

DESIGN for All

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Abstract

“All students can learn and succeed, but not on the same day in the same way.” William G Spady.

We begin this session knowing that all students are able to learn and make progress toward meeting the Academic Standards for the grade in which they are enrolled. We will examine the process of dissecting the standards to create a lesson plan that encompasses all learners, including those with significant disabilities. Whether by high tech, low tech or no tech, all students can participate and thrive in the UDL classroom. Good DESIGN is the key.

Keywords

Access to Curriculum, Inclusion, Core Connectors

INTRODUCTION

All students must have access to an effective curriculum. Ideally, this includes access to the same curriculum. It is generally agreed that students need specialized learning for maximal individual growth. It is also agreed that learning expectations must be high for all stakeholders. Learning is ultimately measured as having skills in the ability to communicate, both verbally and in text; academic proficiency; life and personal management skills; social awareness; and can care for themselves physically and emotionally. In reality, given the diversity of learners, teachers, and staff, we are challenged to universally design the educational environment, teacher preparation, and curriculum that expects and produces expert learners. In the public school arena, much of this learning is guided by education standards. These standards provide a framework around which the educator designs curriculum to effectively allow their diverse population to explore, internalize, predict, question, practice and communicate their way to learning at their pace and in their preferred way with their peers. Creating an atmosphere where this occurs requires educators to: **D**issect the standards, **E**nvision the goal, be **S**tudent driven, **I**ncorporate appropriate supports, look for **G**ain, and **N**oodle around with the finished product. In short, a good lesson plan is requires DESIGN.

BACKGROUND

The PATINS Project, was initially a five year grant project conceived in 1995 in response to IDEA Part B as a statewide system to offer Assistive Technology (AT), Training, and a Lending Library for teachers. Now in its twenty-first year, the PATINS Project is a statewide technical assistance network that connects local education agencies (LEAs) to Accessible Materials, AT, and corresponding professional development and technical support

through the Indiana Dept. of Education and Dept. of Administration.

PATINS works with public educators in the state of Indiana to help ensure that ALL students can access, participate, and progress within the curriculum. PATINS has been instrumental in bringing the tenets of Universal Design for Learning to Indiana public education. All PATINS Specialists are experienced practitioners and presenters on the topics of Universal Design for Learning (UDL), Assistive Technology (AT), and Accessible Educational Materials (AEM). There are currently 1,133,380 students enrolled in Indiana public schools. 164,706 (14.6%) of those students are identified as receiving special education. Decentralizing Special Education and building local capacity to reach more students is the challenge and UDL is designed for this. November 2015’s Dear Colleague letter from OSERS in advance of the adoption of ESSA sets the stage for building this capacity for UDL in public schools in Indiana.

“November 2015

Dear Colleague:

Ensuring that all children, including children with disabilities, are held to rigorous academic standards and high expectations is a shared responsibility for all of us.

To help make certain that children with disabilities are held to high expectations and have meaningful access to a State’s academic content standards, we write to clarify that an individualized education program (IEP) for an eligible child with a disability under the Individuals with Disabilities Education Act (IDEA) must be aligned with the State’s academic content standards for the grade in which the child is enrolled. Research has demonstrated that children with disabilities who struggle in reading and mathematics can successfully learn grade-level content and make significant academic progress when appropriate instruction, services, and supports are provided. Conversely, low expectations can lead to children with disabilities receiving less challenging instruction that reflects below grade-level content standards, and thereby not learning what they need to succeed at the grade in which they are enrolled.” Excerpt

DESIGNING THE PLAN

With the key elements of the Dear Colleague Letter - November 2015 in place in ESSA, we are now poised to reach more students through UDL. For this session, we plan to explore how this can be done using rigorous standards with

core connectors for the grade in which students are enrolled. In this manner, all students have access to the same curriculum. We will:

Dissect complex educational standards to find goals that can be met by a range of students. Example: Indiana Science Standard

Brainstorm ways to use traditional assistive technology in non-traditional ways to both assist and model for other students.

Discuss the need to "Noodle Around" with a lesson until it works.

D.E.S.I.G.N.

