From an ESL Perspective: Deciphering the Language of Academic Courses

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Abstract: Second language acquisition theories of late have come to acknowledge the notion that acquiring English is a continuous process that extends beyond one's time in an ESL classroom. This pertinent view on second language acquisition not only needs to be acknowledged, but it also needs to take roots in community colleges across the nation. One of the crucial challenges community colleges face these days is the growing diversity of its student body. Community colleges not only support the learning of an overwhelming number of undergraduate students, many of whom do not consider English as their first language, but also a growing number of international students. As such, all community college educators now bear the responsibility of instructing these learners. Nonetheless, existing WAC/WID programs in community colleges may provide the necessary structural framework for faculty to support this initiative.

Introduction

Close to half of undergraduate students and thirty percent (30%) of many "minority, low income and first-generation postsecondary students" are enrolled in community colleges throughout the United Sates ("American Association of Community Colleges Website",n.d.). Community colleges play a vital role in ascertaining that these students and adult learners need to be equipped with the requisite skill sets necessary for the challenges of globalization. Equally important is the reality that community colleges also bear the responsibility of providing the needed educational opportunities to a huge number of international students. According to the Institute of International Education, the total number of international students enrolled in U.S. higher education institutions for the 2008/2009 academic year is close to seven hundred thousand students. In fact, the 2008/2009 academic year has witnessed an increase of eight percent (8%) in international student enrollment from the previous year, the largest percentage increase since 1980 (Institute of International Education, 2010b). Notwithstanding the growing dynamism in the diversity of students represented in community colleges these days, its twin mission of retention and persistence remains its utmost goal.

More specifically, Northern Virginia Community College (NOVA) is the most diverse and second largest community college in the nation. NOVA supports students from 180+ countries whose first language, in many cases, is not English ("NOVA website", n.d.). Its student enrollment consists of more than 65,000 across six campuses. In addition to the main campuses in Alexandria, Annandale,

Across the Disciplines wac.colostate.edu/atd
A Journal of Language, Learning and Academic Writing ISSN 554-8244
DOI: https://doi.org/10.37514/ATD-J.2010.7.2.04

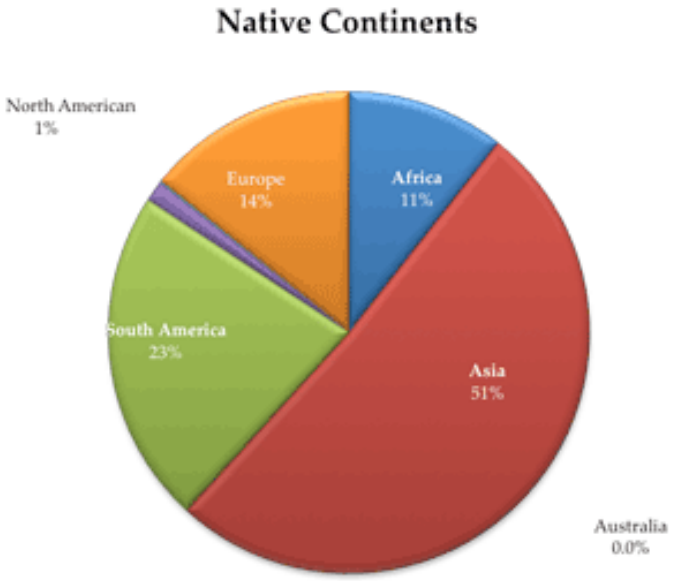
Loudoun, Manassas and Woodbridge, NOVA also offers courses through its two centers and online campus, the Extended Learning Institute (ELI). NOVA's college-wide racial distribution for the 2008 academic year is as follows: 46.3% White, 15.9% Black, 15.9% Asian, 14% Hispanic, 0.7% Native American, and 7.2 % other (NOVA Office of Institutional Research website, n.d.). Moreover, NOVA currently ranks eighth among community colleges in the U.S. in terms of the number of international student enrollment (Institute of International Education, 2010a).

