Universal Design for Learning and Gifted Students in the 21st Century Classroom

By Jackie Cholach

Abstract

This study examined the ways and extent to which the use of Universal Design for Learning (UDL) strategies impacted the learning of gifted students in a middle school classroom. Over the course of one term, UDL practices were employed in a Humanities grade 8 classroom, with a particular focus on the Renaissance unit in social studies. It was anticipated that the implementation of UDL teaching strategies, and the creation and completion of UDL projects by all students, would allow the five gifted students involved in the study to demonstrate an increase in learning. Student grades, in-depth student reflections and self-assessment, and evidentiary support written by students on their clear target tracking sheets comprised the data used in this study. The results showed that, when gifted students were exposed consistently to UDL strategies consistently and were given the opportunity to practice (to complete more than one UDL activity), those students demonstrated growth in learning on several different measures.

Introduction

The following question guided this action research project: *In what ways and to what extent does using Universal Design for Learning strategies increase the learning of gifted students in the 21st century classroom?*

The study took place at Mitford Middle School in Cochrane, Alberta. As part of the school's AISI project, teachers at Mitford Middle School in Rocky View School Division work collaboratively in their use of UDL strategies.

This small study was designed to increase connections between teachers' required school-based professional development and individual teacher growth plans. Although it was anticipated that UDL strategies would effectively increase the learning of all students, regardless of ability, this report focuses on a sample of five gifted students in a 7/8 split Humanities class. One teacher goals was to demonstrate that, when exposed to Universal Design for Learning strategies, gifted students would meet curricular objectives and would exceed expectations by pursuing enrichment opportunities. The teacher theorized that the application of UDL strategies would:

- Help "highly able" students to become more engaged in classroom work
- Increase their learning in humanities, and
- Motivate them to become independent, inquiry-focused learners with a developing passion for life-long learning.

Why Universal Design for Learning?

Universal Design for Learning (UDL), when applied appropriately, has the potential to positively affect the learning of all students. As Erlandson (2002) notes, "Truly every student, from the gifted to the at-risk to the one with physical and cognitive disabilities, benefits from UDL" (p. 2). UDL focuses on developing curriculum that responds to various pedagogical contexts that arise in today's diverse classrooms by "uploading flexibility into the curriculum rather than waiting for students to falter [before putting] strategies in place to remediate" (Edyburn, 2003, p. 2). UDL complements differentiation. According to DeCoste (2004), by anticipating the needs of diverse learners, "UDL is primarily concerned with learning content, learning process, learning products and the learning environment" (p. 2). DeCoste argues UDL is an extension of differentiation because it "places a greater emphasis on using the technology" (p. 8) readily available in today's 21st century classroom.

Pisha and Meyer (1998, as cited in Pisha & Coyne, 2001) contend that Universal Design for Learning attends to the needs of all the learners. They propose that the teacher should "design curricula, materials, methods, and environments that support and challenge each learner as appropriately and consistently as possible" (p. 198). Pisha and Coyne (2001) explain that UDL allows for a new range of technological tools to be used to increase engagement, student access of curriculum and demonstration of learning, enabling educators to "develop a new generation of flexible curricula and materials that accommodate each student's idiosyncratic pattern of strengths, weaknesses, styles, interests, and background knowledge" (p. 199). Examples of strategies incorporating UDL into the classroom, suggested by Rose & Meyer (2002), include:

(a) Start with manageable curriculum units,
(b) Identify the goals of the unit,
(c) Identify what students need to do to show mastery,
(d) Determine what the instructional barriers are for specific students,
(e) Determine what tools would help this, and
(f) Determine how goals, methods and assessments can be adjusted. (p. 201)

Much of the focus on Universal Design for Learning is centered on using these strategies to benefit students who encounter adversities in learning environments. But how do such strategies affect those mid- and high-ability students?

