They typically consisted of clarifications of students’ comments that were unclear or appeared to contradict something said earlier.

After the openings, the interviews rarely took a predictable course, depending as they did on the need to cover certain topics on certain weeks, subjects that arose in the course of the discussion, and the respondent’s personality and mood. Nevertheless, we always had a series of “talking points”, that we wanted to cover and would be checked off in turn. These included:

- recounting of and impressions of readings and studying activities and plans for future studying in each course the participant was taking;
- reasoning behind studying-related decisions;
- discussing and analyzing exams, with a focus on missed questions;
- writing activities, including plans, drafts, revisions, and editing; and
- confusion or follow up related to the previous week’s interview.

Documents were examined to triangulate respondents’ claims about tasks, products, and challenges. Analysis consisted of coming to our own conclusions regarding the reading, writing, and test-taking issues that the respondents faced. For example, a claim made about what an immigrant student believed about expectations on a dictation was compared with the actual dictation and the rubric for grading it. Similarly, multiple-choice test questions faced by native US students were closely analyzed for the challenges they posed.

One issue in a multi-case study, particularly one that includes various sites, is the need for a uniform system of categorization that will fit data at all locations. Without such a scheme, the study can devolve into descriptions that, while interesting, may be difficult to compare. In fact, a potential contribution of this research is the emergence of a highly structured system of categorizing interactions with course content. This scheme emerged in the following way. The original questions in our research concerned reading, studying processes, and their relation to academic achievement. However, as is frequently the case in naturalistic research (Bogdan & Biklen, 1998; Merriam, 1988), the questions shifted over the course of the study. In this case, it was observed that respondents’ reading was intertwined with their use of other information sources, particularly lectures and class discussions. To have

continued to examine reading and studying strategies would have imposed an unnatural a priori scheme on the data. At this point, it was decided to follow the data where they led and look at content more generally. Once that decision was made, we began to search for a unit of analysis and eventually settled on the notion *informational operation*, which is what we call a single instance of a student's effort to interact with course content. This position was later reinforced theoretically with the emergence of the Multiliteracies Project (New London Group, 1996/2000) which proposes looking at literacy multimodally rather than in terms of written text alone. Information can, of course, be encoded in any modality.

A concern at this point was that an informational focus would create a reductionist view of learning and studying, such as that criticized by Bartholomae and Petrosky (1989). These authors argue that a view of teaching and learning as recycling of facts is incompatible with progressive pedagogy. In fact, looking at informational processes did lead to a view of students recycling information. Furthermore, individual pieces of information are indubitably factual—or more accurately prepositional—in nature (Barwise & Perry, 1982; Devlin, 1991; Dretske, 1981; Kruglanski, 1989). Nevertheless, knowledge—which can be understood as information stored in memory (Devlin 1991; Kruglanski 1989)—is organized in culturally and domain-specific conceptual structures or schemas (D'Andrade, 1981; McCutchen, 1986; Steffensen, Joag-Dev, & Anderson, 1979; Van Lehn, 1989). The ability to form expected conceptual structures has been associated with handling course content (Sweller & Chandler, 1994) and generic appropriateness (Johns, 1997). Even formal features (e.g. standard English, citation practices) convey information regarding intertextuality because they match or fail to match those normatively used within a discourse community. Informational interactions, when not limited to individual pieces of information but including schemas and use of conventions, are therefore a potentially useful domain of academic literacy to explore.

Early in the data collection stage a gross four-stage taxonomy of informational operations emerged, comprised of what came eventually to be called, *exposure*, *extraction*, *manipulation*, and *display* of information. The distinctions arose originally from reflection on respondents' informational activity and preliminary categorizations of the operations they were describing. This framework, although it has suffered a good number of alterations to achieve a better fit with the data, forms the foundation for the classification discussed in the results section. After data collection, transcripts were read and reread, with the goal of isolating and extracting references to operations and their effect on information. These references were categorized by similarities and differences among the operations including how well they fitted into the four classes. The process continued until most references were duly assigned to one or more of the categories.

Categories were tested by fitting the remaining uncategorized references into one of the four possibilities. References that did not seem to fit led to questioning of the category. Note taking, for example, was originally considered extraction, but we later noticed that one of the Catalan students took notes that did not match the text informationally but were in fact connections to previous knowledge or reactions. Also, conceptually, we eventually realized that notes constitute a display of information, although they may only

be used for the students' own recall. Therefore, we considered these particular instances of note taking to be examples of extraction, manipulation, and display, whereas the others were only extraction and display. Reliability was established by having the other two researchers duplicate the category assignments of mentions of operations made by students that had previously been performed by the researcher responsible for the site. Twenty-four examples were selected from the MSU data, 20 from the UHC data, and 15 from the UCC data. These numbers are approximately proportional to the relative amount of data collected at each site. Selection was random, including examples from all informants and constituting about 1.9% of the total. The reliability was more than satisfactory. Table 2 shows the percentage of inter-researcher agreement broken down by each site.