The increasing presence of English language learners (ELLs) in community colleges is not exclusive to NOVA. In fact, of the 11.7 million total student enrollment in community colleges for the 2009 academic year, 36% are minorities, 16 % are Hispanics, 7% are Asians, and 8% are non-U.S. citizens ("American Association of Community Colleges" website, n.d.). Given the significant number in student enrollment of ELLs, and in response to the continuing change in demographics, NOVA Annandale created a unique Language Center that provides academic support services for students enrolled in English as Second Language (ESL) programs of the college. These ELLs enrolled at NOVA are classified in three categories (1) Generation 1.5 students- these students are children of immigrants who arrive in the United States at some level of the K-12 continuum (2) First-generation postsecondary students- these are adult students enrolled in workforce development and skills training courses (3) International students- these are students from foreign countries whose main goal for coming to the United States is to study English.

The mission of the Language Center is to support teaching and learning and to promote students' academic success via incorporating ESL instructional methodologies that support different learning styles and utilize students' multiple intelligences (Gardner, 1983). Examples of these academic support services provided are individual tutoring, self-guided use of computer programs, test-taking workshops, conversation groups, and weekly workshops that focus on the improvement of specific language skills involved in learning English. However, in growing numbers over the past few semesters, the Language Center has increasingly found itself providing instructional support to ELLs who have graduated from the College's ESL program and are currently taking academic courses in the college. Economics, English literature, math, and history are a few of these aforementioned courses. Keeping in mind the evolving academic needs of these ELLs, the Language Center continues to respond to these needs by creating partnerships with various stakeholders in the College.

Figure 1 below shows the current demographics of international students at NOVA ("NOVA Office of Institutional Research website", n.d).

Figure 1: Current Demographics of International Students at NOVA



Implications of Rising Numbers of ELLs on Higher Education

The generation of learners in higher education institutions these days constitutes a myriad of students who come from different cultures and speak languages other than English. The current reality of ESL programs in undergraduate institutions such as NOVA reflects a highly academic ESL program. ELLs at NOVA are either taking ESL classes under the Continuing Education (CE) and Workforce Development program or NOVA's College-level ESL program. The ESL program of the former at NOVA aims to help ELLs achieve their goals of language proficiency for "self-improvement"," academic studies", and "job enhancement" ("NOVA 2009 ESL Program website", n.d.). This ESL program offers basic through advanced classes both on campus and in the workplace. Course offerings include intensive and part-time classes. Other specialty courses focus on computer skills for English language learners, TOEFL Preparation, Introduction to American Culture, Public Speaking etc. ("NOVA 2009 ESL Program website", n.d.). The English language needs and goals of CE and Workforce Development ESL students enrolled in intensive or part-time ESL classes are solely geared towards overall improvement of their English language skills in the four language domains (reading, writing, listening and speaking) because transitioning to the more rigorous ESL program in the College-level ESL program is one of the most important objectives for these learners. The intensive and part-time ESL program comprises seven levels beginning with a Basic Entry Level 2, followed by Basic Entry Level 1 and then moving on to Level A. After reaching Level A, the program extends four more levels (up to Level E) in the ESL curriculum.

The College-level ESL program, on the other hand, is housed in the Languages and Literature Department of the College. These classes are mainly preparatory English courses for students who are interested, ultimately, in pursuing associate degrees. There are four levels in the program, beginning with Level 2 all the way up to Level 5. The College-level ESL program "emphasize[s] the development of the writing, reading, speaking and listening skills necessary for success in college-level courses." ("NOVA College-level ESL website", n.d.). To complete the College-level ESL programs

requires a minimum of two years. All prospective ESL students at NOVA are required to take the English Placement Test to determine their English proficiency level.

