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Universal Design for Learning and the Teaching of Social Studies

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Universal Design for Learning and the Teaching of Social Studies

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Honors Project

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Abstract
After conducting research into the idea of Universal Design for Learning, I created a rubric based on the principles of UDL. To test the rubric, a study was conducted in which participants were asked to evaluate a Stanford History Education Group lesson plan using my rubric. Before the study, the rubric was tested for ambiguities by four other respondents. The rubric was then modified based on their feedback, and then the rubric was used by 95 participants to evaluate the selected lesson plan.
Universal Design for Learning (UDL) has been gaining attention in recent years as educators strive to make the educational curriculum accessible to all. Often, educators have to accommodate students with special needs; UDL reduces the need for these accommodations by building them into everyday instruction. The use of UDL is a means of designing a curriculum that is more flexible, adapting to the needs of the students rather than forcing the students to adapt (Rose & Strangman, 2007).

The use of UDL is often associated with technology, although it is possible to implement UDL without much technology (Rose, Gravel, & Domings, 2010). While UDL has been gaining attention to improve inclusion, history educators have been paying attention to history curricula that teaches students how to think like historians (Ohio Council for the Social Studies). If social studies teachers implement these recommended curricula, but also need to include students with disabilities in their classrooms, UDL might be an important framework for their instruction. The question, though, is whether these curricula are actually designed with UDL principles or if that would require an adaptation to the published lessons by teachers.

**Recommended History Curricula**

The Stanford History Education Group (SHEG) has developed a curriculum that uses primary source documents to teach history (Stanford History Education Group). Rather than giving the students the answers to historical questions, the SHEG curriculum has the students seek out the answers through the interpretation of primary sources, teaching them how to think like a historian. Ohio’s New Learning Standards for the Social Studies and the ELA Common Core State Standards both “include expectations for students to analyze documents and compose historical narratives” (Ohio Council for the Social Studies). The curriculum developed by SHEG has students engage in these activities. However, there will still be students who need
differentiated instruction, which leaves teachers with a need to determine how to accommodate the needs of diverse students while accomplishing the goals of social studies teaching.

**Principles of UDL**

All students are different (Hall, Strangman, & Meyer, 2011), which is why teachers need to differentiate instruction so that it meets the needs of all students. UDL provides a means for teachers to accomplish this goal. Meo (2008) discusses that students are often divided into two categories, regular and special, which oversimplifies things. The traditional curriculum presents barriers to some students, leading to a need for a curriculum that is designed to overcome these barriers. Lee and Picanco (2013) hold that there are different phases of learning and that each student learns at their own rate. As such, some students are left behind in the traditional instructional setting. Differentiating instruction is a way to ensure that all students acquire the necessary skills, and UDL is one method for achieving this goal. According to Edyburn (2010), UDL stemmed from a concern to make it possible for students with disabilities to access the general curriculum. UDL is not accommodation, meaning that it is built into the instruction rather than added later based on the needs of each student. For a teaching practice to be UDL, it has to have these accommodations built into it. UDL is a set of principles for the development of a curriculum that is equally accessible to all students. Universally designed instruction includes multiple means of representation, multiple means of expression, and multiple means of engagement (Bouck, 2009). There is wide disagreement as to whether technology is required to meet these goals. Rose, Gravel, and Domings (2010) examined an elementary science lesson plan that does not use technology, concluding that it meets most of the goals of UDL and that UDL can thus be implemented in a low-tech manner as long as the lesson itself is well-planned. Brand, Favazza, and Dalton (2012) agree, holding that teachers should have ranges of acceptable
work that vary based on a student’s ability. Brand, Favazza, and Dalton (2012) also discuss the idea that modifications should be given to the students who require them, such as extended time on tests or an option to take the test orally.

On the other hand, Edyburn (2010) disagrees with the idea that UDL can be implemented without technology, holding that technology is an essential part of UDL. He holds that UDL is only possible today because of the introduction of modern technology that provides more flexibility (p. 38). While it is true that technology makes it easier to adapt the curriculum, there are other ways to incorporate UDL principles, as shown by the ideas presented by Brand, Favazza, and Dalton above. Rose (2000) holds that it is possible to implement UDL without technology, but would not be practical. Digital materials can have benefits for students, but not all digital media adheres to UDL principles as there are still barriers in some digital media.

