

The Recipe for a Well-Rounded Teacher

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What defines success for a teacher? It can be difficult to objectively grade a teacher on what makes them successful and what they need to work on. While every individual is different, there is a lot of research and evidence to show specific ways to help anyone become a well-rounded and productive teacher. The areas that can be helpful to focus on include: understanding your students, goals standards and objectives, unit and lesson planning, technology integration, questioning strategies, strategies for indirect and direct instruction, and assessment of learners (Borich, 2017). There are many variables and areas to consider when it comes to being an effective teacher. In our text “Effective Teaching Methods Research-based Practice,” there are several sections that help outline some of the most important areas of effective teaching. Each section has aspects I plan to incorporate into my classroom.

Understanding your students is critical in being an effective teacher. There is so much diversity and potential among students, and as teachers we need to find the best ways to form each individual. I must be able to understand the background my students come from and know what ways will be helpful in nurturing their abilities. There are a variety of ways I will incorporate this aspect of teaching into my classroom, but one specific way will be through an introductory activity at the very beginning of class (see appendix A). The most important use of this activity will be for me to take those answers and to expand on them. They are very brief and surface level, but there is still good information to gain from the students answers. Knowing how students learn best and their intentions for the class will be a great place to start when deciding how to motivate them to learn. I want to make sure that I get to know my students well enough and understand who they are, so I can establish a trusting and safe classroom for them to learn and feel supported.

Teaching is important and done with purpose. Just like anything done with purpose, there are goals, standards, and objectives that must be met in order to document progress and orient the direction of the work. Teaching standards set foundations for teachers all across the country and give them a concept to assist in further developing objectives and goals for a particular grade and unit. It is important to have some consistency in education, because we don't simply want any school being able to teach whatever they want, while another school in the area is teaching completely different concepts. Setting standards avoids that problem and also helps teachers know where to begin with a lesson. I will be using these standards in my lesson plans, and creating objectives from them (see appendix B). I want to make sure each class I know what my goal is for that day. Even if I only have one goal, I can be evaluating my students based on that one goal for the day. It will help me avoid the issue of teaching something without knowing what they students should be getting out of it. These goals and objectives will tie into the importance of units and lesson planning. Lesson plans are a great way to outline how a class is projected to go, and they also takes into consideration student differentiation, state standards, time-management, and a possible back up plan that may be necessary. The key concept to planning lesson is to make sure they are different and use a variety of teaching instruction.

Direct and indirect instruction are two common methods of teaching to use in a lesson plan. Direct instruction is helpful when establishing the information for the foundation such as vocab, definitions, content knowledge, or key concepts. Indirect instruction can be useful for expanding on this knowledge and encouraging exploration and questioning. I want to incorporate more indirect instruction into my lesson plans and only use direct instruction when it is necessary, because student often learn better when they are given opportunities

to explore and ask questions. I have examples of the same lesson, one direct instruction and one indirect instruction, to show the difference in the two methods (see appendix C). I mentioned before how indirect instruction can also include questioning. There are a variety of questioning techniques that can get students to really think critically in the classroom. The various levels of questioning are: Knowledge, Comprehension, Analysis, Synthesis, Evaluate (Borich, 2017). I will look at each lesson and decide how deep I want my students to get that day to figure out the best types of questions to ask. I have an example of how I would ask a question at each of those levels (see appendix D). Questioning a great way to spark student interest and will be something that plays a big part in my classroom.

Technology is an important part of education today. Students have access to a variety of technology that can be very helpful to learning if use correctly. As an educator, I must take advantage of the opportunities students can have when they are given technology to use. I want to use technology in my classroom in helpful ways that do not distract students from the learning goals. Some ways I can use technology are for research into recent studies, virtual dissections of plants and animals, review websites, presentations, drawing apps, and also to help save on the use of paper in the classroom. This can be another great way to use some indirect instruction and allow students to explore ideas on their own.

As a teacher it is necessary to provide evidence of student assessment. There are two types of assessments: formative assessments and summative assessments. Formative assessments would be things like exit slips, periodic questioning, and end of class review assignments. The purpose of these assessments is check up on the students' progress throughout the unit. The summative assessments are final projects, end of unit tests, or

final papers. These are meant as an overall assessment of everything learned in the unit. These are a necessity for me as a teacher and I plan on incorporating a variety of formative and summative assessment methods including exit slips, questions, unit exams, final projects, presentations, and bell work. My exams will have a variety of knowledge level questions as well as some critical thinking questions (see appendix E). A way to have some differentiation with testing would be a performance assessment. I will work to include those as well, because they show a great deal more about what the student truly learned, because they are not simply answering knowledge questions on a page, but putting together a physical presentation or performance to show their understanding.

There is quite a bit to think about as a teacher, but every bit is important. I want to make a difference in the lives of my students, and I believe all of these methods will help me become the very best I can be. I see my classroom as an extremely fun and warming environment for my students. Since it will be a science classroom I want to have pictures of cool animals and plants on my walls. I would also like to have physical plants, fish tank, and fun animal artifacts for my students to look at. My desk arrangement would be groups of 3 or 4 students. This would allow them to collaborate with each other when I give time to turn and talk with each other about questions. A white board would be up with an agenda on it to show the students what will be going on that day. I would also like to have the daily objective up, to not only remind the students, but to remind myself of what I want to accomplish each day. Overall I hope to make my students feel safe and encouraged in the environment they learn in.