All respondents were interviewed in their native languages, English at MSU, Spanish at UCC, and Catalan at UHC.

3. Findings

As mentioned in the previous section, the core and initial analysis resulted in a four-way taxonomy of informational operations. These categories are listed in Table 3.

Table 2
Percentage of agreement between researchers on categorization of operations

Researchers/sites	MSU (Native US)	UHC (Catalans)	UCC (Immigrant US)
Newman–Trenchs	85	83.3	100
Pujol–Newman	100	87.5	100
Trenchs–Pujol	85	87.5	100

Table 3
Information operations

Processes	Exposure	Extraction	Manipulation	Display
Description	Students exposed and re-exposed themselves to information	Students found and extracted information from texts, lectures, or discussions	Students sifted, rearranged, and used information to synthesize new information	Students exhibited information as some form of assessment or for practice.
Examples	Listening to lectures, reading assignments, reviewing texts, notes, highlighted texts, listening to recordings of lectures	Note-taking, underlining, making flashcards, highlighting	Efforts to comprehend texts, thinking about concepts, visualizing relationships, discussing, making graphic organizers, writing comments and summaries	Writing papers, doing exercises for grades, taking dictations for grades, taking tests

It is important to distinguish our operations from superficially similar taxonomies of study skills. None of our categories can be assimilated to, for example, Weinstein and Meyer's (1991) repetition, elaboration, or organization strategies. Strategies can, in fact, often be broken down to a number of informational operations designed to accomplish a specific task such as learning or completing an assignment. For example, outlining, which they consider an organization strategy, can, depending on the case, be broken down into all four operations. It may be at once exposure (e.g. reading or reviewing notes), extraction (e.g. selecting certain content), manipulation (e.g. making connections that were only implicit in the content), and display (as the outline is written). The advantage in such a breakdown is that it shows how outlines in which the student marks implicit connections—that is, uses manipulation—are qualitatively different from those in which the student simply extracts the connections that were already indicated in a source. Such is the case of outlines that, for example, simply reproduce headings and subheadings of a textbook. There is in these cases nothing about outlining that necessarily implies that the student is doing the organizing.

Our analysis in terms of operations showed that the flows of information were often complex and did not necessarily run from exposure to display directly, a basic ordering that might be assumed. All the Catalan and native-born US students as well as two of the four immigrant US ones reported that when they felt the informational content of a reading or lecture was not transparent, they would begin by trying to synthesize it through manipulation. This was done by mulling over what a paragraph might mean, testing out various potential meanings with a friend or roommate, or looking at related class notes for a clue. Similarly, operations were often recursive; students returned to operations they had performed earlier, as when they reviewed notes or outlines by simply rereading, i.e. (re)exposure. Conversely, they were sometimes skipped, but skipping often led to unfortunate results as will be made clear shortly.

3.1. Differences between more and less successful students

Table 4 shows the placement of the 13 respondents according to the two dimensions of interest, location and academic achievement.

Table 4
Respondents by location and academic success^a

	MSU (Native US)	UHC (Catalans)	UCC (Immigrant US)
High success	Greg		Lluís
	Carmin		Gemma
		Pablo	Jaume
	Sophie	Zoraida	Francesc
	Will		Pilar
		Teresa	
Low success		Marcia	

^a The levels of success are for illustrative purposes. There is no claim of comparability across sites, although the success levels within sites are determined by GPA.

We found important tendencies differentiating the more and less successful students regardless of location. Whatever the cultural background, the more complex and nuanced the extractions and manipulations the students tended to engage in, the more successful they were. This observation is amply corroborated in the study skills literature (e.g. Entwistle, 1984, 1987; Kember & Gow, 1994; Marton, 1976; Marton & Säljö, 1976; Nist, Simpson, Olejnik, & Mealey, 1991; Peterson, 1992; Thomas & Rower, 1986; Treisman, 1992). These works tend to support the view that study skills are effective only to the extent that they promote active engagement with material being reviewed rather than function as simple attempts to memorize. They have also been supported in case studies of native English-speaking undergraduates (e.g. Haas, 1994; Simpson & Nist, 1997).

For the weakest student, Marcia, an immigrant, extraction and manipulation existed minimally if at all. For example, about a quiz on a chapter of Steinbeck's *The Pearl* read for her ESL class, Marcia, said: "I didn't read it much because I already had the idea. I understood the chapter well. But I flunked." (The original of this and other translations will be found in the notes.)⁴

The other less successful students appeared to believe they should use mainly exposure, some extraction, and minimal manipulation, what we call *Simple Information Processing*. For a student adopting this orientation, information should crucially be displayed unaltered from the form in which it has been found. By contrast, the more successful students used course information as clues to puzzle out what they were expected to display on assessments and then as raw material with which to construct those displays. We have decided to call this approach, *Planned Information Management*.

