

Hey, We Just Learn in a Different Way: The UDL (Universal Design for Learning) Model at Higher Education in the Middle East

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Abstract: Not everyone learns in the same way, and educational theorists such as John Dewey, Lev Vygotsky, and Howard Gardner all expressed this within their theories of learning. According to Gradel and Edson (2009), it is most likely that instructors' course rooms will have seats filled with students that will have one or several of the following problems: learning disabilities, physical and/or sensory disabilities, English language barriers, emotional challenges, low motivation or engagement. It was the intention of the researchers to show how the Universal Design for Learning (UDL) model can help teachers detect student difficulties at an early stage in order to support students so they can reach the basic learning outcomes. Despite the fact that these students may need other accommodation services such as tutoring centers, online skills support, use of student affairs for the more specialized or even medical needs, it is possible for instructors to supply support for the different learning styles within the course room. It was the intent of the researchers to provide readers with the understanding of how to implement the UDL model within their course lectures and still maintain academic rigor.

Key words: Universal Design to Learning (UDL), academic achievement, diverse learners, accessible curriculum

1. Introduction

Universal Design for Learning (UDL) is defined as providing natural curricular provisions for all individuals, without having to adapt the curriculum repeatedly to meet special needs (as cited in Brand et al., 2012). UDL embraces four main principles, which are as follows: (1) multiple means of representation, (2) multiple means of engagement, (3) multiple means for action and expression, and most recently (4) multiple means of assessment (Brand et al., 2012). These four principles are no longer restricted to only the primary and secondary education instructors, but now instructors at higher education must consider UDL when developing course material for their

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lectures at university. 75% of the students that are identified as “at risk”, continue from secondary to post-secondary education (as cited in Gradel & Edson, 2009). With such a staggering statistic, higher education faculty must expect, prepare for, and work with students’ academic diversity-both their strengths and their needs (Gradel & Edson, 2009).

The work of two university instructors who have been dedicated to implementing UDL within the context of four courses in the English Department of Prince Sultan University College for Women will be presented in this paper. The work began in the fall of 2012 when both instructors (Carmen Medina Garriguez and Roslyn Billy-Mohamed) teamed up to redevelop the first two courses offered within the English Department, ENG 103 (Research Writing), and IR101 (Information Resources) to encompass the UDL framework, and later ENG 234 (Phonology) and ENG 131 (English Pronunciation). The first aim of this paper is to provide readers with the theoretical framework as well as outline the stages in the redevelopment of the courses. Another aim is to provide a model for instructors in the field of higher education with a desire to implement a UDL framework within their courses.

2. Theoretical Framework

2.1 The Disabled and the Middle Eastern Culture

From March 22nd to 26th, 2006, a conference on disabilities in the Middle East Arab Gulf (MEAG) region, titled: “Childhood Disabilities: Assessment and Early Intervention” was held at Kuwait University, Shuwaikh Campus. It was one of the first of its kind in the Middle Eastern region (Al-Hilawani et al., 2008). The conference brought attention to the lack of services presented to parents of children with disabilities within this area. The passing of the first law to protect the rights of disabled individuals in 1996 in Kuwait, was intended to provide services for independence (Al-Hilawani et al., 2008). This was the first step in the direction of acceptance and acknowledgment of the disabled, and their place in the community within the context of Middle Eastern society.

It has always been the custom and practice in the Middle Eastern culture to hide individuals with disabilities from society (Al-Hilawani et al., 2008). However, a study conducted by Abdulhade Haimour (2012), indicated that university students in the MEAG region have different views of the disabled and have a positive outlook of the disabled, and their role in society and the community. The MEAG conference brought the issue of special education, rehabilitation services, disability pensions, monthly allowances, and other such terminology to the attention of MEAG officials and leaders. With this being said, progress has been made since the conference to begin the process of change in the views and services provided to those that require special needs in the Middle East. Evidence of the change of views of the disabled became apparent with the implementation of intervention programs, which influenced professionals to identify students as soon as possible before failure in school began (Al-Hilawani et al., 2008). Even with these early intervention programs being put into practice, there are still numerous undocumented cases of individuals with various types of special needs in both the public and private educational systems in the Middle East.