Historically, international students who come to NOVA to learn English are often in the beginning stages of acquiring the language; hence, when they come to NOVA and take the English Placement Test, their scores often reflect the need for longer formal instruction in learning English. In fact, according to the American Association of Community Colleges (2008), it has been a practice of community colleges "[to] accept lower scores or waive the requirements for the Test of English as Foreign Language (TOEFL) or International English Language Testing System (IELTS)… [since] community colleges provide their own English assessment tests." These international students are housed in the CE and Workforce Development ESL program to acquire more in-depth instruction in English. Oftentimes, it usually takes these ELLs anywhere between a year to two years to complete this ESL program. After completing the program, these ELLs are then required to take another placement test, the Accuplacer, to determine where in the College-level ESL program they will place into. For generation 1.5 students and adult learners at NOVA, their situation is somewhat different from international students since they have lived in the U.S. for some time, and therefore have acquired the English language to some degree. These particular group of ELLs often place into the College-level ESL program right away. The length of time an ELL needs to spend in the College-level ESL program may take anywhere between a few semesters to a few years. Lastly, as previously stated, it is the goal of the majority of ELLs at NOVA to graduate from the ESL program and transition to the academic side of the College so that they can begin taking credit courses that will eventually lead them to acquiring their associate degrees.

The increasing presence of multilingual learners in mainstream courses presents a challenge for faculty teaching content-specific courses and for the learners themselves. Academic faculty are oftentimes unaware of second language acquisition theories and ESL pedagogy; however, as Johnson and Marchwick (2006) stated in their work on providing ESL professional development training, academic faculty need to become aware of "second language acquisition and the nature of academic discourse not only to better facilitate student learning, but also to recognize that students ready for content classes will continue to work on language throughout their academic lives" (Framing the Issue section, paragraph 3). ELLs, on the other hand, besides being *still* at the stage of acquiring the English language are required "[to learn the] various disciplinary languages" of the academic courses they are enrolled in (Matsuda & Jablonski, 2000, p. 3). Jonathan Hall (2009) extended the discussion on this topic by stating that "higher education will have to, willingly or unwillingly, [need] to evolve in the wake of globalization and in response to the increasing linguistic diversity of [the] student population"; otherwise, ELLs will continue to struggle through their academic classes, with little to no aid from the academic faculty in the way of ESL support (p. 34). Without considerable effort from both ends of the spectrum, from faculty and students alike, academic content learning will continue to be hindered, and ELLs will continually fall short of meeting their true potential. Therefore, it is critical that academic faculty be cross-trained on the appropriate instructional approaches necessary for ELLs. Adopting the Writing in the Disciplines (WID) approach, within which "discipline-specific conventions" are taught and practiced, alongside instructional strategies suitable for ELLs may provide the requisite support these learners would need in the classroom ("Purdue OWL", n.d.).

The Nature of Second Language Acquisition

According to Stephen Krashen (1981), one of the foremost experts in the field of linguistics, there are "two independent systems" in second language acquisition: "the acquired system" and "the learned system." Krashen espouses the belief that in the "acquired system," the process that a second language learner goes through in learning the target language "is very similar to the process children

use in acquiring first and second languages" (p. 5). On the other hand, in the 'learned system', the process of 'learning' a second language comprises a more conscious effort of 'learning', such as having an in-depth knowledge of the grammatical structures of the target language.

The ESL programs at NOVA, both in the CE and Workforce Development ESL program and the College-level ESL program, support these foundational theories in second language acquisition as manifested by the curriculum and instruction that occurs in the ESL programs in the College. However, Jim Cummins (1979), in his breakthrough research, Cognitive/Academic Language Proficiency, Linguistic Interdependence, the Optimum Age Question and Some Other Matters, established the concept of two differing levels of proficiency that language learners have and which can solely be attributed to the length of time the learner has been exposed to and immersed in the target language, in this case, the English language. In his research, Cummins discussed these two levels of proficiencies in English. The first is what he referred to as Basic Interpersonal Communicative Skills (BICS), and the second as Cognitive Academic Language Proficiency (CALP). The former, according to Cummins, is acquired within two to three years of exposure in the target language, whereby "conversational fluency is acquired at a functional level", while the latter is acquired after at least five to seven years of exposure in the target language, at which point the English language learner has advanced to the level of a native speaker in terms of academic complexity, thereby exhibiting the ability to show competencies both in cognitive skills and content-specific knowledge needed to achieve academic success in both secondary and postsecondary schooling (Collier, 1987; Klesmer, 1994; Cummins, 1981, Thomas & Collier, 2002). However, the reality of ESL programs constitute less than five years in most higher education institutions such as NOVA and the linguistic demands of academic courses are extremely challenging: ELLs often find themselves unable to keep up with the academic demands of the academic courses they are enrolled in. Hence, there is a pressing need for effective instructional support for these learners in the classroom.

