Strategies for Teacher Education

Formative Assessment Handbook
By Anne Conway, Dr. Tricia Gegelman, Virjean Kramer, Dr. Sara Hagen, Dr. Sharon McCarriar, Jan Moen, Dana Stansbery

Recommended Strategies for Improving Teaching through Differentiating Curriculum
By Amy Anderson, Jolene Beckman-Sternhagen, Robecca Fisher, Susan Klabunde, Kathy Lentz, Jackie Owen, Dr. Cindy Zahn

Instructional Strategies for Classroom Teachers to use with English Language Learners
By Dr. Joan Oigawa Aus, Michelle Bloom, Judy Riley, Sara Roth

Instructional Technology Handbook
By Annette Beattie, James Boe, Natalie Boe, Anthony Dutton, Dr. Dale Hoskisson, Byran Kriewald, Rhonda Nudell, Tim Schilling

Compiled as part of Bush Grant
May 2010
Purpose

1. Compiled to assist college faculty in modeling formative assessment and providing a nurturing environment for student practice.
2. Compiled as a source to students in planning for formative assessment, implementing various techniques and evaluating their actions.
3. This is a stepping stone in building a resource of strategies to implement with PreK – 12 learners, share with cooperating teachers and build upon throughout a career.

This document is meant to be a beginning…expected to grow and change over time as dictated by the user.
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References
What is formative assessment?

Formative assessment is the process to improve, understand and respond to learning. Formative assessment may be oral or written and is between the student and the teacher or the student and another student.

The Role of the Teacher…

- Provide feedback during the learning process, more than a grade/point value
- Ongoing diagnosis, every day – all day
- Planned learning
  - How to engage the learner?
  - How to actively involve the learner?
  - How to convince learners to value current trends and requirements?
  - How to capture a teachable moment?
- T-S-T, teacher-student-teacher, a constant loop

The Role of the Student…

- Reflect
  - What have I done well?
  - What needs adjustments?
  - How can I do this better?
  - What if…
- Listen
  - What did my teacher/peer say/write?
  - What did my teacher/peer do?
  - Why would my teacher/peer say/write this?
- Act
  - What do I do next?
  - How do I apply the feedback?
Formative assessment:

Feedback –

How do I want feedback?

- Oral
- Written
- Teacher to student
  - teacher instigated
  - student requested or instigated
- Student to student
- Self-assessment

 o Teacher to student
   - Strengths
     - focus attention on the task
     - How is the learner independent?
   - Needs
     - specific comments about errors
     - suggestions for improvement
     - Where is more instruction needed?
 o Student to Student - teacher guided, organized format
   - Strengths
     - focus attention on the task
     - What was done well?
   - Needs
     - specific comments about errors
     - suggestions for improvement
 o Self-assessment
   - What went well?
     - I can…
   - How could I improve?
     - What am I confused or not sure about?
     - Can I do this by myself?
     - Do I need help?
       - What type of help do I need?
     - When will I start?
       - What do I need to get started?
Plan With the End in Mind

What are my learners thinking?

How will I know what my students learned?

What assessment will provide the information?

Create a **VAULT** - Valuable Assessments Used as Learning Tools

- **Discussion**
  - Model
    - poor example (very few questions and a yes/no question)
    - success examples (many open ended questions)
  - What is the role of the teacher?
  - What is the role of the student?
  - Practice
    - Questions, lots of questions
    - Student questions, comments
    - Practice writing questions that promote critical thinking

- **Cooperative learning (Kagan)**
  - Think – Pair – Share
  - Jigsaw
  - Three Step Interview
  - Quiz-Quiz Trade
  - Three Minute Review
  - Team Pair Solo
  - Circle the Sage
  - Partners

- **BOW (Book of the Week) Questions (Cramer)**

- **Student-led Parent Teacher Conference (Stansbery)**

- **One on One Conferencing**
  - “3 minute”, short conversation
  - Tell me: What are you thinking?
  - One on One Conference Summary – written as needed,
    - Specific success/strength
    - Needs
    - “You did good” note
    - “Thank you” cards (Thank you for helping me learn about fractions. Thank you for hugging me when I got hurt on the playground. etc)
“I wish…” (I wish you would not talk to me in a loud voice. I wish you wouldn’t call us…”)

- Rubrics/Checklists
  - Create (teacher creates/student creates/whole group)
  - Think first:
    - What is the assignment?
    - What must be done to successfully complete the assignment?
    - What will you assess?
    - Are you assessing across the curriculum and/or subject specific?
    - Is the assignment grade level or developmentally appropriate?
    - Identify other skills needed
      - Computer skills
      - Writing
        - Grade level appropriate
        - Grammar
        - Spelling
        - mechanics
      - Graphics
    - Point value
      - Appropriate value for content knowledge and/or other skills
  - Online rubric creating assistance
    - Rubistar: www.rubistar.4teachers.org/ or www.4teachers.org/techalong/erica4/
    - TeAchnology: http://www.teach-nology.com/web_tools/rubrics/
    - Rubrican: http://www.rubrician.com/
Additional Options:

- Quizzes/tests
  - Short answer
  - Analyze weekly scores
    - Compare scores over time/spreadsheet
  - Collaborative test taking
- Projects
  - From methods courses
  - From field experiences
- Role Play/Performance
  - Create a play
  - Readers Theater
  - Song
  - “Rap”
  - Poetry
- Journal
  - Student self-assessment
    - Weekly
    - Biweekly
    - Monthly
    - Quarterly
    - Skill (Example - double digit multiplication)
  - Show me/Tell me
    - Skill (double digit multiplication Math, measuring scale on a map in Social Studies, Reaction vs. product in Science)
- Portfolio
  - Writing Folder
  - Art Folder
  - All inclusive – everything you have learned
Glossary

Field experience – 1. any time spent in a pre K – 12 classroom, 2. a practicum, student teaching, mini-teaching

Student – 1. college student in an education course, 2. college student in a field experience, 3. Pre kindergarten to grade 12 student

Teacher – 1. college faculty, adjunct or guest speaker, 2. Pre kindergarten to grade 12 classroom teacher, 3. college student teaching a lesson peers or in a Pre K-12 classroom

VAULT – 1. a reference, 2. a collection of various types of assessments gathered during field experiences and coursework
Appendix

1. Weekly Student Self-Assessment
2. Trigger words
3. BOW (Book of the Week) Questions
4. Think-Pair-Share
5. Jigsaw
6. Three Step Interview
7. Quiz-Quiz Trade
8. Three Minute Review
9. Team Pair Solo
10. Circle the Sage
11. Partners
12. Student-led Parent Teacher Conference
13. Building Spelling and Language Skills (a sample rubric)
WEEKLY STUDENT SELF-ASSESSMENT

NAME: ___________________________  WEEK: ___________________________

• Most important to me this week was ______________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

• In performance I did very well on ______________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

• In theory I did very well on ______________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

• In "listening" I did very well on ______________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

• I am confused about ______________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

• I need to ______________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

Parent signature ___________________________
Bloom's Taxonomy of Thinking Skills
http://www.cdli.ca/grassroots/blooms.html
Guide the creation of questions and discussion by utilizing the trigger words.

Implementation of Bloom

BOW (Book of the Week) Questions

1. **Knowledge**: arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce state.
2. **Comprehension**: classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate,
3. **Application**: apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write.
4. **Analysis**: analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
5. **Synthesis**: arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write.
6. **Evaluation**: appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate.

Create 6 - 10 questions about this week’s Book Of the Week (BOW). Be sure to have at least one question for each level of understanding.

1)_________________________________________________________________________________
2)________________________________________________________________________________
3)_________________________________________________________________________________
4)_________________________________________________________________________________
5)_________________________________________________________________________________
6)_________________________________________________________________________________
7)_________________________________________________________________________________
8)_________________________________________________________________________________
Think Pair Share

What is Think Pair Share?
1. Teacher asks a question.
2. Students pair up and are given two minutes to come up with an answer.
3. Students share their answers with the class.
4. Not everyone will share with the class, so write your answers on this page.