Even though progress has been made in the area of special education and identifying students with mild to severe disabilities, students continued to be misdiagnosed with “mild mental retardation” or identified as “slow learner” as evidenced in anecdotal information (Al-Hilawani et al., 2008). This would indicate that even though there has been change and development with accepting those that are disabled within schools and the community in the Middle East, accurate diagnostic tools presented a problem; hence, the current dilemma of what to do with

the students that access higher educational programs without proper diagnoses. Once these students are enrolled into higher education, they will still require accommodated access to the curriculum. How do instructors at the higher educational level accommodate for diverse learners that may have not been properly diagnosed with a learning disability? The Universal Design for Learning model could be the possible answer to the question raised.

2.2 Special Educational Services and the Middle East

The aforementioned 1996 conference on disabilities in the MEAG region focused the attention of many instructors and academic professionals on special education and its adaptation within the Middle Eastern region. The conference not only brought attention to the necessary accommodations needed in schools and in the curriculum for the diverse learners in the Middle East, but a collective understanding that for students with special needs to succeed academically in the MEAG region, the education system would require teachers to develop and become familiar with the academic problems often faced by students with certain types of learning and other disabilities (Al-Hilawani et al., 2008). The awareness is evidently present within the MEAG region with the opening of various private schools which cater to various special needs of students with disabilities. However, there are still students with mild to moderate learning disabilities that go undiagnosed and proceed from primary, secondary, and into higher education. The matter at hand is how these students with mild to moderate learning disabilities are being accommodated within the realm of higher education in the Middle East. Most universities within the MEAG region have tutoring centers, online skills support, use of student affairs for the more specialized or even medical needs, but those students that are undiagnosed face the challenge of acquiring the curriculum content of courses offered at the higher educational level. The UDL model would allow these students to access the curriculum content without having to adapt the curriculum repeatedly to meet the needs of these students as their learning needs are revealed (as cited in Brand et al., 2012).

3. Universal Design for Learning

Universal Design for Learning can be defined as the ability to present learners with the four following principles within their learning environment: (1) multiple means of representations, (2) multiple means for engagement, (3) multiple means for action and expression, and (4) multiple means of assessment (Brand et al., 2012). Instructors no longer have homogenous course rooms; course rooms are a diverse sea of learners with various learning styles and intelligences. UDL features embedded in learning tasks, materials and learning goals can help students with disabilities, while benefiting those without identified disabilities (Edson & Gradel, 2009). In order for UDL to be fully inclusive and meet the learning needs of all diverse learners in a course room, UDL must include the use of technology. Technology acts as the basis of the four principles of UDL as potential strategies, to make education more inclusive to diverse learners (Edson & Gradel, 2009).

Cultural barriers can present themselves as problems within the course room, especially when it is not socially acceptable to admit having a disability. It has been the custom and practice in the Middle Eastern culture to hide individuals with disabilities from society (Al-Hilawani et al., 2008). The problem of the lack transparency within the course rooms poses a complicated situation for the instructor and the learner meeting the learning outcomes of the given course. If a learner has a mild to moderate learning disability and enters a course room that encompasses the UDL model, the learner has a better chance of reaching the learning outcomes of the course without having to publically acknowledge the fact that they have a learning disability, especially within certain cultural contexts that look down upon individuals with disabilities.

4. Problems with Implementing the UDL Model

With the implementation of any instructional strategy there are problems of the instructional strategy not fitting into every learning context. According to Dave Edyburn (2010) of the Department of Exceptional Education at the University of Wisconsin-Milwaukee, the UDL model is more than “just good teaching”. It is much more than that, and it begins with making the curriculum accessible to the diverse learning populations. The problem of implementing the UDL model at any educational level, from primary to secondary, to higher education is having the complete understanding that implementing the UDL model involves valuing diversity and without valuing diversity first, UDL will not work (Edyburn, 2010). The question, which then presented itself to the two instructors. Medina and Mohamed, was, whether the UDL model could be implemented within a cultural setting that does not yet value diversity openly. Valuing diversity in the course room led to the implementation of the UDL model within two courses, ENG 103 (Research Writing) and IR101 (Information Resources), in which both instructors collaborated about the course design and instructional methods. After the success and interest which this implementation sparked, two additional courses were added to the UDL framework, ENG 234 (Phonology) and ENG 131 (English Pronunciation).