Nature of Collaboration between the Language and Math Centers

The primary focus of the collaboration between the two Centers is to develop supplemental programming that attends to the unique academic needs of English language learners enrolled in developmental mathematics and math courses. The collaboration between the two Centers is in line with the aims of the nationwide Achieving the Dream[1] (ATD) project, an initiative that is "particularly concerned about student groups that traditionally [face] significant barriers to success where …narrow[ing] the achievement gap between students based upon race, gender, income, or national origin"; since ELLs struggle with the academic language of the college courses they are currently pursuing in addition to the challenges college class material provides native speaking students. ("Achieving the Dream National Website", n.d.). One of the joint goals of the Centers is to attain what the initiative aspires to accomplish, which is "to augment knowledge about strategies that increase student success", thereby increasing the number of students advancing from "remedial to credit-bearing courses, and enrolling in and successfully completing gatekeeper courses," ("Achieving the Dream National Website", n.d.).

After several years of learning English, ELLs are often eager to start taking mainstream courses in the College. Oftentimes, math is one of the first courses they choose to take simply because they presume that math is more about numbers and equations and a lot less about language. Furthermore, ELLs feel confident in taking math since they already have a considerable amount of knowledge in math in their first or native language. However, their frustration in learning math in English manifests itself over the course of the semester when they come to realize that math "has its own specialized language, grammatical patterns, and rules [in English and that English words have] "unique

meanings," [if used within] "a mathematical context" (Virginia Department of Education, 2004, p.15). They struggle during "classroom lectures, [group and whole class] discussions, [and in comprehending their] textbooks without the knowledge of their professors (Virginia Department of Education, 2004, p.15). Oftentimes, what ELLs would do is that they would come to the Language or Math Center for individual tutoring, and much of the assistance the Centers provides is in contextualizing specific vocabulary used in Math, assisting them in comprehending the word problems found in their textbooks, and providing support as they solve mathematical equations. In a nutshell, what the Centers are trying to accomplish is to be able to teach these learners math by using ESL teaching methodologies such as scaffolding lessons, activating prior knowledge, and modeling to mention a few, or simply stated, differentiating their instruction. Week after week they come and persist because for them getting the "A" was never the goal; passing the course and learning the English language associated with the content knowledge, which is math in this case, was more than sufficient.

Having achieved a modicum of success by providing individual instruction for these learners, the next step for the Language Center was to continue the work that had already begun, and raise it to a college-wide level initiative; hence, the emergence of the partnership with the Math Center. This collective effort between the Math and the Language Center hinges on the integration of both content and instruction most suitable for English language learners. Lev Vygotsky (1978), a well-known educational theorist, revolutionized the educational landscape with his Zone of Proximal Development (ZPD) Theory. Vygotsky asserted the importance of recognizing "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance" (p.86). Vygotsky's progressive view in pedagogy, gave due attention to both the role of content knowledge and pedagogical knowledge for instructors to attain teaching effectiveness in the classrooms. Theories in second language acquisition support the relevance of Vygotsky's ZPD theory for English language learners. Providing effective instructional support is necessary for optimal learning for ELLs regardless of where they are in terms of their English proficiency levels.