Write the question

My Name and Partner’s Name

Discuss the question and take notes here

Compose your answer for the class

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Jigsaw

What is jigsaw?

**Jigsaw** - Groups with about five students are set up. Each group member is assigned some unique material to learn and then to teach it to his group members. To help in the learning students across the class working on the same sub-section get together to decide what is important and how to teach it. After practice in these "expert" groups the original groups reform and students teach each other.

1. Have your students divided into diverse groups of 4 to 6 students.
2. Divide your lesson or parts of your lesson into the same number of sections as your groups. An example could be in social studies with four students in a group: section 1 is the contents of the first section of the Declaration of Independence; section 2 is the contents of the second section of the Declaration of Independence; section 3 is the contents of the third section of the Declaration of Independence; and section 4 is the contents of the fourth section of the Declaration of Independence.
3. Assign each student a number of the particular section they are to learn.
4. Each student reads their assignment at least twice.
5. Form ‘expert group” by having all the students assigned to a particular segment gather to discuss the main points, plan the presentation and rehearse it. They could plan questions for the quiz at the end of the lesson.
6. Ask the original groups to gather and have each expert present the material.
7. Quiz the students on the entire assignment.
Three-Step Interview

What is the Three-Step Interview?

1. Begin with your class divided into teams or groups.
2. Each member of a team chooses another member to be a partner.
3. During the first step individuals interview their partners by asking clarifying questions.
4. During the second step partners reverse the roles.
5. For the final step, members share their partner's response with the team.
Quiz-Quiz Trade

What is Quiz-Quiz trade?

Quiz-Quiz trade is a cooperative review activity where students quiz a partner, get quizzed by a partner, and then trade cards to repeat this process with a new partner.

1. Have a set of cards ready with the problem, or question on the front of the card and the answer on the back.
2. Give each student a card and have the students stand up and find a partner.
3. Partner A quizzes Partner B.
4. Partner B answers.
5. Partner A praises Partner B if he is correct, or coaches if he needs help.
6. Partner B now quizzes Partner A and Partner A answers.
7. Now the partners trade cards and move to another partner
8. Repeat steps 3-7 several times.
Three Minute Review

What is the three-minute review?

Teachers stop any time during a lecture discussion and give teams three minutes to review what has been said, ask clarifying questions or answer questions.

1. The class is divided into groups and assign one member to be the leader.
2. The leader poses a question and gives the team time to share their answer(s).
3. The team may ask questions of the lesson, discuss them and report to the whole class.
**Team Pair Solo**

This is designed to motivate students to work on problems which initially are beyond their ability. It is an example of simple notion of mediated learning. Students do problems first as a team, then with a partner, and finally on their own. They progress to a point where they can do a problem or question alone, but at first they could do only with help.

**Circle the Sage**

First the students form equal groups. The teacher then asks the class who might have a special knowledge to share: “Who in the class is able to solve a difficult math question, who has vacationed in another country, who could demonstrate a “cool” science experiment?” These students would then stand in various parts of the classroom. Then one member from each group would then rotate from sage to sage, listening, asking questions, and taking notes. At the end all students would then sit with their group and explain what they learned. Because each individual has gone to a different sage, they compare notes. If there is disagreement, they stand up as a team. Finally, the disagreements are aired and resolved.
Partners

Teams of four form. Partners move to one side of the room. Half of each team would master an assignment and then teach the lesson to the other half. Partners working together can consult with other partners working on the same material. Teams go back together with each set of partners teaching the other set. Partners quiz and tutor teammates. Then each team reviews what they learned and how they might improve the process.
# Student-led Parent Teacher Conference Evaluation Form

Name: __________________________

<table>
<thead>
<tr>
<th>Class Expectations</th>
<th>Student</th>
<th>Teacher A</th>
<th>Teacher B</th>
<th>Teacher C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Works well independently</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>2. Works well with others</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>3. Completes assignment on time</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>4. Uses time wisely in class</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>5. Has a positive attitude</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>6. Treats people with respect</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>7. Comes to class prepared</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>8. Satisfied with the quality of work</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>9. Follows classroom policies</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>10. Does not blurt in class/ able to sit quietly/not disruptive</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

**Key to Rating:**  + Exceeds expectations  √ Meets expectations  - Needs improvement

Teacher Comments:
STRETCH IT: They were all gone. ___________________________________________

FIX IT: Neither my family or I like winters cold days. Were all ready waiting for

The warm day’s of spring. We are happiest when its finally summer in Mass.

SORT IT: finally, July, completely, jelly, family, commonly, jolly, fly, carefully

 Did not sort any words 0 points
 Sorted 1 to 2 words 1 point
 Sorted 3 to 4 words 2 points
 Sorted 5 to 7 words 3 points
 Sorted 8 to 9 words 4 points
ADD IT: warm, hot, cool, ____________________, ____________________
____________________, _________________________
____________________, _______________________
____________________, _______________________

Did not add words 0 points
Added 1 or 2 words 1 point
Added 3 to 4 words 2 points
Added 5 to 6 words 3 points
Added 7 to 8 words 4 points

FINISH IT: Summer is the best time to _______________________________

Did not complete paragraph 0 points
Added 2 to 4 words 1 point
Added 5 to 8 words 2 points
Added 9 to 12 words 3 points
Added 13 or more words 4 points

FIND IT: Words in which final y spells /e/: ________________________________

Did not complete paragraph 0 points
Added 1 to 2 words 1 point
Added 3 to 4 words 2 points
Added 5 to 6 words 3 points
Added 7 or more words 4 points
Resources


Hagen, S. (February 2010). Bush grant workshop. Valley City, ND: Valley City State University.


Recommended Strategies for Improving Teaching through Differentiating Curriculum

Workgroup:
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May 1, 2010
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We had never met each other. The Bush grant and a shared passion—differentiation—brought us together to discuss improving teacher education. Our task was to make recommendations on how to better prepare preservice teachers to—upon entering the classroom—differentiate curriculum in order to meet the needs of diverse learners.

The topic of differentiation, itself, had the potential to lead to some unpredictable and perhaps explosive discussion, in part because there are no “official” definitions of differentiation, and in part because both special education and gifted education—often seen as two very different fields—have shared ownership of the word “differentiation”, of what differentiation involves, of what it should look like.

We began by simply talking about what differentiation is, and what it is not. “It’s meeting the needs of all students,” said one. “It’s good teaching,” said another. “It’s a way of thinking.” “It’s not just for students who are not proficient.” “It’s not scripted instruction.” “It’s a mindset.” “It’s not one size fits all.” “It’s a process.” “It involves changing the content, process, or product.” “It also might mean changing the environment.” “It’s doing whatever it takes to make sure that every student succeeds.”

Success, according to our understanding of the Bush grant, happens when all students achieve at least one year’s growth in any given school year. Our work, then, was to make sure that preservice teachers are prepared to “do whatever it takes” to assure at least one year’s academic growth in every student taught that first year and every year thereafter. Of course, the strategies used to obtain one year’s academic growth from a student who is working several years below grade level can look very different from the strategies used to obtain one year’s academic growth from a student who is working several years above level. We wanted to make sure our recommendations would include strategies for myriad needs.

Like K-12 students, preservice teachers have varying experiences, talents, abilities, and levels of achievement that they bring to their teacher training. From the onset of our work on this project, our committee believed that our approach to teaching preservice teachers how to differentiate needed to begin with preservice teachers experiencing differentiation in their
university coursework. We felt that preservice teachers were more likely to use strategies of differentiation with their future students if differentiation had been modeled in the university classroom and if the preservice teachers, themselves, had been the recipients of differentiated instruction. We found ourselves wanting not only to suggest strategies that we wanted preservice teachers to be able to use to differentiate instruction in their future classrooms, but wanting also to suggest strategies for differentiation that could be modeled and implemented in the university classroom, with the preservice teachers, so that preservice teachers could actually experience differentiation.

Recognizing that there are indeed differences between pedagogy (the art of teaching children) and andragogy (the art of teaching adults) we made every attempt to include in this handbook strategies for differentiation that we felt could be implemented within the university classroom. Within this handbook, then, you will find strategies for differentiation that have been successfully used in K-12 classrooms and can also be used successfully within the university classroom. We hope that they will be used extensively in both settings.