Implementing the UDL model at higher education within the context of teachers having the autonomy to design courses and their delivery, presented itself as the ideal situation for the above mentioned instructors to try UDL with their course participants. According to Edyburn (2010), in order for UDL to work effectively the curriculum content must be designed in such a way that it reaches all diverse learners in the course room. The instruction is then differentiated by the instructor to have course participants meeting the learning outcomes. In general, primary and secondary school instructors do not have “say so” with curriculum development, but instructors at higher education have more “initiative” with course content and material, which presents itself as a perfect situation for the implementation of the UDL model.

4.1 UDL and Implementation at Higher Education

On today’s higher education campuses, the mix of students is increasingly diverse (Gradel & Edson, 2009). Course rooms are full of multi-disciplined learners with various learning styles which have made it more imperative for instructors at the higher educational level to incorporate instructional strategies in order to accommodate their diverse learners. Implementing Universal Design for Learning at higher education would not appear as it would in a primary or secondary school settings. Although the structure would instill the four principles of UDL, (1) multiple means of representation, (2) multiple means of engagement, (3) multiple means of action and expression, and (4) multiple means of assessment (Brand et al., 2012); given the complexity of the course content coupled with institutional policies the flexibility of the application might find itself restricted.

Implementation of UDL at higher education requires instructors not only to adapt their methods of instruction, but also to adapt their course design and course material in order to embrace the four principles of UDL. The primary challenge of implementing UDL at higher education is having instructors view their course content as disabled (Edyburn, 2010). The major goal of UDL is to have all learners in a course reach the established learning outcomes. Instructors will then have to ensure that all course content is adaptable within the four principles of UDL in order for the course participants to reach the desired learning outcomes.

4.2 Instructors’ Experience with UDL

The road to UDL was not direct, rather Medina and Mohamed arrived to the model through years of

professional and personal experience and intuition. Medina¹ and Mohamed (2013), firstly, created a website to share their materials, offer academic rigor via the same instruction and materials, and subsequently to make sense of the new teaching context in which they were immersed. As the course developed, they found there were a number of students that presented certain learning restrictions such as attention deficit, insufficient critical thinking skills, audio impairment, writing difficulties, speaking difficulties, diverse English language fluency, and diversity of cultural backgrounds.

As well as the organizational need for the instructors, logical in a new educational setting, the need to cater for the diverse students was also detected. Consequently, the course websites evolved from mere data collectors and organizers to content curators and reflectors of the four UDL principles.

4.3 Course Lectures and UDL

The instructors started using websites as an additional instructional tool in 2012. They collaborated in the creation of a number of websites which catered for two writing courses and an introductory course to the writing of research proposals. ENG 103 was an undergraduate research writing course which aimed at demonstrating a certain understanding of academic concepts involved in research writing. It offered an overall view of the ability to design an academic research paper, the ability to apply concepts of investigating problems in conjunction with presenting academically accepted arguments, using tools such as critical thinking, analyzing, summarizing and synthesizing, within the APA style framework.

ENG 103 was a follow up course from ENG 101 which covered the basic essay types at the undergraduate level.

However, IR101 was a multidisciplinary course in the sense that students could take it at any point in their college track which made it quite demanding for the instructors as they were faced with mixed ability classes not only in the sense that there were students who were about to graduate and had ample research writing experience seated next to freshman students who were taking the undergraduate research writing course (ENG 103) or even the basic essay writing course (ENG 101) depending on the available tracks in their chosen specialization (Law, Interior Design, Architecture, Translation, etc.).

This veritable ragbag of skills coupled with the personal learning difficulties that each student might have brought to the courses was a demanding scenario for the instructors; thus, the convenience of the websites as an additional instructional tool because they allowed students to advance at their own speed accessing, reviewing and referring back to the materials available on the sites.

A website was also created for English Pronunciation (ENG131) and English Phonology (ENG 234). Medina piloted a Jen website with an introductory unit to the English Pronunciation course.

5. Discussion

Mohamed contacted Dr. Dave Edyburn in January 2014, after reading his article: Would You Recognize Universal Design for Learning if you saw it? Ten Propositions for New Directions for the Second Decade of UDL.² After having reviewed the instructors' websites, he made several suggestions, the first of which was to try out the tiered webpage generator he had developed³.