Studies Examining UDL

The digital backpack, discussed by Basham, Meyer, and Perry, provides students with a variety of technologies to use in their education. The authors did a study involving the digital backpack, using their own design, thus making this a study in high-tech UDL. Their backpacks contained laptops with word processors and movie-editing software, technologies that could be switched for different learning experiences, and instructional support materials. The study found that using the digital backpack encouraged students to take charge of their learning.

The Virtual History Museum is a resource specifically designed for use with the social studies curriculum (Bouck, 2009). The teacher sets up “exhibits,” which include artifacts, text written by the teacher, and activities. The activities are available in both regular and supported formats, with such supports as speech-to-text and a “historian’s notebook” for note-taking. This resource gets the students engaged and interested in the material, as well as enabling the
implementation of UDL principles. The use of the Virtual History Museum is an example of low-tech UDL, as the Virtual History Museum could be the only electronic resource used.

Scruggs (2012) discussed a case in which peer-tutoring was used as a means to differentiate instruction. In this instance, students all used the same materials and methods, but they were able to spend more time on areas with which they had difficulty. The materials were also available to the students online so that they could access them at home. Those who did not have Internet at home were given hard copies of the material for home. The students who were engaged in peer tutoring acquired a better knowledge of both target material (what they were expected to learn) and nontarget material (additional information). This was a rather low-tech means of differentiating instruction, which benefitted all students.

In each of these studies, the use of UDL improved student engagement. The students took charge of their learning and seemed to learn more than students in classes that did not use UDL. While UDL is often associated with modern technology, it is possible, as seen from these studies, to implement UDL without the use of much technology at all.

**Purpose of this Study**

While UDL is something that is widely held to be a good idea, everyone seems to have different views on what really constitutes UDL. Using the literature review above, the goal of this project was to create a rubric for evaluating the degree to which published lessons, such as the Reading Like a Historian lessons published by the Stanford History Education Group, adhere to UDL principles and enable for differentiated instruction. This study will answer the following research questions: (1) Can students in an undergraduate course on inclusive education use a rubric to evaluate whether a published lesson adheres to principles of UDL? (2) Will students from different majors (e.g., Early Childhood, Intervention Specialist) evaluate a published lesson
differently? (3) How will students suggest changes to a published lesson plan and will these changes adhere to principles of UDL? And, (4) What benefits and obstacles do students see in implementing UDL?

Methods

Participants

Undergraduate students at Bowling Green State University enrolled in one section of EDIS 2310: Teaching Students with Exceptionalities participated in this study. Participants signed informed consent to participate in an evaluation of course content as part of a larger study; the evaluation of the Social Studies lesson through the lens of UDL was considered one assignment in this course. There were 104 students enrolled in the course. Of these, 95 students agreed to have data created through their instructional activities used in the study; these 95 students are the participants.

Participants all reported their major. Twenty-one participants reported that they were early childhood education majors, thirteen reported they were middle childhood education majors. Twenty-eight participants reported a major within the Adolescent/Young Adult (AYA) licensure areas: 13 were AYA math education majors, 8 were AYA integrated social studies education majors, 2 were AYA science majors, 5 were AYA English/Language Arts education majors. Within cross-age licensure areas, 18 participants reported they were intervention specialist majors, three reported were world language education majors, and one reported that she a business education major. Outside to teacher education programs, 11 participants reported they were communications disorders majors.

Materials

Rubric creation. The rubric was designed with the UDL principles of multiple means of
representation, multiple means for engagement, and multiple means for expression in mind (Brand, Favazza, & Dalton, 2012). After examining these three principles, each of which has multiple components, five categories were created. These categories were Activation of Background Knowledge, Presentation of Content, Assessment of Student Understanding, Student Autonomy, and Value. Figure 1 shows the final version of the rubric that participants used to evaluate the lesson plan.