--Jackie Owen
Valley City State University
May, 2010
Section 1: Definition
Differentiation is...

Differentiation is a process of teaching to the needs of students by making adjustments to any of the following areas:

- Content
- Process
- Product
- Environment
- Assessment

... thereby doing whatever it takes to meet students' learning needs and to maximize students' learning. The process and the type of adjustments will vary from classroom to classroom and with every new group of students.

Differentiation is also . . .

... a mindset, a way of thinking about students, about schools, about classrooms, about curriculum, about learning, about assessment, and about teaching.

Differentiation is not...

- Busy work
- Additional work (i.e., more problems, more vocabulary words)
- Using centers as the only means of meeting individual needs
- Giving extra assignments
- Simply more work for the student
- Assigning research papers
- Scripted lessons

"Differentiation is what we do if we intend to have every student understand what they are learning, why they are learning it, why they should care, and how it makes them more fully human."

--Carol Ann Tomlinson forward of Differentiation by Rick Wormeli
When defining differentiation, it is helpful to view differentiation as a set of common beliefs about students, classrooms, teaching, and learning.

### The 20 Foundational Beliefs of Differentiated Classrooms

1. All people share common feelings and needs.
2. Schools should help people understand and respect their commonalities.
3. All children can learn.
4. Individuals differ significantly as learners.
5. Schools should help people understand and respect their differences.
6. Intelligence is not fixed; it is dynamic.
7. There are many ways to be smart.
8. The art of teaching is maximizing our students’ success in learning.
9. The central goal of schools should be to increase the likelihood that all students will learn and succeed in reaching learning goals.
10. Students are at the center of the classroom; it is not about what we teach, but what they learn.
11. Students should be actively involved in making sense of the world around them.
12. All students represent a unique profile of readiness needs, learning preferences, and interests.
13. Effective teachers know their students’ readiness needs, learning preferences, and interests, and act on this knowledge as they plan for instruction.
14. Because of the unique profiles of students, not all students will do the same thing at the same time in the classroom.
15. All students require respectful, engaging, and rigorous learning experiences.
16. Students’ feelings of confidence and competence in learning are enhanced through success in learning experiences at the edge of their competencies that offer challenge and require effort.
17. Learning should be about individual growth and progress and not about comparisons to others.
18. Teachers and other adults need to help students accept responsibility for their growth and learning progress.
19. Students and teachers deserve schools and classrooms that are communities of respect, safety, and learning.
20. Parents can be partners in encouraging and supporting students’ success in learning.
Section 2: Differentiation at VCSU
Differentiation in methods classes at VCSU, 2009-2010:

- There is more focus on teaching preservice teachers about low achieving students.

- There is some focus on teaching preservice teachers about gifted students.

- Professors offer some choice of activities.

- There are many group projects/collaboration.

- Instructors show awareness of student differences.

- VCSU offers a strong emphasis on educational technology.

- Instructors utilize and model methods of formative and summative assessments.

- Instructors incorporate the university model: Plan, Implement, Evaluate, Reflect
Our Vision for Differentiation at VCSU:

1. Instructors at VCSU will teach differentiation by modeling differentiation so that students can experience differentiation.

2. Preservice teachers will enter the classroom ready to differentiate curriculum by:
   - Getting to know students through inventories, including interest inventories, learning styles inventories, multiple intelligences inventories, and communication styles inventories.
   - Discerning differences in student abilities and achievement through student conferences, journal writing, and student files.
   - Identifying what students know and can do in the content area through Pre-assessment of content knowledge and skills.
   - Using both summative and formative assessments.
   - Creating and using rubrics to evaluate learning.
   - Creating and using anecdotal notes/observation.
   - Selecting and applying strategies for differentiating content, process, product and environment, which match students’ interests, abilities, learning styles, and/or academic needs and which maximize the likelihood of one year’s academic growth for each student—from students who are achieving below grade level, to students who enter a grade achieving above grade level.

Our Goal: By the time students graduate from VCSU they will have experienced multiple strategies for differentiation as students, so that they are able to take these strategies into their own classrooms and use them to differentiate instruction for their own students.

It should be noted that while our assignment for this project was to create a handbook of recommended strategies for differentiation that could be used in methods courses, we unanimously agreed that strategies for differentiation should be taught and utilized in ALL education classes.
What differentiation might look like in a university methods course:

<table>
<thead>
<tr>
<th>Instructions of methods courses could incorporate the following:</th>
<th>Students, in methods courses could, in turn:</th>
<th>So that when they enter the K-12 classroom they will be more likely to differentiate by using:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-assess students to find out what they already know.</td>
<td>Have a chance to experience what it is like to demonstrate what they already know, and have new learning build upon their current knowledge.</td>
<td>A variety of pre-assessment techniques</td>
</tr>
<tr>
<td>Post-test using a variety of assessment techniques.</td>
<td>Have the opportunity to experience what it is like to test in various formats.</td>
<td>A variety of post-assessment techniques.</td>
</tr>
<tr>
<td>Incorporate a choice of activities in coursework.</td>
<td>Have the opportunity to experience what it is like to choose and complete course work that matches their interests, level of experience, learning style, etc, while still meeting course objectives.</td>
<td>Approaches that incorporate a choice of learning activities.</td>
</tr>
<tr>
<td>Substitute assignments based on students’ strengths and weaknesses.</td>
<td>Have the opportunity to experience what it is like to have assignments adjusted to match learning abilities.</td>
<td>Alternate assignments based on students’ strengths and weaknesses.</td>
</tr>
<tr>
<td>Create assignment choices based on differing learning styles, multiple intelligences, etc.</td>
<td>Have the opportunity to experience what it is like to complete an assignment based on a specific learning style or a specific area of intelligence.</td>
<td>Assignment choices based on differing learning styles, multiple intelligences, etc.</td>
</tr>
<tr>
<td>Use best practices (Marzano) in teaching methods courses. For example, have the students make and use Venn diagrams, compare/contrast charts, graphic organizers; have students create metaphors for concepts taught; have students summarize and use writing frames in completing written assignments.</td>
<td>Have the opportunity to experience what it is like to look at similarities and differences, create metaphors for concepts learned, use graphic organizers, summarize, use writing frames, etc.</td>
<td>Best practices (Marzano) in teaching methods courses.</td>
</tr>
<tr>
<td>Instructors of methods courses could incorporate the following:</td>
<td>Students, in methods courses could, in turn:</td>
<td>So that when they enter the K-12 classroom they will be more likely to differentiate by using:</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Model specific strategies for differentiating content, process, product, and environment.</td>
<td>Have the opportunity to at times learn different content than other students in the course, or learn through different processes than other students in the course.</td>
<td>Specific strategies for differentiating content, process, product, and environment.</td>
</tr>
<tr>
<td>Scaffold project-based learning.</td>
<td>Have the opportunity to dialogue one-on-one with an instructor, and modify an individually selected project based on the outcome of the dialogue.</td>
<td>Scaffolding in facilitating project-based learning.</td>
</tr>
<tr>
<td>Encourage students to reflect on their learning. Their reflections should include the ways the course has been differentiated to meet different student needs, and how this knowledge of differentiation could be transferred to the classroom.</td>
<td>Be motivated as teachers to try different strategies for differentiation, based on their own experiences as a learner with differentiated curriculum in their methods courses.</td>
<td>Their own and their students’ reflections to adjust learning activities to meet student needs.</td>
</tr>
</tbody>
</table>
Section 3: Strategies for Differentiation
Strategies for Getting to Know Students:

1. Have students “Present their Profile.” Assign students to create a one-page powerpoint including their picture and information about themselves. Ask them to include at least one fact that is relevant to the class they are enrolled in.

2. Teach students about Multiple Intelligences. Have students identify the intelligence or intelligences that they believe best represents the way they learn. Keep a written record of the types of intelligences represented in your class. Design learning activities accordingly.