1 Medina started working in this field in 2012: <https://sites.google.com/site/eoiantequeraadvancedlevel2/diversity>.

2 Dr. Dave Edyburn: http://www.udlcenter.org/sites/udlcenter.org/files/UDL2ndDecade_0.pdf.

3 <http://www.tieredwebpages.com>.

Medina decided to try out the website generator for an introductory unit on English Phonetics. Medina's first question was about the website he was supporting as they (Medina and Mohamed) were working with google sites, simply because when Medina had initially started with websites and teaching/learning, their technical knowledge was very limited. They found that a google site was the easiest to manage while at the same time offering the flexibility they required for their content. Edyburn's response to this question was that he thought that UDL and accessibility was a major problem. His knowledge of Dreamweaver HTML, CSS, and some javascript allowed him to create his own web pages for his classes and embed accessibility features like the ones offered by the Jen product (translation, audio, text zooming, color, etc.) right into his pages. Otherwise, instructors would be left to the limitations of the learning management systems (LMS).

A second issue Medina inquired about was whether Dr. Edyburn had ever experimented with the flipped method. His reply was that he had not taken on the flipped classroom because most of his classes were taught online. He believed they were an important development. However, he did not believe a flipped classroom was UDL. He also referred the instructors to the work developed by the Dreyfus brothers⁴ and their continuum of expertise. Edyburn found this a powerful model because it required him to think differently about his content. For Edyburn, UDL was about helping the students move from the basic knowledge level to a higher level on the continuum. He believes instructors could use this way of thinking to understand English Language learners as well as students with disabilities. From his viewpoint, the challenge lies in how to define a blueprint for instruction for the diverse learners and the embedded supports.

Another type of tool he referred Medina and Mohamed to, was the Assignment Calculator. This tool allowed him to take the students through seven steps in order to write a travel report⁵. An additional example of the assignment calculator detailed the steps to write a report on an invasive species⁶. The original tool was developed by the University of Minnesota and can be found at: <https://www.lib.umn.edu/apps/ac>. Edyburn's idea was to develop a research and writing project that would help them explore how to embed supports at the key points where the instructors expected students to struggle, this being the universal challenge: identify the key points for a diverse group of students. Edyburn believes that assignment calculators are UDL because they are developed with the needs of diverse learners in mind, although the time management feature and the embedded supports would be of use to everyone.

Taking all this information into consideration Medina set about creating the trial unit. She chose Introduction to English Pronunciation because it was the beginning of a new semester so she would have new students who were taking the subject for the first time.

She noticed that the tiered instruction varied according to the subject (Bronze, Silver, Gold for the Olympics model; Beginner, Intermediate and Advanced for the Bears model, etc.). She opted for: Capable, Consolidated and Questing (Screenshot 2).

The unit began with a general introduction to English Pronunciation (Screenshot 1). Jen offers the possibility of changing the font size and shape, text color, audio and translation. It also allows links within the text (Screenshot 1).

4 http://en.wikipedia.org/wiki/Dreyfus_model_of_skill_acquisition.

5 <https://pantherfile.uwm.edu/krasovi2/www/travel-AC.html>.