For example, Zoraida and Teresa, immigrant US students, followed the simple information processing approach of copying and repeating the information in their classes, both in Spanish and English. Zoraida described her studying habits for her ESL class in terms largely of re-reading and copying: "I review the rules in the book. I take all the exercises and I review them. I study them and do them again on different pages."⁵ In her content classes, regardless of language, she similarly read and reread her notes and readings over and over again.

Will and Sophie—the least successful native-born US students—and Jaume and Pilar—their Catalan counterparts—attempted to remember information through similar exposure-based means. When Pilar did readings for classes she said, "I read quickly, so I'll have sufficient time to finish them and make summaries."⁶ However, it seems her employment of this ineffective method was the result of a flawed strategic decision rather than a lack of skill. When she read for pleasure, she reported that she took notes, notes that, "don't refer specifically to the book. I read something and it

⁴ *Yo no lo leí mucho porque yo ya tenía la idea. Yo lo entendía bien ese capítulo. Pero me fregué.*

⁵ *Después voy repasando las reglas del libro. Cojo todos los ejercicios y los repaso. Los estudio y los hago de nuevo en hojas diferentes.*

⁶ *Amb les lectures obligatòries, llegeixo depressa per tenir prou temps com per acabar-les i després resumir-les.*

suggests another idea. So I write that other idea.”⁷ It never occurred to her to sacrifice the time-consuming summary writing for a more manipulation-based approach despite repeated poor performances on exams. By contrast, in the same course, Lluís replaced Pilar’s summaries with underlining and notes, as more efficient forms of extraction. Also, taking a step beyond simple information processing, he manipulated information by including in those notes, “what the book’s like, how it influenced me.”⁸

Sophie also seemed capable of going beyond simple information processing, but like Pilar, she did not always do so. However, unlike Pilar she knew that she should. In a reading on the differences between parliamentary and presidential democracies, she said that “it seems like it registered that it’s boring; . . . it’s like as the ideas get more abstract and there’s more thought required; it seems boring.” Asked to clarify what she meant by boring, she responded that she felt a kind of mental lethargy, although she had trouble finding the words:

- Researcher: Tell me if this is right: you feel like in order to really get this, I have to make this mental effort.
 Sophie: Right, yes, exactly.
 Researcher: And then you don’t do it.
 Sophie: Well, not that I don’t do it, it’s just, I’m lazy about doing it.

It is likely that the differences between these students lie more in their respective mental models (Gordon & Hanauer, 1996) of academic tasks than in the differences in subject matter or culture. Marcia assumed that an on-line understanding, or the *feeling* of understanding, should provide sufficient information to display. Will, Pilar, and Zoraida, a native US, Catalan, and immigrant US student, respectively, each believed simple information processing will enable them to produce a satisfactory display. Sophie, a native US student, and Lluís, a Catalan, both recognized that simple information processing will not provide a sufficient base, although only Lluís consistently acted upon that knowledge. In that way, Lluís behaved much as the other successful students including Greg, Carmin, native US students, Gemma, Jaume, Catalans, and Pablo, an immigrant US student.

The data turned up several reasons why the less successful students did not go beyond simple information processing besides reluctance to make the effort or lack of metacognitive sophistication. First, as a number of authors have also found, simple information processing was occasionally sufficient for academic tasks (Crooks, 1988; Pintrich & Shrauben, 1992; Poole, 1994). When students figure this out, they can take what might be called a minimum-sufficient-effort tactic. Note how Pablo differentiated his Spanish-language Sociology class from other classes:

⁷ *Quan llegeixo per plaer, em prenc més temps, i escric més notes. . . . Jo, les anotacions que faig, no són referents, o sigui, no fan referència al llibre. Llegeixo una cosa i allò em porta al cap una altra idea. Doncs escric aquella altra idea.*

⁸ *com és el llibre, en què m’ha influït.*

Pablo: When I study, I try to write summaries of the books, and based on these, I try to study. The thing is I make index cards. Then when I'm on the street or wherever, I take them out. Now, things are more difficult...like in the case of Sociology classes, that require understanding, as the professor says. I have to record the classes. I try to reason it out when there's a sociology exam, but in other classes, where you need the professor's notes, well you have to study them and pay more attention to them.⁹

Although Pablo proved able to move beyond simple information processing when he realized a subject required “understanding”, he, like Sophie, did not always do so. In ESL—his worst subject at the beginning of the semester—he restricted what he learned to English writing, not realizing he had learned writing conventions that might improve his Spanish writing. For example, he thought punctuation was not something you had to “worry about” in Spanish, meaning that run-ons were normal. English, by contrast, “doesn't have as many complications”¹⁰, which was a reference to his teachers' insistence on proper punctuation and simpler sentences.

This application of narrow restrictive rules to procedural knowledge such as punctuation in one language neatly parallels the simple information processing of isolated facts. In both cases, information is not synthesized or applied outside the specific context it is given in. However, Pablo did not see the similarity at first, and he had failed ESL the previous semester. Later, he began to apply the more sophisticated approach he used in sociology in ESL, with much better results.