3. Use a multiple intelligence checklist to have students rate each other’s intelligence. Have the students chart the intelligences represented in the class. Whenever you introduce a new assignment, have students make recommendations on how that assignment could be differentiated to fit different intelligences. Allow students to complete differentiated versions of the assignment.

4. Have a student or small group of students adapt a multiple intelligence survey or learning styles survey so that it can be given via computer.

5. Have students create a “Self Bibliography”—a list of ten books that have been life-changers for them. Have them present and explain their bibliographies in class. Variation: Allow students to include websites and other media in their bibliographies.

6. At the beginning of a course, survey students to find out their skills and interests. Sample questions could include: To date, what has your favorite course been at VCSU? Why? What kinds of activities and assignments do you feel help you learn the most? Why? What kinds of activities and assignments do you struggle with the most? Why? What kinds of activities and assignments do you dread? Why? What kinds of activities and assignments are like Listerine—you dislike them, but you know they are good for you? What learning experience at VCSU has
changed you the most? How did it change you? What course has been most difficult for you so far? Why? What course has been easiest for you so far? What made it so easy? What horror stories have you heard about this class? What are your expectations from this class? What are your expectations from me, as an instructor? If you could design your own class for teacher education, what class would you design? What concepts would be taught in that class?

7. Have students redesign the survey in the previous strategy so that it could be used with one of the following: a group of high school students, a group of middle school students, or a group of elementary school students.

**Strategies for Discerning Differences in Student Abilities and Achievement:**

1. Pretest students on modules or units of study.

2. Use KWL charts to introduce curriculum—even at the college level. Have students complete KWL (what we **K**now, what we **W**ant to know, what we **L**earned) charts for course objectives.

3. Have students “Journal their Journey” through your course.

4. Conduct beginning of the semester “Five Minute Interviews” with each student on an individual basis to gain information their abilities and achievements in the content area you are teaching.

5. Conduct five minute “Exit Interviews” with each student at the end of the semester. Ask specific questions to help students reflect on what they learned in your class.
6. Create a Facebook page for your course and allow time during class for students to comment, reflect, answer questions, ask questions, and post links relevant to the topic presented in class.

7. Identify a different group recorder each time your class meets. This works just as in a professional meeting, where there is a group recorder who takes notes and provides each member of the group with a copy. The class group recorder takes notes for the assigned day, then posts them on the “Class Notes” discussion board forum you have created in Blackboard. Students who miss class are able to refer to the posted notes, students who attended are free to clarify notes by replying to the thread, and you are able to assess the learning and understanding of the student who posted the notes. Students with disabilities benefit from this strategy because they don’t have to rely on a note-taker each week; they can simply consult the group notes.

Strategies for Identifying What Students Know and Can Do in the Content Areas:

1. Pretest students on the essential professional language presented in your course. Within the course, emphasize professional language that was less understood by students; give less emphasis to professional language that most students already understand.

2. Use Blackboard quizzes as an accountability tool to encourage students to keep up with assigned readings from the textbook and other sources. Check results and adjust lectures accordingly.

3. Allow collaboration during testing. Provide each student with an individual copy of the test, but encourage dialogue between students as the test is completed. Students still turn in individual tests (and may submit answers different from those agreed upon by the group). However, the test, itself, becomes a tool for learning, and the instructor is able to assess group understanding.
4. Instead of having students take a test, have small groups of students design assessments for major course objectives. Assign each group an
   test style: T/F, multiple choice, short answer essay, fill in the blank, etc. Have each group present the assessment they designed and defend their choice of questions for that style of assessment.

5. Have students complete KWL (what we Know, what we Want to know, what we Learned) charts for course objectives.

**Strategies for Differentiating Content:**

1. Use WICR in creating differentiated assignments and activities for students. WICR stands for Writing, Inquiry, Collaboration, and Reading. Content can be differentiated by creating assignments that offer students a variety of possibilities/choices in each area. For example, students could be given a choice of writing assignments for a particular learning module. The assignment possibilities could include choosing one of the following: taking textbook notes, taking lecture notes, keeping a journal, keeping a learning log, writing a reflective paper, posting on a discussion board, creating a class wiki, etc. Inquiry assignments could include having students generate questions based on Bloom’s taxonomy or Kaplan’s icons for depth and complexity. Collaboration assignments could include grouping students in tutorial groups or in mock grade level groups, then assigning them a problem-based project or having them participate in a simulation. Reading assignments might include having students choose readings from a textbook, from journal articles, or from case studies.

   **Example of WICR in the college classroom:** Students use their textbook and three other sources to READ about a specific disability. Students COLLABORATE to design a presentation based on the disability. The students use INQUIRY to research beyond the textbook so that the presentation includes at least two media components, one group participation activity, and a handout. Groups take turns each class session presenting their
assigned disability. When all disabilities have been presented, each student is assigned the role of a teacher at a given grade level. Each “teacher” individually writes a profile of a fictitious K-12 student in his or her class who has an exceptionality of some kind. The “teachers” meet in grade levels to discuss their “students,” what accommodations have been made for the students, what other accommodations can be made, and whether or not the students should be referred to student study team. During subsequent class sessions the “teachers” collaborate by participate in student study team meetings, pre-referral team meetings, referral team meetings, and IEP meetings. Ultimately, the “teachers” write IEPs, behavior plans, etc. for the fictitious students. After each meeting, the “teachers” meet to reflect on what they did during that step of the referral process.

2. Encourage Independent Study—Pretest students on smaller units or modules covered in your course. Allow students who pass the pretest to complete an independent study project in lieu of completing the required assignment for that unit or module. Encourage students to go beyond research papers when designing projects. Could they create a model to represent a concept? Design a webquest for other students to investigate an idea? Create a video to illustrate a specific teaching strategy? Prepare a set of materials that could be used in the classroom? Contact and interview an experienced professional in connection with the unit or module? Create a list of 50 unanswered questions they have about a specific concept or topic?

3. Use Kaplan’s Icons for Depth and Complexity to pose questions for class discussion or online discussion boards using Kaplan’s icons for depth and complexity for gifted and talented students. The icons are:

- DETAILS
- PATTERNS
When using icons of depth and complexity to differentiate instruction, embed the name of the icon into the question, as in the samples below.

**Example:**

Explain the BIG IDEA of teaching phonics as part of a balanced literacy program.
Describe the recent TRENDS in math instruction promoted by the National Council of Teachers of Mathematics.

More than one icon can be embedded in a single question, thus increasing the complexity of the question:

**Example:**

Detail the RULES that states must follow in implementing the requirements of No Child Left Behind.

How have the TRENDS in reading instruction CHANGED OVER TIME?

4. Scaffold learning with graphic organizers, guide sheets, writing frames, etc.

**Example:** Kaplan’s icons for depth and complexity can be used as graphic organizers. (See next page)
Kaplan’s DETAIL icon used as a graphic organizer:

DETAIL the parts of an IEP on each of the daisy petals below.
5. Increase rigor by having students use reciprocal questioning using Kaplan’s icons for depth and complexity and Bloom’s taxonomy. Provide guide sheets; have students generate a specified number of questions for each icon and/or each level of Bloom’s.

Sample guide sheet for Bloom’s:

<table>
<thead>
<tr>
<th>Knowledge:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension:</td>
</tr>
<tr>
<td>Application:</td>
</tr>
<tr>
<td>Analysis:</td>
</tr>
<tr>
<td>Synthesis:</td>
</tr>
<tr>
<td>Evaluation:</td>
</tr>
</tbody>
</table>

Given what you know about at-risk learners, write one question for each of the following levels of Bloom’s taxonomy.
Sample guide sheet for Kaplan’s icons for Depth and Complexity:

Given what you know about the history of education, write one question for each of the following icons for Depth and Complexity:
6. Provide a choice of learning activities for at least part of your course.
   One way to do this is to offer a menu of learning activities.