When classroom practices are changed to incorporate UDL strategies, mid- and high-ability learners can struggle because they have not yet been challenged nor have they had difficulty attaining decent grades, and it can take time for those students to challenge themselves to develop a work ethic that truly demonstrates their ability (Tomlinson, 2001). Tomlinson advises that "learning to face challenges earlier gives these students more time to develop the planning, self-evaluation, and study skills they need to maximize their potential as learners" (p. 94). Delisle and Berger (1990) claim:

Providing an early and appropriate educational environment can stimulate an early love for learning. A young, curious student may easily become "turned off" if the educational environment is not stimulating; class placement and teaching approaches are inappropriate; the child experiences ineffective teachers; or assignments are consistently too difficult or too easy. (p. 3)

It would seem, then, that the implementation of UDL strategies should allow gifted students to focus their learning according to their interests and learning styles, alleviating many of the concerns mentioned above.

Baseline Data: Student Exposure to UDL Strategies in Previous Years

At the onset of this study, students were given a questionnaire to assess their level of familiarity with and exposure to Universal Design for Learning strategies (Appendix B). For the purposes of this study, the results from the five grade 8 gifted students in my Humanities 7/8 split class are reported here.

Student Progress Reports from Previous Years

All five gifted students in my Humanities class had previous Humanities marks ranging from B- to A+, as documented in past progress reports from grades 5 to 8. As well, their grade 6 achievement scores for language arts (reading and writing sections) and social studies (both knowledge and skills) were considerably above average. All the students involved in the study had consistently high marks in Humanities throughout grades 5-7. These high marks presented a challenge: how to track improvement in learning based on grades alone. Accordingly, in addition to marks, students' personal reflections, and the teacher's own anecdotal comments were analyzed over time. Finally, students had their own Clear Target Tracking Sheet, which was filled out once before the unit was started, once mid-way through the unit, and once when the unit was completed.

General Reflections on Student Baseline Data

A preliminary review of the baseline data survey (Appendix B) revealed that students had some experience using technology to complete projects, but they did not know how these projects fitted into the curriculum or why they were expected to complete them. Universal Design for Learning focuses on differentiating for students in three areas: representation, expression, and engagement. While these students had obviously been exposed to a few projects that allowed an increase in individual expression and engagement, there was a definite lack of accommodation to increase the students' options for acquisition of the required information or varied expression of understanding.

The Renaissance Unit Plan created for this study adhered closely to the nine Universal Design for Learning Guidelines, as detailed by CAST (2008), providing options for:

1. perception
2. language and symbols
3. comprehension
4. physical action
5. expressive skills and fluency
6. executive functions
7. recruiting interest
8. sustaining effort and persistence
9. self-regulation

These accommodations were integrated into the unit plan and separated into three areas of focus - representation, expression and engagement. UDL teaching strategies were incorporated into the teacher's everyday classroom practice. The teacher also constructed four UDL-style projects to give students varied opportunities to demonstrate their understanding of the curricular content taught throughout the unit. These projects focused on increasing student engagement, developing critical thinking skills, and understanding of curriculum outcomes through student choice, use of technology, and student involvement in the assessment process. In the construction of these projects, students participated in the creation of the rubrics used as assessment tools. This exercise was guided; the teacher was able to collaborate with students to create an authentic assessment tool all felt was fair and that assessed the curricular outcomes.