There is another reason that students retained simple information processing when they might conceivably have been capable of planned information management. This consisted of a subtle metacognitive deception. The trap was an assumption that factual information in lectures and readings should remain unchanged during studying for fact-based tests. A naïve student may therefore approach such course material in a factually appropriate manner. After all, simple information processing can be sufficient, as Pablo noted, when students were tested on facts.

The temptation to think this way should not be underestimated. A number of researchers have also argued that a simple information processing type approach is appropriate when students are tested on factual information (Crooks, 1988; Pintrich

⁹ *Cuando voy a estudiar, pues trato de hacer resúmenes de los libros y, en base a eso, pues trato de estudiar. La cosa que yo hago es hacer cartoncitos. Entonces siempre que voy por la calle o en cualquier lugar los saco. Ahora las cosas son más difíciles. En el caso, por ejemplo, de las clases de sociología, que requieren conocimientos, como dijo el profesor, he de grabarme las clases. Trato de razonar cuando hay un examen de sociología Pero en otras clases donde se necesitan apuntes del profesor, pues uno tiene que estudiarlos y ponerle más atención a eso.*

¹⁰ *En español uno se va de largo, sin tomar en cuenta puntos, comas, como para el inglés es tan diferente. ... Uno tiene que tomar la oración, por ejemplo, una oración corta y continuar y continuar para poder desarrollarla perfectamente. O sea en inglés una composición, yo he notado que es más fácil, no tiene tantas complicaciones como en español.*

& Shrauben, 1992; Poole 1994). It is trap nonetheless, and it is sprung when the number of facts multiplies beyond the student's capacity for simple memorization if in Lluís's terms, "you haven't structured it a little." This was a lesson that he had already learned in high school where "they would ask you some concrete questions and notes, and later they'd want things that wouldn't remain in memory, or at least not with the detail required for an exam."¹¹

In the following example the most successful native US student, Greg, shows planned information management taken to a fine art in another type of class, History. Greg was conscious of the need to group facts into an all-encompassing conceptual framework in a fact-based course. Greg calls this grouping "a blueprint", a metaphor suggestive of the structural and multidimensional nature of schemas. Each "block" of information must be located at a nexus of connections with other blocks, which can be information from the course or background knowledge:

Greg: It would be futile for me to just memorize a whole bunch of blocks and to try to put them together again and reconstruct the events of the Russian revolution. If I do not have that blueprint, if I do not understand what they fit into, how they're related to World War I, the social conditions going on at the time, people's reasons for doing certain things; why did Czar Nicholas go to the front? Why did Lenin have to flee? Why did he come back? If I don't know those and those are parts of the blueprint; those aren't blocks per se; they're rational (the reasons behind the events are the blocks), then I am going to have a real hard time.

Without the conceptual links among facts of a given discipline and the ways of extracting information used in that discipline, the requisite number of facts cannot be remembered.

In sum, we found a common pattern of successful informational interactions across the three institutions, cultures, courses, and languages we examined. Academic achievement could be understood in all sites in all courses as the result of thought-out, sophisticated uses of the same four information operations—exposure, extraction, manipulation, and display. This approach, planned information management, implies an appreciation of the nature of the course information, knowledge of informational demands of tasks, and awareness of how to order the four operations to lead to successful displays. By contrast, a middling to poor level of success was associated with simple information processing. A simple information processor relies heavily on exposure and acts as if course content consists solely of facts to be

¹¹ *Pot ser que després no t'enrecordis si no t'ho has estructurat una mica, llavors, i això a l'institut també passava, preguntaven unes coses concretes, apunts i després em demanaven unes coses que no se't queden a la memòria, o no se't queden amb la precisió per a un examen.*

recycled from text or lecture to display directly. The only exception to this pattern was found in low-demand fact-based courses where simple information processing was practical. Finally, a lack of any significant conscious processing, characteristic here only of Marcia, the weakest immigrant student, led to the greatest difficulties and frustration.

3.2. *Differences by institutions and cultures*

Contrasting with these similarities, there were two sets of differences among participants by culture and institution. These differences did not affect either the basic structure of the game or what made for effective play as realized by the various approaches outlined above. However, they did influence styles of play and values in learning.

3.2.1. *Oral versus written language*

One set of differences appeared in preferences regarding written versus oral language. For example, somewhat dishearteningly, all the US students, both native and immigrant, read the minimum they felt they needed to. Carmin, for example, never even bought her required Theatre textbook because she had been told by friends who had previously taken the course that the information it contained was either duplicated in lectures, was obvious, or would not appear on tests. Greg similarly, sold his Statistics book midway through the quarter.¹² While Sophie read most of what she was assigned for the first half of the quarter, she did not, as we have seen, always put much effort into making sense of the readings. Then as the quarter wore on, she largely stopped reading. Only Will mostly read and studied his assignments, and he was the lowest-achieving native US student!