Example of choice of learning activities currently in use in a college syllabus:

You are required to complete five mini projects for this class this semester. Here is a list of some possible mini projects for this course:

1. **Journal Your Journey**—Keep a journal of your field experience. I would expect an entry of 1-2 pages for every session spent in class.
2. **Interview a Staff Member**—Design a set of twelve interview questions, none of which can be answered yes or no. Then interview a staff member at the school in which you are completing your field experience.
3. **Work with a Student**—When you begin your field experience, find out from the teacher what student needs extra tutoring or mentoring. Work with that student for a specific amount of time each day during your field experience. (If you are at Washington School, Mr. Denault can also set you up with a student who needs extra help.)
4. **Design a Bulletin Board**—With your cooperating teacher’s approval, design a teaching bulletin board (as opposed to a decorative bulletin board) for a concept that will be taught during your field experience. Introduce the bulletin board to the class.
5. **Teach a Small Group**—Have your cooperating teacher assign you a small group to work with on a regular basis during your field experience.
6. **Attend a Cultural Activity**—Attend a cultural activity in town, such as a play, a musical performance, an art show, etc. However, part of your experience needs to include a “behind the scenes” look at the event. Share what aspects of the behind the scenes perspective, as well as the event itself, would make a good field trip for students.
7. **Create a Sociogram**—Research sociograms on the internet ([http://www.behavioradvisor.com/Sociogram.html](http://www.behavioradvisor.com/Sociogram.html) is a good place to start), then create one for your class.
8. **Explore a New Interest**—Part of teaching is lifelong learning. Learning new things also gives you important perspective as a learner. Learn to do something you’ve always wanted to do—knit, play the guitar, snow ski. Share your experience.
9. **Share a Passion**—Do you have an interest or hobby that you are passionate about? Share your passion in class or, with permission from the cooperating teacher, share your passion in the class to which you have been assigned for your field experience. Make part of your sharing a hands-on look at the “tools of the trade” so that your audience will develop new vocabulary as a result of your presentation.
10. **Risk!**—Think of risk as the following: DESIRE + FEAR + ACTION = RISK. Is there something you’ve always wanted to do, but you’ve been too afraid or insecure to try it? Take a risk and try the activity this semester, share your experience, and get credit for it.
11. **Practice Your Penmanship**—Effective communication includes the ability to write with readable penmanship. This is especially true for teachers. For this activity, put yourself through the paces of handwriting practices, using preprinted handwriting practice pages as well as practice on a white board. Share your results.
12. **Sample Some Software**—Sample a single piece of educational software in-depth, or peruse a wider variety of software with a specific goal in mind. Prepare a presentation to share what you learned.

13. **Teach from a Textbook**—With your cooperating teacher’s permission, teach a lesson following the outline in the teacher’s guide.

14. **Attend a School Board Meeting**—Find out when the local school board meetings are held. Sit through one from beginning to end. Share your experience.

15. **Establish a Network**—Introduce yourself to the following people at your school site and carry on a conversation with each of them for at least two minutes: the principal, the school counselor, the school custodian, the office manager, and one of the special education staff members.

16. **Sample the Stars**—Over the years, Hollywood has produced a number of movies about teachers. Organize a double-feature movie night and watch two of the following: Teachers, Conrack, Radio, The Ron Clark Story, Stand and Deliver, Paper Clips, Freedom Writers, Mr. Holland’s Opus, Fame, Knights of the South Bronx, Lean on Me, Hoosiers, Remember the Titans. Share your reflection on the movies’ treatment of teachers.

17. **Read More About It**—Read and respond to one of the following books: any book by Torrey Hayden (One Child, Somebody Else’s Kids, Murphy’s Boy, Ghost Girl are some of the titles); any book on effective teaching by Robert Marzano (there are about 12 titles in the library); The Essential 55 or The Essential 11 (Ron Clark).

18. **Capture the Memories**—Create a digital photographic memory album of your field experience. Include pictures of you working with students, pictures of bulletin boards that you wish to remember, pictures of lessons and activities that show active learning, pictures of student-created projects, etc. Use power point or other presentation software to share your album.

If you have an idea for an out of class assignment, please present it to me. I am always looking for new ideas, and students often generate great ones!

We will share mini-projects every Friday. Whoever is ready will share. When you share, you are to use the Plan, Implement, Evaluate, Reflect Model. That is, you are to share what you did to plan your project, how you implemented it, and you evaluated its success. Then, you are to reflect on the project. What aspects of the project better prepared you for teaching? What aspects could be carried over to a classroom? What did you learn about students, about teachers, about teaching, and/or about yourself by completing this project?

Another way to provide a choice of learning activities for some assignments is to use an assignment menu with many alternative assignments that meet the same objective. Assign points to the assignments based on their level of depth and complexity. Allow students to pick whatever assignments they want from the menu, providing the points equal a predetermined amount.

Feel free to try new strategies…then try them again if they don’t work as expected the first time.
Strategies for Differentiating Process

1. Flexible Grouping—Group your students differently for different activities and assignments.

   **Example 1:** At the beginning of the semester, count off students into groups that can be rearranged. For example, assign students numbers and letters, A1, A2, A3, A4, A5, B1, B2, B3, B4, B5, etc. Then, have students group either by number or by letter to complete different activities.

   **Example 2:** Each time you meet as a class, divide students into mock grade level groups. Have the students approach concepts and activities introduced that day from the perspective of a teacher or student at that grade level. (Note that this overlaps into Icons for Depth and Complexity: Multiple Perspectives)

2. Bloom’s Taxonomy Questions—Develop questions for in-class discussions, discussion boards, writing assignments, etc., using the higher levels of Bloom’s Taxonomy. Teach students how to ask **you** questions using Bloom’s Taxonomy. At the end of every lesson, require your class to ask—not answer—at least five questions, only one of which can be based on the lower levels of Bloom (Knowledge, Comprehension).

3. Use Multiple Intelligence Model to Plan Lessons—Teach students about Multiple Intelligences. Have students identify the intelligence or intelligences that they believe best represents the way they learn. Keep a written record of the types of intelligences represented in your class. Design learning activities accordingly.

4. Use a multiple intelligence checklist to have students evaluate each other’s intelligence area. Have the students chart the intelligences represented in the class. Whenever you introduce a new assignment, have students make recommendations on how that assignment could be
differentiated to fit different intelligences. Allow students to complete differentiated versions of the assignment.

5. Teach students independent study techniques. Teach students how to focus on a topic from your course that excites or intrigues them, narrow the topic, determine what materials should be used for research, and how to decide on a possible product to demonstrate mastery of the topic.

Strategies for Differentiating Product
1. Use choice boards—Create a display that offers a variety of choices to show mastery of a specific objective. Students choose a specific number of activities to complete. Vary the activities to meet the needs of students of all learning styles.

2. Project based learning—offer students the option of designing a project that involves a product other than a written paper. For any given topic, what would knowledge of that topic look like if it were presented in a powerpoint? A video? A poem? A song? A piece of art? A newspaper article? A segment on Oprah? Challenge students to substitute unique products for written assignments. Note: Scaffolding will be necessary. Students will need to be guided on how to select a project that matches the topic, etc.

3. Teach students to make and use anchor posters, Anchor posters are posters and charts that organize information, and are displayed on the walls of the classroom so that they can be referred to repeatedly in class discussions, writing assignments, etc.

Strategies for Differentiating Environment
1. Cluster group most capable students. Suggest that four or five students (who have already proven themselves to be well above the rest of the class in their depth of understanding) group together to complete an in-depth study and/or project connected with that
study. Debrief with both the group and the class. What benefits might there be to cluster grouping the most capable students and allowing them to go beyond the curriculum? What problems could there be? Etc.

2. When using cooperative learning, group everyone in mixed groups EXCEPT the most capable students. Instead, group them together. (Research in gifted education has shown cooperative learning results in no academic growth for gifted students.) Debrief with both the group and the class. What benefits might there be to grouping more capable students together whenever you are using cooperative learning? What problems could arise? Etc.

3. Provide self starting activities for students as they are entering the classroom. Use Wong’s strategy of having an activity for students to self start on each time your class meets. At the end of the semester, reflect with the students on the use of this strategy. How was it helpful to their learning? What problems did they encounter? How would they recommend this aspect of your class be modified in the future? How could self starting activities be used at different grade levels and subject areas in K-12 classrooms? What kinds of self starting activities would they use? What kind of self starting activities do the students recommend for this course in the future? Etc.