Second language learning is an intricate progression that follows a predictable and foreseeable pattern (Krashen, 1982). As such, "[language] acquisition requires meaningful interaction in the target language" (Krashen, 1981, p.5). Realizing the importance of the linguistic aspect as well as the presence of cultural differences between other cultures and the American culture in math, the Workshop developed by both Centers aims to develop an awareness among Math faculty and Math tutors on the "close and necessary relationship between effective curriculum and instruction and effective differentiation" (Tomlinson, 1999, p.17). Differentiated instruction, as defined by Tracy Hall (2002), an expert in the field of curriculum development, is "an approach to teaching and learning [whereby] students [are given] multiple options for taking in information and making sense of ideas" (p.1). Hall further states that this type of instruction" requires teachers to be flexible in their approach to teaching and to adjust the curriculum and presentation of information to learners rather than expecting students to modify themselves for the curriculum" (p.1). Differentiating instruction in Math establishes an academic environment where language learning and content learning goes hand in hand, and interwoven seamlessly that one cannot tell where and when language learning ceases and content-learning begins.

Differentiating instruction in Math can be an arduous process. As such, Carol Ann Tomlinson (2001), the leading expert in differentiated instruction, created a framework that can guide educators as they begin their journey in differentiating their instruction. Tomlinson identified three components of a curriculum that can be effectively differentiated: Content, Process and Products (as cited in Hall, 2002, p. 2). Content of any curriculum, according to Tomlinson (2001), "must focus on the concepts,

principles and skills that students should learn" (as cited in Hall, 2002, p. 2). Learning goals should be adjusted to the tasks that students need to perform in class, with particular attention given to the level of diversity in the classroom. Different media and instructional materials should support the instructional composition of the academic course.

The second component Process focuses on the delivery of instruction in class. Varying instructional groupings and balancing this with "instructional delivery strategies" adapted in class should complement one another to optimize learning in the classroom (as cited in Hall, 2002). Constant grouping and regrouping of students based on tasks is manipulated in class to support maximum learning. Deciphering mathematical problems as a group activity in class encourages students to "shar[e] strategies, communicat[e] mathematically and develop skills needed for independent learning" (Chamot, Dale, O'Malley,& Spanos, 1992, p. 5). Teaching and applying metacognitive strategies allows students to be more reflective of the procedural knowledge present in math. Lastly, the third component Products is closely tied to assessment. For assessment to be useful, be it formal or informal, initial or ongoing, it needs to show student mastery of the concepts learned. Various instructional approaches, such as conducting pre-assessment, enhance instruction since assessment, in this case, is used as a teaching tool rather than being just used to measure student comprehension. Motivating students, according to Hall (2001), to be actively involved in their own learning via "student-selected tasks" should find a happy medium with "teacher-assigned tasks", keeping in mind that finding equilibrium "will vary from class to class as well as from lesson-to-lesson" (as cited in Hall, 2002, p.4).

Differentiating instruction in Math allows all learners in any given class to be able to explore the curriculum by first establishing a baseline of what students already know. This can be achieved by connecting their previous knowledge of mathematical concepts to the mathematical concepts that will be taught in the new math course. As stated earlier, for learners who come from different countries, it is essential for instructors to address cultural differences in math prior to the start of any formal instruction. Establishing the use of the comma instead of a period in U.S. educational institutions or the use of different "computational methods" such as division in other countries are a few examples of these cultural differences in math (Virginia Department of Education, 2004). Failure to tap prior knowledge only leads to confusion and frustration on the learners' part, and their inability to build on previously learned skills.

Another proven strategy for differentiating instruction in Math is to allow students to write their own word problems based upon their real-life experiences, and to allow students to translate these word problems into mathematical symbols and to solve it alone or with other students, instead of using word problems found in math textbooks, which have been identified to be culturally biased to the American culture (Virginia Department of Education, 2004). Finally, integrating instruction using the four language skills (listening, reading, writing, speaking) allows students to learn the second language more successfully since instruction is focused "on the academic content rather than on the linguistic form" (Crandall, 1987, as cited in Virginia Department of Education, 2004).