Moreover, with the exception of Greg, when both groups of US students did their readings, their extractions were not terribly sophisticated. They tended only to highlight what they felt would be the most important information. This strategy has been described in a study of the cognitive functions of this technique (Peterson, 1992) as not particularly effective. They did not generally extract information from readings in other ways—even to the point of taking basic notes—unless they did not understand something from a lecture. This approach was mirrored by their professors, who, whether they included non-lecture material on tests or not, invariably recognized that to do so was potentially problematic. In the end, the answer to the question, “Will you put it on the exam if you don’t lecture on it?” was often the key to determining whether the native US students would even bother to read.

The immigrant US students approached their readings with simple information processing strategies, although growth was possible. Teresa, for example, remarked that she, “would always get ‘Repeat’” (a failing grade) on reading-based dictations

¹² Both miscalculated however and received lower grades than they had hoped for. In Carmin’s case, the error arose, she claimed, in that the material in the course was far more complex than she had anticipated. In Greg’s case, a similar underestimating of course difficulty was combined with something of an adverse reaction to a number of his classes.

until she realized that the problem lay in her preparation when she read the passage. As she put it, “I would read it quickly without stopping to look at the word, kind of how it was written.” In other words, like Parry’s (1996) African students, she had an entirely top-down strategy. She only learned in this painful way the need to read bottom-up for tasks that required extraction of form and detail. Note that improvement came not when she *learned how* to read bottom-up but when she *realized* that the task required doing so.

In content classes in Spanish or English Teresa, Marcia, and Pablo read superficially, and when they encountered difficulty, they simply stopped, independently of the language the materials were in. In this they differed from Zoraida, who tended to read and re-read the same section. None began with manipulation to ferret out the missing meaning except for when they looked up unknown English words. This was the only real difference in how they approached Spanish and English readings. This intuitively surprising finding is similar to Block’s observation of the similarity of native and non-native developmental readers on her experimental tasks.

The two US cohorts’ resistance to reading contrasted with their use of lectures, which were their preferred sources of information. Except for Greg in the case of history, the native US students were concerned with getting notes if they missed class. They also consistently attended smaller recitations, where, usually led by a teaching assistant (TA), they would discuss themes covered in large lecture classes. They gave recitations mixed reviews but actually seemed to rely on them as much as if not more than lectures.

The immigrant US students also relied on class to make up for what was not read. Pablo described the novel *The Pearl* as “very boring.” His awareness of the need to read in a certain way and his confusion about how to do so were captured in his description of the book as “*genero literal*”, getting the Spanish word for “genre” correct, but the one for “literary”, wrong. In the end, he admitted reading little of the work, and he managed to pass only by relying on the class discussions and the fact that the test was open-book. Zoraida, by contrast, did read the book, but she replied that because it was in “parables and metaphors”, she “just couldn’t answer”¹³ the test questions on it. To make sense of such figurative language requires manipulation, which she could not or would not perform.

The Catalans, by contrast, depended on the readings and tended to mistrust lectures as sources of information for what would appear on the tests. Lluís, for example, believed that “what you can’t do is imagine that, by just going to class and listening to what [the professor] says, you can understand Ancient History. That’s wrong because you’re the one who has to go looking for your own books.”¹⁴ In fact, perhaps because of the emphasis on *comentaris de text*—written exegeses of literary readings—and outlining in high school, the Catalans were sophisticated readers. Even Pilar—although she did not employ them for classes—possessed a far richer

¹³ *Por lo que le dije que estaba como en parábolas, en metáforas mucho no las podía contestar.*

¹⁴ *El que no pots pretendre és que només anant a classe i escoltant el que et digui ella [la professora], puguis conèixer la Història Antiga, crec que està equivocat perquè seràs tu qui haurà d’anar a buscar els seus llibres.*

repertoire of skills for extracting meaning from text than all the US students except Greg.

Nevertheless, like a curious mirror image of their US counterparts, the Catalans resisted writing instruction. It was not—as was the case for the Russians and Indonesians studied by Angelova and Riazantseva (1999)—that these students did not expect to do writing in their courses. In fact, they had to write more than the other two groups because the predominant forms of assessment consisted of long essay tests and research papers. It was that they did not conceive of advanced writing as something that could be taught. Thus, while *all* the US students looked to classes for guidance in their writing, *none* of the Catalans could see the point of their innovative (for Spain) writing workshops called *pràctiques*. These *pràctiques* (the term is usually translated as labs but in this case they formed a kind of adjunct class) had been instituted because of faculty concerns with students' writing on exams and papers. Yet Gemma did not even define what they did there as writing but a form of studying, one which interfered with her personal liberty and did not even help her get ready for the all-important essay exam. She bitterly complained that she had, “been forced to change the way I study. They don't let you study the way you want to.”¹⁵ The *pràctiques* prevented her from spending, “more time on what I enjoy working on.”¹⁶ Worse, “when the exam comes they ask you for that other kind of work, or exercises, that you couldn't prepare like you want”¹⁷, because of the time lost on *pràctiques*.