4. Use anchor activities--In a truly differentiated classroom, student progress at different rates through the content and materials you offer. Anchor activities provide additional learning activities for students who finish the class assignment early. The goal is to enhance and solidify their understanding by engaging them further with the content. Anchor activities must be self-paced, meaningful, content-driven tasks that students can complete independently during a unit, week, grading period, or longer period of time.
Examples of Anchor Activities: WebQuests, Logic puzzles, Newspaper searches, Create a board game, Develop interview questions, Write a commercial, Create a bulletin board, Create a powerpoint presentation, Reading, Journal Writing, Keeping a Process Log, Working on a Portfolio, Working on a Learning Packet or Task Card, Working at a Learning or Interest Center, Practicing skills related to content that students learned in their small group lessons, Working on an Extension Menu or Cubing activity, or Task Cards.

5. Teach time management—include a brief unit or webquest on time management in each of your courses at the beginning of the semester. Have students map out their semester in terms of due dates, then work backward from each due date to allot enough time to complete each assignment. This is especially helpful when assigning projects.

6. Incorporate extended deadlines—Use flexible deadlines for much of the coursework in your class. At the end of the semester, reflect with your students on the use of flexible deadlines. How were flexible deadlines helpful? What problems arose with flexible deadlines? What adjustments do they recommend to your deadlines next time you teach the class? Why? How might the concept of flexible deadlines be carried over to the K-12 classroom? What issues might there be in using flexible deadlines in K-12 that didn’t present in a college setting? Etc.

Strategies for Differentiating Assessments
We have intentionally left this section blank at this time, as formative assessments are the focus of another workgroup.
Selecting and Applying Strategies for Differentiation

There are hundreds of strategies for differentiation. The few that have been outlined in this handbook are simply starting points. You may already be using some of the strategies discussed. On the next page is a menu of strategies that have been listed in this handbook. One way to begin differentiating curriculum or improve your use of differentiation is to X off strategies from the menu that you have already tried or already use, then X off another square on the menu every time you try a new strategy. Note that there are empty squares in the menu for other strategies that you might discover or create yourself for differentiating instruction. Those strategies can be written in the empty spaces.
### Menu of Strategies for Differentiation

**X each box that represents a strategy you have used.**  
**X new strategies as you try them.**  
**Fill in the empty boxes as you discover or create new strategies.**

<table>
<thead>
<tr>
<th>Allow collaboration during testing</th>
<th>Encourage students to suggest and create independent study projects</th>
<th>Use Bloom’s taxonomy to develop discussion questions</th>
<th>Pretest students’ knowledge of professional language used in your course</th>
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<tbody>
<tr>
<td>When using cooperative learning, group most capable students together</td>
<td>Teach students to ASK questions based on Bloom’s taxonomy</td>
<td>Teach students to make and use anchor posters</td>
<td>Scaffold learning with graphic organizers, guide sheets, writing frames, etc.</td>
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<td>Survey students skills and interests</td>
<td>Have students create assessments rather than take them</td>
<td>Use Kaplan’s icons for depth and complexity to develop discussion questions</td>
<td>Conduct exit interviews at the end of a course</td>
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<tr>
<td>Have students create assessments rather than take them</td>
<td>Use KWL charts for course objectives</td>
<td>Cluster group the most capable students and allow them to complete an in-depth study in lieu of several assignments</td>
<td>Have students create a “Self Bibliography”</td>
</tr>
<tr>
<td>Discuss and model working conditions for independent study</td>
<td>Use WICR (Writing, Inquiry, Collaboration, Reading) when creating assignments</td>
<td>Create an assignment menu to vary assignments</td>
<td>Use flexible grouping</td>
</tr>
<tr>
<td>Conduct “Five Minute Interviews” at the beginning of a course</td>
<td>Teach students to ASK questions based on Kaplan’s icons for depth and complexity</td>
<td>Provide self starting activities at the beginning of each class</td>
<td>Use Blackboard quizzes as accountability tools</td>
</tr>
<tr>
<td>Have students “Journal their Journey” through your course</td>
<td>Use flexible deadlines</td>
<td>Pretest students on modules or units of study</td>
<td>Have students “Present their Profile” at the beginning of a course</td>
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<td>Use an assignment menu to vary assignments for one objective</td>
<td>Encourage students to suggest assignment alternatives based on multiple intelligences</td>
<td>Offer students the option of a product rather than a written paper</td>
<td>Assign class recorders to take notes for a group memory of each class</td>
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# Articles on Differentiation

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Website</th>
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<tbody>
<tr>
<td>Mann, Rebecca L.</td>
<td>Differentiation at the Secondary Level</td>
<td><a href="http://www.geri.soe.purdue.edu/PDF%20Files/IAG_2009_-Different1.pdf">http://www.geri.soe.purdue.edu/PDF%20Files/IAG_2009_-Different1.pdf</a></td>
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<td>Tomlinson, Carol Ann</td>
<td>Deciding to Teach Them All</td>
<td><a href="http://www.ascd.org/publications/educational_leadership/oct03/vol61/num02/Deciding_to_Teach_Them_All.aspx">http://www.ascd.org/publications/educational_leadership/oct03/vol61/num02/Deciding_to_Teach_Them_All.aspx</a></td>
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<td>Tomlinson, Carol Ann, et al</td>
<td>Reconcilable Differences? Standards Based Teaching and Differentiation</td>
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<tr>
<td>Wormeli, Rick</td>
<td>Busting Myths about Differentiated Instruction (also includes two additional articles by other authors: Differentiating Instruction: Meeting Students Where They Are and Research into Practice)</td>
<td><a href="http://www.wilson.k12.pa.us/7703208181651420/lib/7703208181651420/Busting_Myths_about_DI.pdf">http://www.wilson.k12.pa.us/7703208181651420/lib/7703208181651420/Busting_Myths_about_DI.pdf</a></td>
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<td>Wormeli, Rick</td>
<td>Differentiating Instruction: A Modified Concerto in Four Movements</td>
<td><a href="http://users.manchester.edu/Student/GJTribbett/Webpage/Differentiating%20Instruction.pdf">http://users.manchester.edu/Student/GJTribbett/Webpage/Differentiating%20Instruction.pdf</a></td>
</tr>
</tbody>
</table>
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Selected Readings on Differentiation
Instructional Strategies for Classroom Teachers
to use with English Language Learners

By Joan Oigawa Aus, Ed. D., Valley City State University
Michelle Bloom, M.A, Lodoen Kindergarten Center, West Fargo Public Schools
Judy Riley, South Elementary, West Fargo Public Schools
Sara Roth, West Fargo High School, West Fargo Public Schools
The Importance of Language Acquisition for English Learners

The changing demographics throughout the US make it necessary for educators to integrate the ways in which culturally and linguistically diverse (CLD) students acquire a new language and learn a new culture into their instruction. There is a relationship between how language proficiency levels within the socio-cultural contexts of schools affect access to content knowledge and academic success. All classroom teachers need a knowledge base that includes: L1 and L2 acquisition theory, English language learner (ELL) and sheltered instruction methods; linguistic and cross-cultural contexts; curriculum development and assessment for ELLs (Fillmore & Snow, 2000; Short & Fitzsimmons, 2007) in order to best meet their students’ needs.

Language Structure and Use

What is language? How can something so common be so complicated? There are four domains of language: reading, writing, listening and speaking. In order for an ELL teacher to be successful she or he must understand the universal subsystems of language as well as their application.

The first thing to know and remember is that all languages share five (5) universal features, which are:

- phonology
- morphology
- syntax
- semantics
- pragmatics

Much of a speaker’s knowledge about these language features are acquired informally and then learned or refined in an academic setting. This handbook reviews the fundamentals of language structure and all teachers, regardless of their content area should know them. The concepts and terms that all teachers should know are:

- The spectrum of phonology -this includes phonemic awareness, phonemic sequencing—diphthongs and digraphs, stress, pitch & rhythm, intonation patterns and pronunciation).
- Morphology- (this includes morphemes, word formation, and using morphemes in teaching). The cultural meaning attached to both free and bound morphemes such as prefixes and affixes make some morphemes more difficult for ELLs to learn than others.
- Syntax- in order to understand the importance of syntax a student must recognize that academic language is based on rigid grammar rules that govern the formation of phrases and sentences. An ELL student must first understand the language structure of English become he or she can become proficient at writing. With preliterate ELLs it often
begins with subject and verb. Different languages conjugate verbs differently so ELLs must learn how English works.