Results

At the conclusion of the unit, students revisited their clear target tracking sheets for a final time and completed the third "Looking Back" column (Appendix A). All the gifted students had colored in the lights green for all the clear targets, with one exception. The students had difficulty mastering the last clear target 8.2.4.G: *Provide examples of how exploration and intercultural contact affected the citizenship and identity of Europeans.* Although students had demonstrated their knowledge of this clear target in their projects, they had difficulty describing this clear target in succinct language. Three of five gifted students colored this target yellow and did not write anything under the *Evidence* section. The following chart illustrates the growth each student demonstrated throughout the unit based on project percentage grades.
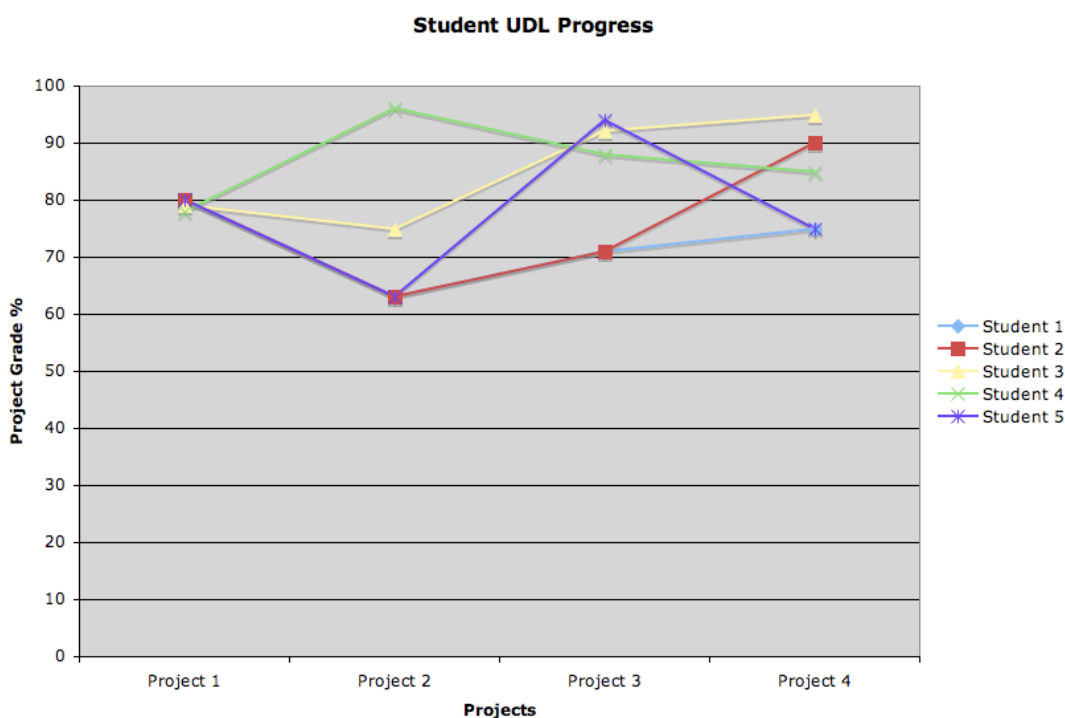
Based on the chart alone, it seemed that students had demonstrated only minimal growth in their learning. However, they were all able to show great depth of knowledge and skill

development in the projects they completed throughout the term. With practice and guidance, students were able to met high expectations for growth in their learning as reflected in their project grades, reflections, and self-assessments. Consistent use of Universal Design for Learning strategies eventually produced strong results. All five gifted students involved in this study were engaged in the curriculum and demonstrated an increase in learning of the clear targets through a variety of representational means. Moreover, they expressed their learning in creative ways that demonstrated the personal strengths and talents of each student.