Her complaints were echoed by Pilar, who said that the *pràctiques* gave her “the impression that you don't study. . . You only do *pràctiques*, and I get the impression I don't study. I don't know, it's probably the way to study, but I don't know how to.”¹⁸

3.3. Canonical versus utilitarian versus teacher dependant views of content

It is tempting to posit that this discomfort, echoed by the other Catalans, was in part a reflection of larger values of Catalan culture, in which a unique personal style of self-expression is highly valued and cannot and should not be imposed from above. If so, this individuality in self-expression contrasts strongly with what was valued in learning. The Catalans often expected to only listen in class and saw faculty as “sages on the stage”, filling students with knowledge. Class discussions were thus rare, sometimes to the chagrin of those faculty members who wished for more student involvement. While a lecture method is an efficient way to deliver facts, it is not as effective in fomenting concept development because students are not able to display and receive feedback on their emerging understandings.

However, the Catalans were not concerned with that failing because they valued content in terms of a socially-constructed canon. This canon appeared as a “cultural

¹⁵ *M'han canviat la manera d'estudiar. No et deixen estudiar com tu vols estudiar.*

¹⁶ *dedicar més temps a allò que m'agrada*

¹⁷ *Però a l'hora de l'examen et demanen aquell altre tipus d'estudi, d'exercici, que no te l'has pogut preparar molt bé, però almenys a mi m'angoixa molt que no em puc organitzar com a mi em va bé.*

¹⁸ *Et dona la impressió que no estudies, només practiques i ja està. Només fas pràctiques i em dona la impressió que no estudio. No sé a la millor és la manera d'estudiar i no en sé*

literacy”, such as that prescribed by Hirsch (1988), consisting of a discrete set of texts and facts that they felt any college-educated person should possess. In Lluís’s hands this canon took the form of an actual list of pending readings, one that was informed by social consensus, and which may reflect a bias towards written over orally-based representations. His own comments are revealing:

- Lluís: The book [Dangerous Liaisons], is much better than the movie.
I haven’t read it, but I put it on the list.
Researcher: Ah, you have a list and everything?
Lluís Yeah, like of my next readings. Some, I already got, but I have
to find the time.¹⁹

Just as Lluís knows that the book is much better than the movie without having read it, so Jaume understood that *Don Quixote* was a great book, although he did not like it personally. He ended up trying to read it during the summer but kept putting it aside for other books that he did finish. When asked why he would read a book that he was evidently not enjoying in his free time, he said he always asked people to recommend books. “As for *Don Quixote*, it was a book everybody talked about, and as they say it’s a major work of literature.”²⁰ By contrast, the native US student Sophie had entirely personal criteria for differentiating between important and valueless knowledge. In this case, she found Chemistry less helpful to her than Political Science.

- Researcher: What do you do with something that it becomes learning
rather than just memorizing?
Sophie: Well, I’ll be able to uhm retain it, yeah I guess retain, my
retention over poli-sci will be better than chemistry because
I’ll use that.
Researcher: You’ll use it, how?
Sophie: He says... he says... [referring to instructor]
Researcher: Well, do you believe him?
Sophie: Only after the final, ‘cause I really liked what we talked about,
communism and all that stuff. It helps me understand what all
they’ve gone through over there.

¹⁹ Lluís: *El llibre està molt més bé que la pel·lícula. El llibre no me l’he llegit, però me’l vaig apuntar a la llista.* Researcher: *Ah, tens un llista i tot?* Lluís: *Sí, o sigui, de pròximes lectures. Alguns ja els tinc comprats però he de trobar el moment.*

²⁰ *El Quixot, doncs mira, va ser que tothom en parlava, i com que diuen que és un llibre essencial per a la literatura, doncs...*

Although Sophie appears to be making the utilitarian argument that in order for something to be learned it must be used, a closer examination of her notion of usefulness reveals it to be more of a post hoc rationalization. While she claims that the information about communism would be useful to her, it is hard to see how it was actually more practical than the bulk of the course, which she had been complaining about consistently. For much of the quarter, the instructor had used Mexico as a case for the illustration of political science concepts, but Sophie had been unable (or perhaps unwilling) to make that connection. She appeared to assume that the course material was simply composed of facts about Mexico. However in the discussion of communism, a pedagogical extension, interested her. In any case, what is clear is that lurking behind the defensible rationale of usefulness is the less easily justified criterion of personal taste. Sophie, unlike the Catalans, assumed the right to decide for herself just what she wanted to learn, and her decision was based on what she liked. In this she resembles the other native US students. Greg put this same desire to satisfy personal interest, also hidden behind a criterion of usefulness, into an impassioned declaration of independence from the curriculum.