- **Semantics**-this sounds so easy, but is very complicated, because generally language has multiple meanings. These meanings are related to academics, culture and background. Teaching vocabulary for ELs means providing the missing background knowledge that is often missing. ELLs find isolated spelling word lists incomprehensible.

- **Pragmatics**- essentially this is breaking language down into three ways language is used, which is: the ability to use language appropriately for different functions (greeting, informing etc...) the ability to adapt or change language according to the listener or situation, and following rules for conversations (knowing when to listen and ask a questions, proper responses, etc...)

Let's begin with things we know about English learners (ELs) and reading:

- We know that if ELs are literate in their native language, then they already have basic understandings of the reading/writing process that can transfer to the second language (Diaz-Rico & Weed, 2008);
- However, even if ELs are literate in their native language, they will need to build the background knowledge and support necessary to read and write in English (Freeman & Freeman,
- ELs that are without literacy need special treatment and these three principles should be applied to their literacy instruction
  - Introduce literacy in a meaningful way with pictures, realia, etc...
  - Make the link between oral language and print as natural as possible.
  - Give students the opportunity to enjoy reading and writing, by allowing them the opportunity for student mastery (Diaz-Rico, 2008).

- ELs need a balanced reading program that includes: 1) a strong literature, language, and comprehensive program that includes a balance of oral and written language, 2) and organized, explicit skills program that includes phonemic awareness, phonics, and decoding skills to address the needs of the emerging reader, 3) and ongoing diagnosis that informs teaching, and assessment that ensures accountability, and 4) a powerful early intervention program that provides individual tutoring for children at risk for reading failure (Diaz-Rico & Weed, 2008).
Things to Remember about teaching ELLs:

Relationships

Relationship with all students-this relationship is often perceived by students as a 2nd parent, advocate, counselor, and mentor.

- Knowing and assisting with student needs: many students will need things provided for them
  Examples include: valentines, winter clothing, homework tools, sports equipment

Learn about each culture-research your students

- Research for each culture – research CAL background sheets – teachers have done this per culture including food, religion, life in refugee camps, create a guide for each student.(see profile sheet)

Specifics to address HS ELL students – use what is working in elementary to further into high school

- Understanding the ramifications of the English Proficiency Level-BICS vs. CALP
- MS/HS students can pretend they know the content when it is really not understandable to them
- Understand the relationship between their life situations and the challenges they face or have faced
- High School level-teach problem solving to help students be able to function in society
- Have them aim for a diploma-it tells the student/community that the child is ready for society
- Connect with native speakers as much as possible-intramurals, community activities

Teachers are all responsible for addressing the needs of each student-not just the ELL teacher, eventually all teachers will have ELL students.

- Experience is critical-all pre-service teachers are required to do a cultural diversity practicum.
- Culturally homogenous students and teachers need exposure to diverse students.

Teacher expectations-work done at home must be child-centered and able to do independently along with supplies from school in which the homework can be completed

- Parents should not be asked to help
- Illiteracy is HUGE with many cultures, support that!
- Connections-encourage students to read books once at school and once with parents at home
Bhutanese Refugees in Nepal

The United States has launched a program to resettle tens of thousands of Bhutanese refugees from refugee camps in Nepal. The refugees, almost all ethnic Nepalis from southern Bhutan, have been living in camps in eastern Nepal since they were expelled from their homes in Bhutan more than 16 years ago. The refugees are unable to return to Bhutan or to settle permanently in Nepal.

Of the more than 100,000 refugees in Nepali camps, the United States will consider for resettlement at least 60,000. The first small group of refugees is expected to arrive in the United States before the end of 2007, with larger numbers anticipated by March and April 2008.

This Backgrounder provides Reception and Placement (R&P) agency staff and others assisting refugee newcomers with an overview of the Bhutanese refugees to help them prepare for the refugees’ arrival and resettlement needs. The Backgrounder briefly discusses the causes of the refugee problem, explains the need for third-country resettlement, and describes the characteristics of the refugee population.

Causes of the Refugee Problem

The great majority of Bhutanese refugees are descendants of people who in the late 19th century began immigrating to southern Bhutan—lowland, malaria-infected regions shunned by the Druk Buddhist majority—in search of farmland. There they became known as Lhobsamsas (“People of the South”).

Contact between the Druk in the north and the Lhobsamsas in the south was limited, and over the years, the Lhobsamsas retained their highly distinctive Nepali language, culture, and religion. Relations between the groups were for the most part conflict free. Under Bhutan's Nationality Law of 1958, the Lhobsamsas enjoyed Bhutanese citizenship and were allowed to hold government jobs.

In the 1980s, however, Bhutan’s king and the ruling Druk majority became increasingly worried about the rapidly growing Lhobsampa
Accountability

Secondary education teachers must be responsible for teaching not only their content, but also literacy.

Hold high expectations and accommodate needs based on English language proficiency; yet do not allow students to expect the academic standards to be different for them because they are ELLs.

- It is OK to grade students on their performance – as long as adjustments have been attempted and students have had the opportunity to discuss their expectations-expect that students perform at their ability level-hold them accountable while allowing the child ownership of the tasks/expectations

All students need accountability-especially high school students as this is an important life lesson

- Rigor – all students need this
- Responsibility-spelling, reading, or math homework
- ELLs shouldn’t expect teachers to dumb down the curriculum, but be held to the same academic standard with modified linguistic adaptations.

Content Instruction

Some children learn to read holistically and some read phonetically--students CAN learn to read without knowing all of their letters.

Context/Vocabulary

- Building vocabulary helps ELLs connect to each lesson
- Teaching vocabulary is the foundation of effective literacy instruction
- Context clues are critical to use in developing comprehension

Content-driven language

- When comprehension is the goal, then fluency should not be assessed.
- Teachers need to decide the purpose of the lesson and give students the language they need to master the educational objectives.
- This may include limiting or reducing the number of vocabulary words students are held accountable for.
- Adapted study guides, or an adapted assessment are helpful.
- Scaffolding-don’t teach grammar in isolation. It is more important that students learn to write in sentences, paragraphs and essays rather than diagramming sentences.
  - Teaching adjectives “chocolate and vanilla words” words that are descriptive;
  - Use graphic organizers to organize your ideas
  - Build background-use a sheltered content format – use a well-planned lesson plan
- The expectation is modeled for the students-teachers model how they think about the writing and how the writing is organized-can be an outline, graphic organizer, pictures in sequence
- All lessons must include objectives, activities, and assessment
English Language Learners-Objectives to Focus on at Proficiency Levels

Reading Levels for English Learners (ELs)

I. Beginning

1L. Early Intermediate

III. Intermediate

IV. Early Advanced (Proficient)

V. Advanced (Fluent)

Grades K-2

I. Early Acquisition Levels (Proficiency levels 1-2)

A. Reading K-Early grade 1

1. Distinguish letters from other symbols (numbers shapes, etc.)
2. Teach language of beginning sound
3. Recognize and produce beginning sound of simple words
4. Teach language of ending sound
5. Recognize words that rhyme and those that don’t

Reading Mid-grade 1-grade 2

1. Produces rhyming words
2. Hear and produce beginning and ending sound in one syllable words
3. Teach sequence of story using pictures, words and/or phrases
4. Identify text features (Ex: front cover, title, top of picture, where to start reading, which way do I read-left to right)

In using guided reading:

1. Use pictures to predict simple text
2. Build background with visuals, demonstration and realia
3. One-to-one correspondence with finger matching word in text
4. Teach students that text moves from left to right
5. Begin with one-line of text per page where the text is in a repetitive pattern. Ex: I run. I walk. I swing.
6. Rereading is VERY important to gain fluency and increase English vocabulary