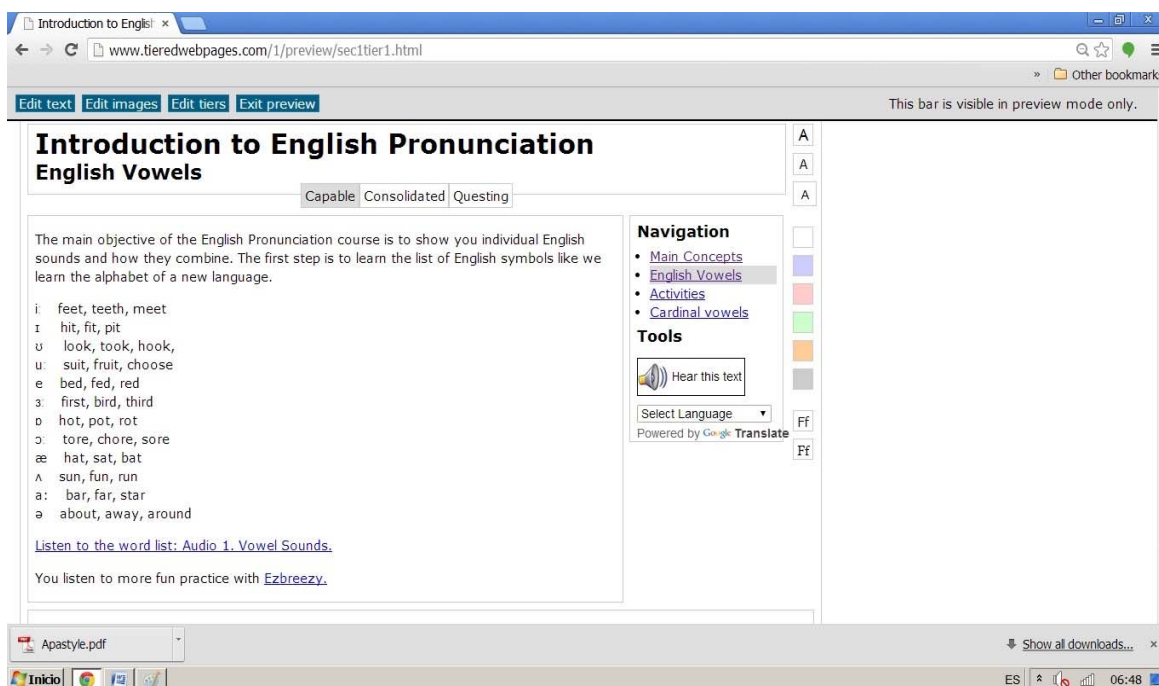
6 <https://pantherfile.uwm.edu/rothenb3/www/ac1.html>.

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Screenshot 1

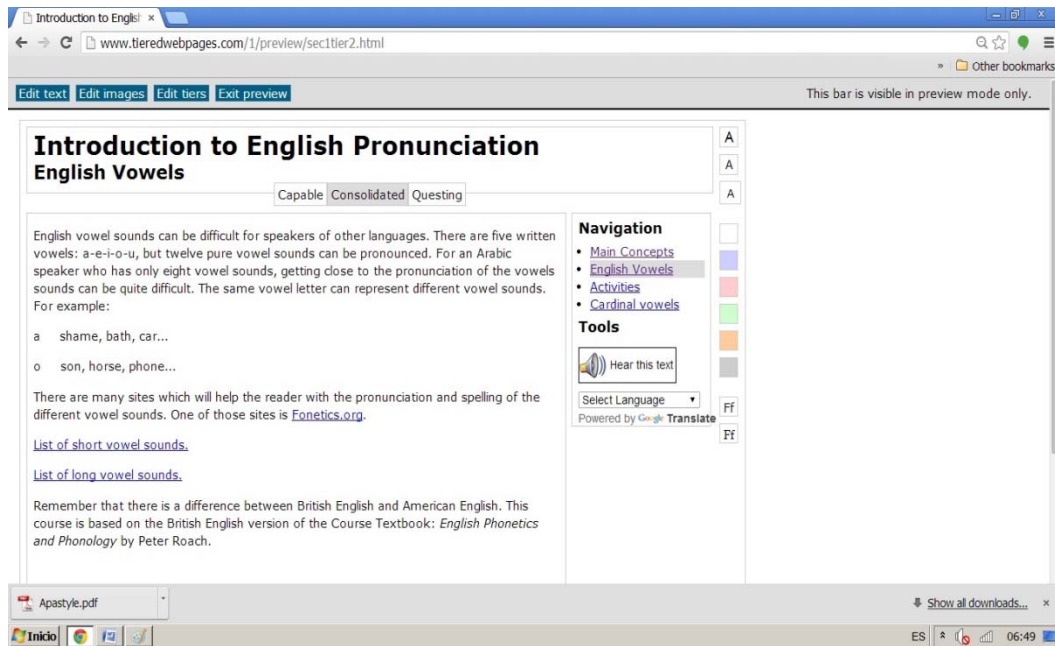
The section offered to “Capable” students included the basic information to get through the course. It also included audio assistance and links to further practice (Screenshot 2).



Screenshot 2

The “Consolidated” unit was more demanding and added further information as well as more demanding links (Screenshot 3).