This presentation will take the acronym DESIGN and apply it to a specific secondary level science standard to create an all-inclusive STEM lesson. The acronym DESIGN provides a framework, which encompasses the skills of:

D - Dissect the Standard:

By breaking down a standard into its smallest skills, the educator will find goals that fit all students from the most significant disabilities to the greatest gifts.

E - Envision the Goal:

Start with the end in mind. Don't get caught up in the methods and presentation and end up somewhere else. Know your target.

S - Student Driven:

Go deep into the guidelines. Think about the "Why, What and How" of UDL based learning.

I - Incorporate appropriate supports:

Are the materials accessible? Is assistive technology needed? To what level of support? How can students who don't "need" the technology use it in beneficial ways?

G - Gain:

How will what we do today link to tomorrow's goals?

N - Noodle Around:

Explore the joy of refining an activity. Take the time to look for barriers. Be negative, what will go wrong? Reflect, what went well. How could it be better?

THE STANDARD:

Indiana 9th grade Earth Science Standard 6.6 (**ES.6.6**) Create models and differentiate between shield, composite, and cinder cone volcanoes. Explain how volcanoes form, how the chemical composition of lava affects the type of volcanoes formed, and how the location (such as hot spots or along continental or oceanic margins) can affect the types of magma present.

Dissect the standard-

What are the smaller skills that make up this standard? In Indiana we call these the core connectors. These are the pieces of knowledge that required to master this standard.

For example; the chemical composition of lava affects the type of volcano formed and thus the intensity of the eruption due to its viscosity. Many different levels of investigations can revolve around the viscosity of a substance and

how it behaves from calculating the change in viscosity based on temperature to having oil, molasses, and water in separate squirt containers to investigate. All students should be able to investigate this concept and begin to relate it back to how volcanoes are formed and how that influences another that creates the difference in their shapes and eruptions.

Envision the goal -

Always keep in mind where your activity is going. In this example, it would be easy to overshoot the goal. Our goal is simply to understand the vocabulary word, viscosity.

The rest of the standard will be addressed in good time. For now we just want all students to have an idea of what it means for one liquid to be more viscous than another.

Student driven -

Go deep into the guidelines. Think about the "Why, What and How" of UDL based learning to create expert learners.

How can you engage the student? Can you make this standard relevant to the student? For our standard, we start with a quote from National Geographic Kids that states, "350 million or one in 20 people live within 'danger range' of an active volcano." We create a way to assess their understanding of the different types of volcanoes and their features by asking them to envision themselves living on a small island with a volcano. What kind would it be? What kind of house would you want? Etc. (see Google docs <https://goo.gl/VVRXhs> and <https://goo.gl/oQAkkl>) For some students this activity may be heavily scaffolded to help with time management, for others it may be a multimedia presentation. Some may be working with a content connector of differentiating between different types of volcanoes and using a switch activated selection device to choose vocabulary to match to the appropriate parts of the types of volcanoes. Create options to connect students to the why, what and how of learning in order to empower our students to be the engaged, resourceful, strategic and goal-oriented learners they can all be.

Incorporate appropriate supports -

Are the materials accessible? Is assistive technology needed? To what level of support? How can students who don't "need" the technology use it in beneficial ways? While we often argue in education that it is not about the technology it is about the pedagogy, Sharon LePage Plante makes the point that for some of our students it is about the technology. Given the range of diversity in the classroom, we should see a continuing Mobius strip of materials and technology to access and a range of ways to access those materials and technology.

Gain

How will what we do today link to tomorrow's goals? One of the biggest determiners of a student's future success a topic is the ability of an educator to link prior knowledge to new information. While designing activities keep in mind where you are going. Begin to build knowledge for future topics where you can. Know your standards and begin to link them to future topics. You may be studying volcanoes

now, but plate tectonics and the formation of the Earth and Moon are just around the corner. What can you do today to give your students an “aha” moment when some of the same processes crop up in a different topic?

Noodle around

This is the fun part we often do not get to. Reflection, refinement, reassessment, how do we build on what was done today? What strategies did we think of along the way to try next time or for a different student? This only enhances the future experience of students as they gain skills and confidence in their learning partnership with the teacher.

THE SESSION

This session will be presented as a guided discussion with examples and attendee participation.

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