Greg: I've taken thousands of notes in college and high school, and paid attention in class, and when I look back and see what I actually remember from it, it's very, very little, so I question: "OK why put all that effort in? Is it useful? Is it important? Is it practical?" And, one of the results of these questions is that I'm going to try to be more efficient in the time that I have, in what I study, you know, evaluating something. If it's not interesting to me, I might not read it, even though it's gonna be tested over. I'm gonna try my best not to let my education, my interests be manipulated by, you know, what is on the syllabus.

Again, it is tempting to see this approach towards learning as a reflection of larger cultural values, in this case those of a consumer society, which places individual choice above all else but is not quite honest about it, and so rationalizes that choice as pragmatism.

There was another facet of Hirsch's "cultural literacy" that was favored by the Catalans and rejected by the native US students. The Americans consistently expressed a belief that college should be about critical thinking and conceptual development, not learning facts. For Carmin, this belief translated into, judging by our examination of her assignments and tests, a fairly accurate evaluation of the course work for her major. She not only looked on her largely fact-based courses with contempt (she argued her little sister in high school could pass them given enough time) but she could—unlike Sophie and Will—consistently identify such classes. Her distaste was so great that it caused her to change her major, even though doing so required a transfer to another university.

These results contrast with some other findings on US students' assumptions about knowledge. For example, Alexander and Dochy's (1994) survey of students at a conservative religious college showed a majority maintained a fact-centered orientation. Also, a conceptual orientation was limited to the stronger students in Hammer's (1994) qualitative study of a physics course at a selective private university. It is supported however by Ramanathan and Atkinson's (1999) assertions regarding the emphasis of critical thinking in American academic culture. In any case, the ability of the high-performing Catalans to successfully structure information for purposes of assessment indicates that a preference for learning concepts over facts is not necessary for high academic achievement. The Catalans' conceptual structures were simply ways of producing more efficient information transfer protocols and remembering more facts. For the native US students, by contrast, they formed or should form the actual content of the course. Even the native US student who had the most difficulty, Will, went along with the idea that college was about concepts, not facts. However, he did not usually act on this belief. He had a concept-centered ideology without an ability to operationalize it except when the concepts were explicitly given to him. For the most part he tried to recycle facts and thought that his difficulties lay in his inability to remember sufficient numbers of them.

The immigrant US students contrasted with both other groups in that they did not appear to question what college was for or whether the content of their courses was meeting their future professional needs or interests. It seemed clear to them that education served as a way to a better life, but they did not necessarily connect course content with that self-improvement. Instead, the gaining of the degree was paramount and would translate automatically into a better job or entry into a profession. They had, what might be called, a credential-based understanding of what the university was about.

Note that this attitude is not necessarily as naïve as it might sound at first since it mirrors exactly the kind of civil service requirements that are the gateways to many of the jobs these students aimed at, even professional ones such as teaching. Achievement of the credential, not necessarily the knowledge it legally represents, provides the entrée. Nevertheless, this approach is ultimately limiting. It suggests that they lacked the clear sense of the separation of learning from academic achievement that characterized the better students in the other two cohorts. The knowledge of this separation appears to be a prerequisite to understanding of academic achievement as a game, and so the kind of strategic approach that the better students took (Newman, 2001, 2002).

Instead of strategizing, the immigrant US students presented a strong degree of dependence on their teachers as guides who would lead them to the desired pass and so the credential. They did not challenge the faculty in terms of what counted as important knowledge; there was no equivalent to Greg's response to his history class or the Catalans' complaints about *pratiques*. Instead, complaints sometimes arose when teachers were seen as not spelling out the solutions to problems that would be assessed, for example, when they did not explain the meanings of readings that they desired. Also, these students would not make sufficient use of university resources, such as the library or computer facilities unless they were explicitly directed by their teachers to do so and were guided in the steps involved. In sum, course content did

not appear to exist for them as an abstract or potentially useful body of knowledge; it formed simply a part of the class that they would be graded on.

Angelova and Riazantseva (1999) have argued that the source of heavy dependence on professorial authority may lie in political history. Specifically, they claim that students from countries with autocratic governments may tend to repeat authoritarian patterns in the classroom. On this point, both the Dominican Republic and Ecuador (the countries of origin of the immigrant US students) do have authoritarian traditions, although they have also had democratic governments at different times in their history. Moreover, their broader political culture has been characterized by the phenomenon of “caciquismo,” the dependence on a paternalistic leader, elected or dictatorial, local or national.²¹ It may be interesting therefore to speculate that there is some sort of relationship between political history, broader culture, and classroom conduct. Nevertheless, we also believe that making any claims of a deterministic cultural relationship between political traditions and academic literacy patterns would go beyond the evidence at hand, not to mention risk supporting stereotypes. Certainly, Spain also has its share of unhappy authoritarian politics, but we found far less dependence on professors among the Catalans. In the end, their dependent behavior may be as much a product of the academic insecurity, characteristic of so many developmental students, as political roots. Further research will be needed to settle this issue.