Literature Cited

Borich, G. D. (2017). *Effective teaching methods research-based practice* (9th ed.). Pearson Publishing, London, UK.

Appendix A
Introductory “Get to Know You” Activity

- Have my students take a notecard at the beginning of class
- On the note card I will have them write:
 - o Name and grade
 - o Favorite subject and why
 - o How they like to learn
 - o Why they are in this class
 - o Favorite food
- Here is an example of a card:

Name: Anne Rowles

Anatomy and physiology – I enjoy science and learning about how my body works

I learn best by hearing the information first and then seeing it afterwards

I am taking physics because it is required for my degree

My favorite food is Mexican food!

- I would show this example card to my students before hand in order to give them an example of what I am expecting

Appendix B

Section of Lesson Plan Containing State Standard and Teacher Objectives

<p>Standard(s)</p> <p>MS-LS4-2</p> <p>Apply scientific Ideas to construct and explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships</p>
<p>Objective(s)</p> <ul style="list-style-type: none">• The learner should be able to apply their knowledge of dichotomous keys and use a key to identify the various “smiley face” species• The learner will know the levels of classification and understand the importance these levels have in our understanding of evolution• Student will use “Keynote” or some other document creating program to create a dichotomous key <p>Bloom’s Taxonomy Cognitive Level: Knowledge, Understanding, Application, Create</p>

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Daily Activities for Direct and Indirect Lesson Plans

Direct Instruction

	Set-up/Prep:
5	Engage: (opening activity/ anticipatory Set - access prior learning / stimulate interest /generate questions, etc.) Engaging question "How many of you ate something with seeds in it for lunch today?"
15	Explain: (concepts, procedures, vocabulary, etc.) Present PowerPoint introducing the terms from the unit Show pictures to go with all of the terms
20	Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions) Give students a worksheet with 10 questions for review of material and they can attempt to answer the questions and then follow along with me after to go over the answers
3	Review (wrap up and transition to next activity): Exit slip with two questions reviewing the material from the day - critical thinking questions: Ex.

Indirect Instruction

Set-up/Prep: Bell work assignment - question is: "How do plants typically reproduce? (sexually or asexually)."	
Engage: (opening activity/ anticipatory Set - access prior learning / stimulate interest /generate questions, etc.) Engaging question "How many of you have picked up a flower and gotten a bunch of yellow dusty stuff all over your hands or clothes?" show real examples of flower anther, stigma, pollen cones and seed cones	
Explain: (concepts, procedures, vocabulary, etc.) Present PowerPoint with images and questions to probe students into thinking about the concepts. Just a quick introduction into the activity	
Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions) One group of students will be given a crumpled up pieces of paper. They have to find the best way to get in to another person in the other group. They are allowed to do what ever they want (throw it, walk in to them, roll in on the floor, etc.) - This is how angiosperms reproduce Next they have to accomplish the same task, but they are only allowed to throw it. This time however, each person get 5 piece of paper to try and get to the other person.— This show gymnosperms The third time, they can only walk to the partner in a specific path. After a time I will remove that path so it is impossible for them to bring the paper to the other person. - This show example of fern and moss reproduction and what	

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happens when moisture is removed

Review (wrap up and transition to next activity):

Discuss why each type of plants had the restrictions, or lack there of, that they did and how that effects their structure and environment they can live in

Exit slip with two questions reviewing the material from the day – critical thinking questions:

If not time left, we will review if the next day

Different Questioning Strategy Levels based on a State Standard

Standard

HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins, which carry out the essential functions of life through systems of specialized cells

Knowledge:

Ex. *What is the shape of a DNA molecule?*

Comprehension:

Ex. *How does this shape of DNA assist in the packing of a protein?*

Application:

Ex. *How would the structure of a protein be different if DNA was not compacted?*

Analysis:

Ex. *How do other parts of the body rely on the same form of space conservation as protein molecules?*

Synthesis:

Ex. *How could you create an area of a room and at least double the size of the walls, but decrease the area inside the walls?*

Evaluate:

Ex. *Suppose the proteins in our body were unable wrap around and could only stay straight, but they were still the same size. How would this effect the complexity of our bodies? Give a few specific examples. **Hint** – consider what proteins the body would decide to get rid of, and which ones it would keep.*

Name _____

Date _____

Multiple choice. Circle the appropriate answer.

1. Where does photosynthesis occur within plants?
 - a. Stem
 - b. Leaves
 - c. Roots
 - d. Flower
2. If a plant has flowers, pollen, and is a monocot then we call it a(n):
 - a. Gymnosperm
 - b. Conifer
 - c. Angiosperm
 - d. Eudicot
3. Where are seedless plants typically going to be found?
 - a. Deserts
 - b. Moist environments
 - c. Windy prairies
 - d. Disneyland

Fill in the blank

1. Some plants have developed a thick _____ in order to help with water retention and allow them to live in hotter places.
2. _____ vascular plants include ferns, horsetails, and liverworts.
3. Monocots are plants known to have leaves in multiples of ____ or _____.

Short answer – does NOT need to be complete sentences

1. What makes an apple such a great adaptation for plant reproduction?

2. If you were to go the jungle or extremely bizarre environment and observe plants, what would be some characteristics of them? Why have they developed these characteristics?

3. What makes plants so important to humans?

Essay question – use complete sentences

1. List the adaptations plants have obtained to help them with reproduction. Then describe the reproduction cycle of a plant starting from a grain of pollen.