Presenting information in only one way is not appropriate for all students, and the idea of UDL is that the material should be presented in multiple ways. Rose and Strangman (2007) discuss two advantages of multiple representations. The first is that access to information is improved when it is represented in multiple ways. The second is that a learning environment that presents information in a more flexible manner can provide the student with a chance to focus practice on specific skills on which he or she may need to work. With the idea of multiple means of representation in mind, I determined that the content of a lesson should be presented in visual, audio, and kinesthetic means in order to enable students to explore the content in the way that best suits their individual learning styles.

To provide multiple means of engagement, educators must make the content personally relevant to the students (Brand, Favazza, & Dalton, 2012). Connecting the lesson to students' prior knowledge is one way to do this. By using what students already know, educators can begin to make connections between the material and the students' lives, such as in the science lesson example presented by Brand, Favazza, and Dalton (2012). This idea is incorporated into the rubric through the activation of background knowledge. A lesson that is universally designed should link the information presented in the lesson to the students' previous knowledge.

Providing students with greater autonomy in their learning has been shown to improve
student engagement, thus making it an important part of a universally designed lesson (Katz, 2013). Allowing students to choose such things as the perceived level of challenge in their work gives them greater autonomy. Hall, Strangman, and Meyer (2011) feel that it is necessary for students to have some choices in what they are learning, providing the students with a degree of autonomy. In considering this, I added a criteria to the rubric that holds that students should have a say in certain aspects of their education within each lesson, such as the perceived level of challenge, the content used for practicing skills, and the tools used to gather information.

Providing a range of acceptable products for an assignment allows students to present their understanding of the content in whatever way is the best for them. According to Brand, Favazza, and Dalton (2012), each of these different products would have similar standards and learning goals, but the different formats of the assignments would allow for more flexible assessment. When it comes to tests, these should also be flexible. Rose and Strangman (2007) hold that assessments should be provided in multiple formats so that they recognize the diverse capabilities of every student. The rubric considers this factor by holding that a lesson should provide multiple means of assessment and granting students a variety of choices for each.

**Social studies lesson.** The lesson plan chosen for the study was on the Salem Witch Trials. This lesson was arbitrarily chosen. It includes a summary of the Salem Witch Trials, as well as four pieces of “evidence.” One was a speech given by Cotten Mather, arguing that witchcraft exists. Another was the testimony of one of the accused. The third was a graph showing the average size of family farms in Salem from 1649 to 1700. The last piece was a map of Salem Village and Salem Town. Two graphic organizers were included for the students to fill out their observations about these four pieces of evidence, and another page was included that asked students to write a paragraph about what caused the Salem Witch Trials of 1692.
Rubric pilot. Before conducting the study, I conducted a pilot to test the rubric for ambiguities, obtaining feedback from four individuals aware of UDL principles. One was an undergraduate Adolescent/Young Adult (AYA) integrated social studies major, the other three were graduate students majoring in special education. Each of the respondents were given the same lesson and an early draft of the rubric. For the most part, their evaluation of the lesson was the same. Two gave it two points for the Activation of Background knowledge, with the other two giving it a one. Three gave it one point for the Presentation of Content, while one gave it no points for that category. Three gave it one point for the Assessment of Student Understanding, with the last one giving it no points in this category. All four gave it one point in the Student Autonomy category and no points in the Value category. The respondents felt that the indicators for each needed to define the differences more clearly. Three felt that “student autonomy” was ambiguous and needed to be defined better. In response to this feedback, I clarified the indicators, adding a numerical requirement for each, and reworded the indicators for Student Autonomy. Additionally, open-ended questions were added to the rubric. The first asked the participants how they would change the lesson plan so that it better aligns with the standards of UDL. The second asked them what they thought the benefits of UDL could be in their anticipated professional setting. The third asked them what obstacles or problems they saw with UDL in their anticipated professional setting.

Procedures

Prior to evaluating the lesson plan, participants were presented with information on UDL through a webinar created by the Ohio Center for Autism and Low Incidence Disabilities
UDL AND SOCIAL STUDIES

(OCALI). The webinar is titled “Reach and Teach All Students: Universal Design for Learning and Assistive Technology” (OCALI, 2014). After viewing the webinar that described the three principles of UDL and offered support for their use in inclusive classrooms, participants were asked to evaluate the Salem Witch Trials lesson plan from the Stanford History Education Group's Reading Like a Historian. The evaluation was completed electronically through the Canvas site (i.e., the course management system provided by BGSU). Participants selected responses on the rubric and typed in responses to the open-ended questions.