In sum, although cultural differences did not affect the structure of academic achievement of the case-study students, they appear to have had profound influences on attitudes towards learning and means of learning. Differences included an individualistic utilitarian value system used by the native US students, a socially constructed fact-centered one assumed by the Catalans, and a credential-based approach and dependence on professorial authority from the immigrant US students. The attitudes towards text also seemed to be split. Both US groups preferred oral channels for receiving information and valued instruction in writing. Catalans preferred reading over lectures for learning and did not appear to think that learning writing skills was of particular value or even possible.

4. Conclusions

Using these case studies we teased apart a number of factors associated with academic achievement in three quite different institutions serving equally different populations. Yet we found a common basic structure to academic achievement. The same informational operations—exposure, extraction, manipulation, and display—were used at all study sites. Furthermore, the same types of complex employment of operations, which we call planned information management, led to high achievement, while more naïve simple information processing led to less success, again at all three sites. Even simpler interactions such as Marcia’s exclusive reliance on exposure and display led to extreme difficulties.

²¹ The relationship between leaders and followers is commonly ironized in many Latin American novels, such as those by García Márquez and Vargas Llosa.

It is important to note that due to the low numbers and qualitative methodology, no generalizations should be assumed. Nevertheless, this finding matched the demographic and institutional split between visa and immigrant students. Even the exceptions appeared to prove the rule. For example Pablo, the most successful immigrant US student, may have not been out of place academically in a more selective college; the challenge might even have motivated him. Similarly, Will and Pilar, the weakest native US and Catalan, respectively, resembled the remaining immigrant students in their reliance on simple information processing. On that point, it is significant to note that Will had been a student in a community college where he had been placed into a developmental reading course. He had passed into the mainstream, but he appeared to have retained certain characteristics of students in such programs.

What appeared to matter across the board was planned information management. This approach is task driven and is not limited to writing but includes a full range of academic activities including studying for exams, working on exercises, and preparing oral presentations. It is in essence a strategy for game playing, one that effectively moves information from a source such as a text or lecture to a target such as a test or paper (Newman, 2001, 2002). We suggest that EAP programs consider making the development of planned information management an instructional objective in their courses.

One foundation of such a curriculum has been suggested by Johns (1997). She outlines a series of research activities on academic literacy in which students explore the various genres of text they encounter in college. These genres range from test prompts to readings, and the methods of research students are to perform include not only a text analysis but also interviews with “expert students” as well as faculty members. Such activities allow students to better understand the various tasks they face and so to approach them more realistically. We suggest that the operations might provide a useful framework to help students understand these demands. Specifically, a task analysis might profitably make use of exposure, extraction, manipulation, and display as conceptual tools.

The specific nature of the research on literacy EAP students perform must relate to their particular needs, thus taking into account the situated nature of academic literacy. For visa students, explorations of cross-cultural differences between L1 and L2 settings would likely predominate. They might investigate the values they see inherent in the genres and tasks they are beginning to encounter in their English speaking institutions and contrast them with those at home. The concept of ‘cultural canon’ may seem quite foreign or retrograde for US students studying in Catalonia or possibly other parts of Europe. However, to the extent that this idea is assumed by European academics, it potentially informs the course content and the assessments used there. Similarly, there is anecdotal evidence of continental Europeans needing to adapt to the more diverse and concept-centered exchanges that take place in US classes.

In programs catering to immigrant students, the explorations will probably be focused on what constitutes academic literacy, on isolating the operations and working out exactly what sorts of information are required on displays and how to get it there. Such investigations could get beyond the credential to see how the

content of courses informs professional practice, and therefore why it is included. Students could even learn to critique the curricula of courses to see where they diverge from useful practice. In any case, there is a need for programs that aid EAP students to discover for themselves what they need to do to succeed and how they can go about doing it.

The power of this consciousness-raising approach on student achievement should not be underestimated. For example, we found that although we were not engaged in training students in studying and learning, some of the lower-achieving students reported spontaneously that the sessions helped them in their courses. For example, Marcia improved sufficiently to pass with a B in ESL. Similarly, the other immigrants, Pablo, Teresa, and Zoraida, also remarked on their improvements. These students acknowledged that the reflection provoked by interviews with the researcher made them more aware of what they were doing with academic content and helped them consciously change some of their study patterns. The interview questions had provoked reflection and feedback that in turn led to a clearer understanding of what academic literacy was all about.²² As a result, they believed, they improved their academic performance. Similarly, two quarters later, Will stopped by the first author's office to report that he was now getting an "A–" average. He too was grateful for the reflection his participation in our study encouraged. This deliberation helped him recognize the need to look for the possibilities course information afforded him. Although this improvement came too late for him to continue with his goals of getting into graduate school in psychology, he was doing better than he had imagined possible in his fall-back business major. Studying, he reported, was not really all that hard, and he laughed at the amount of work he used to do while achieving so little in the way of results.

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²² Block (1986) describes similar reactions from her developmental readers to the research process.

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