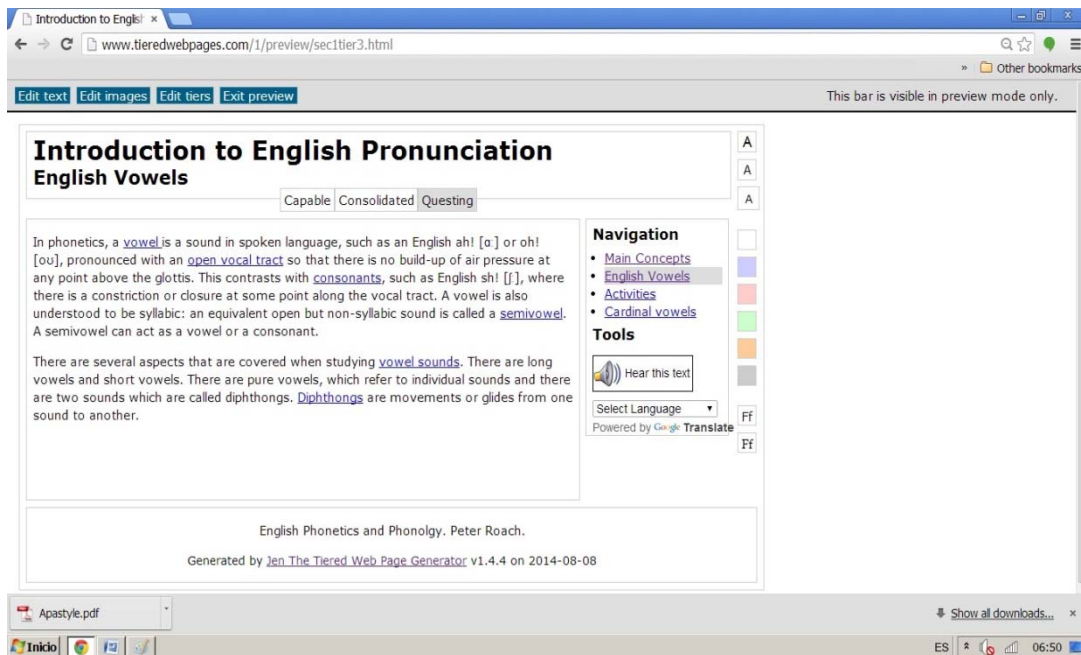
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Screenshot 3

For the “Questing” students (those who picked the concepts up very quickly and required more challenging tasks), the information allowed them to be less guided and more independent learners allowing them to search for the basic concepts via the provided links. The content was curated in the sense that the instructor had previously tested the links in order to provide the information required as well as allowing the student to follow the links to more information if they wished to do so.

Finally, diagrams were included for the description of the vowels and an activity section was incorporated which was also tiered in the three levels described above (Screenshot 4).



Screenshot 4

6. Conclusion

The research practice carried out by Medina and Mohamed with the support and guidance of Dr. Edyburn proved to be of great use and an unquestionable support for the students who followed the websites. The support was reflected in their academic achievement because most of the students who took the courses with Medina and Mohamed reached the end of the course and passed with an average mark of 80% or higher.

However, despite the success of the websites as an additional instructional tool and catering for the diversity of the students, some limitations were extremely overpowering and became a serious drawback in the development of this research project.

Regarding the Jen website, the automated audio reduced the quality of the production. In order to overcome the limitations of the Jen website regarding the audio, it was suggested that the audio files be created with a speech synthesis tool like Natural Readers or to digitally record a human voice and save the sound files. The challenge with both of these approaches is that they would require some intervention on the html code which is an issue that the creators of Jen want to avoid for the users.

A further suggestion regarding the audio limitations was to create a master list of the audio files needed, determine if the same audio file could work on all tiers or whether an audio file for each topic would be needed because the content was tiered.

The most frustrating phase in the creation of the English Pronunciation tiered unit was the fact that it was downloaded and ready for insertion in the website, but due to incompatibility with the google site it was never included so only appears as an example within the Jen pages.

A further trying restriction was achieving permission from the institutional authorities to put these innovative techniques and procedures into practice. Although permission was granted to carry out the research, the instructors did not receive permission to do away with the final exam in the writing courses, despite the fact that the students worked all semester long producing a final project (in IR101) which was also orally presented.

Finally, the lack of time to create materials due to overwhelming teaching duties also hindered the creation of more units.

To end on a more positive note, both instructors believe that the UDL model is one of the most satisfactory and accommodating means of instruction currently available, as it aims to cater for the needs of each individual student in the classroom; thus encouraging understanding and acquisition of the learning outcomes.

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