Analysis

To analyze whether participants' rated the lesson consistently, I calculated the mean scores given to the lesson plan itself and the mean scores given in each different component. Additionally, I examined whether participant majors and calculated the average score that each different major assigned to the lesson plan. The open-ended questions were searched for trends.

Results

Undergraduate evaluations. The mean score given to the lesson plan was 5.23 out of ten, with two participants giving the lesson a perfect score and two giving it no points whatsoever. The mean scores for the individual components were as follows: for Activation of Background Knowledge, the mean score was 1.38 out of two; for Presentation of Content, the mean score was 0.98 out of two; for Assessment of Student Understanding, the mean score was 1.02 out of two; for Student Autonomy, the mean score was 1.04 out of two; and for Value, the mean score was 0.81 out of two. The lowest mean score was that of the Value component, which had a mean score of 0.81.

Variations among majors. The AYA Science Education majors and Intervention Specialist majors gave higher scores on average than most others, with a mean score of six given
by Intervention Specialist majors and a mean of 6.5 by AYA Science Education majors. However, there were only two AYA Science Education majors involved in the study, so this is far from representative. The lowest scores on average were given by Early Childhood Education majors and Middle Childhood Education majors, with Early Childhood Education majors giving a mean score of 4.57 and Middle Childhood an average of 4.92. The two scores of zero, as well as one of the perfect scores, were given out by Early Childhood Education majors. AYA Social Studies Education majors gave the lesson an average score of 5.37.

**Suggested modifications.** The majority of the answers to the first question, how the participants would modify the lesson plan so that it better aligns with the principles of UDL, involved the addition of more different kinds of assessments and different ways of presenting the information. Several of the respondents suggested that one of the texts be replaced with a video or that the texts be read by an audio recording while the students follow along. One participant suggested that the students be given the option of giving an oral presentation as one of the assessments rather than simply completing written assignments. Several participants also mentioned the lack of value, stating that the lesson plan never gave the students any reason why they should care about the material presented in the lesson.

**Benefits and obstacles in implementing UDL.** For the second open-ended question in the evaluation, how they thought UDL would be beneficial in their anticipated professional setting, many of the participants said that they could use UDL to meet the needs of diverse students in their classrooms. Those who were not planning to be teachers still said that UDL could be used to meet the diverse needs of their clients.

In regards to the third open-ended question in the evaluation, possible obstacles or problems that they could see with UDL in their anticipated professional setting, many of the
participants stated that it would be difficult to implement. A few stated that it would be difficult to differentiate the instruction so that it met the needs of every one of their students. Several others stated that it would take a great deal more time to plan a lesson if they had to come up with separate assessments, and one felt that universally designed lessons would take more time to complete than traditional lessons, thus requiring two or more class periods to completely cover information that could be covered in a day using other methods.

**Discussion**

Using the literature discussed above, this study sought to create a rubric to evaluate published lessons on the degree to which they adhere to the principles of UDL. This study sought to determine whether undergraduate students could evaluate a published lesson on its adherence to UDL, discover whether students from different majors would evaluate these lessons differently, determine what modifications students would make to these lessons and whether these modifications adhere to UDL, and identify the benefits and obstacles that students could see in implementing UDL.

**Able to evaluate.** The results of the study show that undergraduate students can evaluate a lesson based on its adherence to the principles of UDL. While some of the respondents gave higher scores to the lesson that it likely deserved; for example, in its establishment of value for the students; the majority seemed to understand the principles of UDL and evaluated the rubric accordingly. Most of the scores fell within one point of the mean, showing that the students were capable of evaluating the lesson. The lesson had no kind of assessment other than written assignments, presented the content only on paper for the students to read, and gave the students little to no autonomy. There was a connection to students' previous knowledge, but there was no real establishment of value: the students were never told why they should learn the content.
**Differences among majors.** On average, students from different majors evaluated the lesson plan differently. Intervention Specialist majors, on average, gave a higher score to the lesson than Early Childhood Education majors, who gave the lowest scores on average, while AYA Social Studies Education majors gave an average score relatively close to the mean. Intervention Specialist majors gave the lesson an average of six points, while Early Childhood Education majors gave it an average of 4.57. It is possible that this difference is due to the differences in the curriculum of Early Childhood Education majors as compared to Intervention Specialist majors. Intervention Specialist majors would receive more training in differentiated instruction and UDL than Early Childhood Education majors, thus leading to a difference in how well students of each major understand the concepts.