An unanticipated outcome of this study was that non-coded and Learning Disabled students in both Humanities classes made at least as much progress in their learning as gifted students (as demonstrated in their understanding of curricular targets in their projects and an increase in grades on UDL projects). To the teacher, this progress confirmed that Universal Design for Learning strategies are effective for all students. In this case, the application of UDL strategies allowed the teacher to accommodate and create success for students with different backgrounds, learning styles, abilities and disabilities (Rose & Meyer, 2002).
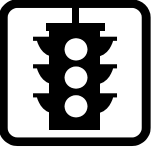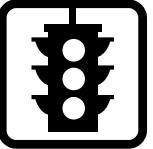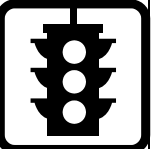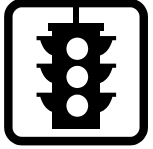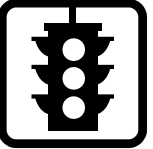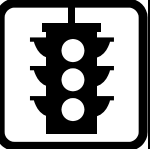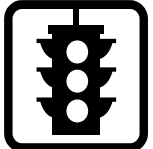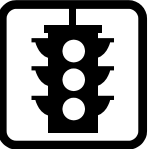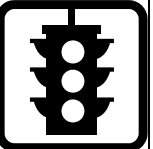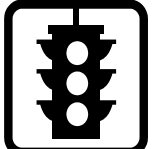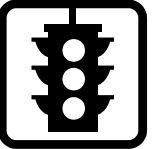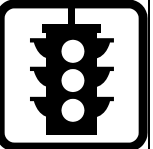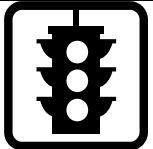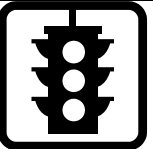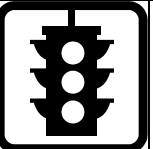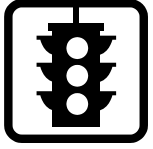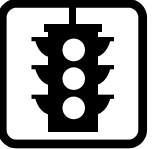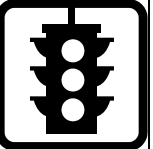
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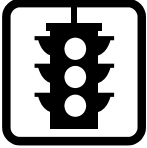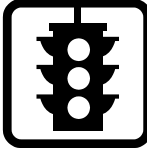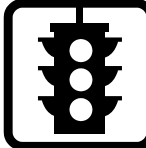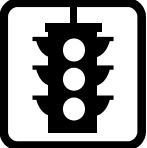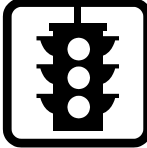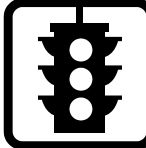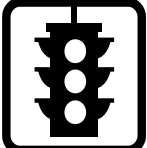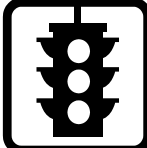
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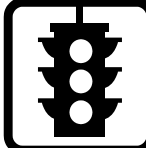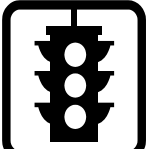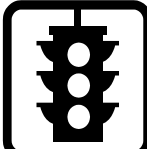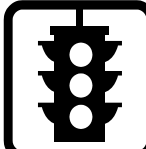
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Appendix A
Unit 1: The Renaissance Origins of the Western Worldview
Clear Targets Tracking Sheet

Name:

Color in the traffic light red if you do not understand the target, yellow if you understand the target but can't explain it, and green if you understand and can explain the target. If you color in the traffic light green, you must provide written evidence of your understanding.

Clear Target	Background Knowledge	Checking In	Looking Back	Evidence
8.2.1: Demonstrate how the worldview of Renaissance Europe has affected the Western worldview.	🚦	🚦	🚦	
8.2.2: Recognize that different people have different beliefs, values and worldviews.	🚦	🚦	🚦	
8.2.3: Understand that beliefs and values are affected by time, geographic location and society.	🚦	🚦	🚦	
8.2.4A: Define the Renaissance.	🚦	🚦	🚦	
8.2.4B: Describe how the Renaissance sparked the growth and exchange of ideas across Europe in the areas of Astronomy, Math, Science, Politics, Religion, and Art.	🚦	🚦	🚦	
8.2.4C: Describe how the geography of Renaissance Europe affected trade and competition among European countries.	🚦	🚦	🚦	

Clear Target	Background Knowledge	Checking In	Looking Back	Evidence
8.2.4D: Explain how increased trade led to the rise of powerful city-states, such as Florence and Venice.				
8.2.4E: Explain how thinkers and philosophers contributed to the humanist worldview during the Renaissance.				
8.2.4F: Define the Age of Discovery and explain how it led to the expansionist worldview.				
8.2.4G: Provide examples of how exploration and intercultural contact affected the citizenship and identity of Europeans.				

Appendix B

Name: _____

Student Reflection on UDL project

Describe the assignment – what did you do?

What technology was available to you? What did you use?

Did you feel engaged while working on this project? Explain.

How did this project improve your understanding of the content of this course?

What curricular objectives (clear targets) did you meet through the completion of your UDL project?

How did you meet these objectives in your project?

Do you feel a project like this was more beneficial or less beneficial in increasing your learning on this topic than a paper-pencil task? Please explain.

What mark would you give yourself on this project (a letter grade please)? Why do you feel you deserve this mark?

Would you like to do a project like this again? Why or why not?

If you were to do a project like this again, what would you do differently?