Effective differentiation necessitates that "successful teaching requires two elements: student understanding and student engagement" (Tomlinson, 1999, p.13). However, to be able to achieve this goal, it is crucial that the instructor act as a facilitator with a single goal in mind, which is to allow students to "construct" for themselves a deep "understanding" of the concepts learned through "shared learning" (Tomlinson, 1999, p. 15). Shared learning supports working "cooperatively" and "collaboratively" in the classroom; it establishes students as active learners since "learning [should be] participatory—knowing depends on practice and participation" (Blair, 2006, p. 53). As such, the instructor "can effectively guide [his/her students because] she/ [he] varies or differentiates [the]

instruction to accomplish this goal…differentiation is not so much the 'stuff' as the 'how'-- If the 'stuff' is ill conceived, the 'how' is doomed" (Tomlinson, 1999, p. 16).

Conclusion

Initially, the Language Center's purpose was to provide supplementary academic support services for ELLs enrolled in ESL programs in the college. However, it became clear that supporting the academic needs of ELLs who have transitioned to the academic side of the college and are challenged by the language demands of their academic courses is emerging to be the more pressing task for the Language Center. The task before these learners is daunting since each academic course contains specific "content-area knowledge" that they need to show adequate comprehension in: vocabulary specific to the content-area, theories unique to the subject area, and processes and practices applied in class to further comprehension in the content-area are a few of the humps they need to overcome (Virginia Department of Education, 2004). Interdepartmental collaboration such as the partnership between the Language and Math Centers aspires to strengthen the delivery of effective instructional strategies in the classroom by instilling awareness among math faculty on the pertinent theories surrounding second language acquisition (SLA) and more importantly, providing math instructors with sound strategies for differentiating their instruction in the classroom. Math faculty, after attending the workshops, recognized their role in extending language learning beyond the ESL program for ELLs. Nonetheless, to continue to address the linguistic challenges of ELLs taking other academic courses in the College, it is important for the Language Center to begin forging partnerships with faculty from other academic disciplines as well. Creating awareness among faculty belonging to other academic disciplines of the nature of SLA and supporting their instruction with effective strategies in teaching and learning will provide for ELLs the requisite pedagogical support they require in the classroom to successfully meet the academic demands of these other disciplines. Over the long term, because of these interdepartmental collaborations, ELLs will persist, and endure the academic challenges they are confronted with.

In summary, the result of the interaction between two academic support centers and math faculty initiated the beginning of a dialogue between stakeholders who have the greatest influence in ensuring students' academic success. This dialogue, hopefully, will lead to furthering the cause of differentiating instruction so that ELLs may have a rewarding experience in academic-content classes. One of the questions often asked by math faculty at the end of these collaborative workshops is whether I can guarantee that if they start differentiating their instruction in math, their ELLs will pass the course. My response to their question is the age-old predicament we have in community colleges with regards to assessment, which is, *to whom do we attribute the academic success of our students? to professors? to academic support centers? to student attitudes? to use of technology in our learning environment?* Our experience both in the Language and Math Centers suggest that differentiated instruction, if done correctly, has the potential to improve the learning of ELLs. This fact, although well-known to us, needs to be assessed more rigorously.[2] Appropriate statistical analysis for which the data needed is not currently available; however, as we have argued in this paper, there is worthwhile hypothesis begging to be tested: differentiated instruction has a significant and independent impact on the performance of ELLs in area disciplines.

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Notes

[1] Achieving the Dream is a multiyear national initiative to help more community college students succeed. The initiative is particularly concerned about student groups that traditionally have faced significant barriers to success, including students of color and low-income students.

[2] The hypothesized impact of differentiated instruction on ELLs academic success can be tested empirically through controlled experimentation. For a given discipline, especially math, differentiated instruction can be introduced in a controlled subset of offerings for a particular course, e.g., Introduction to Differential Calculus. Typically, the college offers several sections for a given course so differentiated instruction can be introduced in one or two of the classes, preferably with the same professor.

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Complete APA Citation

Campos, Veronica. (2010, November 30). From an ESL perspective: Deciphering the language of academic courses. [Special issue on Writing Across the Curriculum at the Community Colleges] *Across the Disciplines, 7*. Retrieved from https://wac.colostate.edu/docs/atd/cc/campos.pdf