**Suggestions and UDL.** The changes suggested by the participants were modifications that would add more means of assessment and more means of representation for the content, both of which are suggestions that adhere to the principles of UDL. There were suggestions for adding more visuals, such as replacing one of the texts in the lesson with a video about the Salem Witch Trials. Bouck (2009) states that multiple means of expression and multiple means of representation are principles of UDL, and these suggestions would provide for these two principles.

**Benefits and obstacles.** The participants all agreed that UDL would enable them to meet the needs of diverse people in their anticipated professional setting. They felt that using UDL in their careers would benefit their students or their clients, depending on their anticipated professional setting. Edyburn (2010) states that UDL came about as a way to help students with disabilities access the general curriculum; therefore, it allows for the needs of a diverse group of students to be met without the need to alter or rearrange the curriculum. The main obstacles they
saw in implementing UDL were that it would take more time to plan a lesson if they had to design it so that it adhered to UDL principles and that it would be difficult to design instruction that would meet the needs of all students. While planning a lesson may possibly take more time if the lesson adheres to the principles of UDL, it may also result in the students getting more engaged and retaining more of the content, as seen in Scruggs (2012) study involving peer-tutoring.

**Unexpected results.** While some of the participants gave higher scores to the lesson than I had anticipated, the majority of the scores were what I had expected. The scores for Value were the lowest of all on average, and the lesson plan does not really provide the students with any reason why they should learn the material presented.

It surprised me that Intervention Specialist majors gave such high scores to the lesson plan on average while Early Childhood Education majors gave lower scores on average. I had expected that, if anything, that would have been reversed, with the lower scores being given by Intervention Specialist majors.

**Conclusion**

Overall, the scores given to the lesson were consistent, showing the reliability of the rubric. The participants mostly felt that the lesson did not adhere to the principles of UDL, and the scores they gave to each of the categories were also fairly consistent, with the exception of a few outliers. The rubric used in this study could be used by social studies educators and special educators to create or adjust lesson plans that meet the principles of UDL and thus meet the needs of all learners.
References


OCALI (2014). *Reach and teach all students: Universal design for learning and assistive*


Figure 1. *Rubric based on principles of UDL used to evaluate the social studies lesson.*

<table>
<thead>
<tr>
<th></th>
<th>2 Points</th>
<th>1 Point</th>
<th>0 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activation of Background Knowledge</td>
<td>The lesson links the information to students’ previous knowledge, providing the necessary background knowledge when necessary, and may even include cross-curricular connections, (i.e., language arts and social studies).</td>
<td>The lesson mentions topics the students have learned about previously, but does not provide clear connections between the new knowledge and the old.</td>
<td>The lesson does not link the new information with the previous knowledge.</td>
</tr>
<tr>
<td>Presentation of Content</td>
<td>The lesson presents the content in visual, audio, and kinesthetic (hands-on) means, allowing students to explore the content in multiple ways.</td>
<td>The lesson presents the content in at least two different manners, allowing for some flexibility in acquiring the information.</td>
<td>The lesson presents the content in only one format.</td>
</tr>
<tr>
<td>Assessment of Student Understanding</td>
<td>The lesson provides different means of assessment of student understanding, allowing the students to choose from a variety of options (three or more) for each assignment.</td>
<td>The lesson provides different means of assessment of student understanding but offers only one option for each assignment.</td>
<td>The lesson does not provide for different means of assessment.</td>
</tr>
<tr>
<td>Student Autonomy</td>
<td>The lesson allows for student autonomy in determining such things as the content used for practicing and assessing skills and the tools that they will use by providing two or more options for students to choose from in each assessment.</td>
<td>The lesson allows for some degree of student autonomy but has some requirements that are inflexible.</td>
<td>The lesson does not allow for any degree of student autonomy.</td>
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