B. Speaking

1. Repeat simple, known phrases Ex: I go to bathroom. Time for bus.
2. Uses simple social language in context
3. Uses limited academic vocabulary in context
4. Responds with words or simple phrases Ex: yes/no questions, questions related to personal information or experience

C. Writing

1. Writing progresses from top to bottom and left to right
2. Writes first name
3. Uses symbols or letters to represent words
4. Copies words frequently used/posted in the classroom
5. Uses pictures, letters, and words to write a message

D. Listening

1. Uses nonverbal responses to demonstrate understanding (points to an object or gestures)
2. Understands basic commands (sit down, come)
3. Shows understanding of a concept by sorting, matching, or pointing
4. Understands that letters have sounds and those sounds are used to enunciate words

II. Intermediate Levels (Proficiency levels 3-4)

A. Reading

1. Can look at a letter, name it, and say its sound (consonant sounds)
2. Reads simple sentences with nouns and verbs in present or past tense
3. Uses meaning (picture clues) and structure (does it look/sound right?) to read text-beginning to cross check and ask him/herself. Does it look right? Does it make sense?
4. Understanding of pronouns in text (he, she, it)
5. Recognizes sight words or high frequency words that have been taught and reviewed in daily reading tasks
6. Reads and follows simple directions.
7. Can read a sentence and choose the best answer choice among a.b.c.d
8. Knows stories have a beginning, middle and end
9. Responds to questions about text features such as title, characters, and setting
10. Can answer “how” “why” questions about text

B. Speaking

1. Social language is appropriate in most settings
2. Uses some academic vocabulary related to a current concept
3. Uses inflected forms of verbs such as talked and running
4. Can tell a simple story using short sentences
5. Can express needs and wants orally
6. Uses content-driven vocabulary to answer simple questions

C. Writing

1. Writes all upper and lowercase letters without copying
2. When given a sound, student writes associating letter
3. Hears sounds at beginning, ending and in the middle of words
4. Writes words phonetically by stretching the word to hear its sounds
5. Correctly spells many CVC words
6. Writes a number of high frequency words correctly
7. Writes simple sentences using a subject, verb and object
8. Capitalizes sentences and ends with punctuation
9. Writes two or three sentences about a given topic when given a model or graphic organizer

D. Listening

1. Hears sounds in words
2. Responds to questions asking who or how using short sentences
3. Understands directions using prepositions (Ex: Put the pencil next to the cup)
4. Understands directions using adjectives (Ex: Circle the tall tree)
5. Compare/contrast information using verbal and nonverbal responses when provided with a complete graphic organizer

III. Transitional Levels (Proficiency levels 4-5)

A. Reading

1. Segments sounds in CVC words (Ex: cup-child says c-u-p)
2. Understands common digraphs (Ex: sh, ch, th)
3. Has a growing number of known, fluent high frequency words
4. Reads short paragraphs
5. Identifies text features such as title, illustration, text, as well as punctuation marks (period, question mark, quotation marks)
6. Reads and understands compound words and contractions
7. Uses context to gain meaning in grade level text
8. Is able to cross-check independently while reading. Will self-correct when read word/s do not look right, sound right or make sense
9. Makes predictions about text based on prior knowledge and textual clues, discusses characters, setting and plot, identifies main idea and recognizes cause and effect
10. Comprehends grade-level content-driven text when vocabulary and context are provided to ensure prior knowledge is developed

B. Speaking
   1. Uses content area vocabulary in discussion and answering questions
   2. Consistently uses complete sentences
   3. Uses details in personal experience stories
   4. Retells stories with details

C. Writing
   1. Spells phonetic, one-syllable words with blends and digraphs correctly (Ex: much, when)
   2. Correctly spells high frequency irregular words (Ex: they, what)
   3. Uses correct noun and verb forms (Ex: men instead of mans, went instead of goed)
   4. Writes simple sentences and questions using correct structure
   5. Uses transitional words in writing (Ex: first, then, last)
   6. Stories include logical sequence, details, as well as descriptions of characters, setting, and events
   7. Begins to write a paragraph about one topic

D. Listening
   1. Understands some idioms (Ex: give me a hand) Good resource is picture book *There’s a Frog in My Throat*
   2. Understands most prepositions, negations (Ex: not, none) and specific descriptors (Ex: the very small car)
   3. Follows multiple step directions
   4. Can compare/contrast, explain, summarize and express opinion
Grades 3-8
I. Early Acquisition Levels (Proficiency levels 1-2)

(For students new to English at this level refer to K-2 objectives in addition to these)

A. Reading

1. Work on initial and final sounds with one-syllable words
2. Read and understand common regular singular and plural nouns
3. Read and understand common regular verbs in present tense.
4. Read and understand basic high frequency words (sight words)
5. Read and understand simple content related words along with commonly used phrases and simple sentences.
6. Read and understand one-step directions for classroom activities
7. Respond appropriately to literal questions about a simple text.
8. Show comprehension through drawing, demonstration or short verbal responses
9. Identify characters and setting in simple texts.

In using guided reading:

Build background with visuals, demonstrations and realia
Preteach vocabulary in meaningful ways
Do a picture walk through the text making predictions
Use patience is allowing the student to sound out words
Reinforce vocabulary and comprehension through questioning
Provide some form of writing activity as a follow-up
Build fluency through repeated reading of the same text

B. Speaking

1. Use repetition of poems, rhymes and chants.
2. Produce inflected forms (talked, running) and common
irregular plurals (ex. Men, children)
3. Use necessary social and academic vocabulary
4. Expand to short phrases to define meaning
5. Respond to simple questions using yes, no, and basic personal information

C. Writing
1. Print uppercase and lowercase letters
2. Relate written alphabet letter with its sound
3. Provide missing words in sentence patterns
4. Spell CVC words correctly
5. Label familiar objects with approximate spelling
6. Build on writing simple words used in grade-level
7. Uses subject, verb, object sentence pattern
8. Use end marks appropriately
9. Use uppercase letters in proper nouns and sentence beginnings
10. Write a simple story with a beginning and end using a graphic organizer

D. Listening
1. Hear and discriminate most sounds
2. Recognize patterns of sounds in oral language
3. Understand key words and phrases in the social and classroom setting (raise your hand)
4. Respond to simple directions and questions
5. Respond to greetings and requests on a one to one
6. Demonstrate comprehension of simple stories through pointing, gesturing or word phrases
II. Intermediate Levels (Proficiency levels 3-4)

A. Reading

1. Read and understand common prefixes and suffixes
2. Read and understand simple present and past tense verbs
3. Read and understand pronouns
4. Use word-attack skills and context to understand meaning
5. Follow 2-3 step directions for classroom activities
6. Understand and use table of contents and chapter titles
7. Make predictions, inferences, understands cause/effect
8. Comprehend key concepts in near grade level content area
9. Recognize simple idioms, analogies and figures of speech
10. Use a dictionary to find word meanings
11. Apply correct meaning to multiple meaning words
12. Identify main ideas and details in near grade-level text
13. Identify fact and opinion in near grade-level text
14. Understand and identify different genre
15. Understand and use charts, maps, illustrations to gain meaning
16. Identify character traits in main characters

B. Speaking

1. Use inflected forms of verbs
2. Use appropriate vocabulary in social interactions
3. Use academic vocabulary and technical words
4. Use simple sentences to express needs and in discussion
5. Use sentences to identify main ideas and details of stories
6. Summarize, define and explain content information in sentences
7. Use possessives correctly
C. Writing

1. Write and spell high frequency words (sight words)
2. Write common contractions
3. Use correct forms in plural nouns
4. Write near grade level vocabulary with spelling approximations
5. Use phrases and simple sentences to respond to writing prompts
6. Write correct pronouns and possessives
7. Write correct forms of many homophones
8. Use commas and apostrophes
9. Write and understand commands and exclamatory statements
10. Write short, descriptive paragraphs with one idea
11. Write short narratives that include setting, characters and events using a graphic organizer

D. Listening

1. Understand many grade-level terms and concepts
2. Understand some common idiom expressions.
   (give me a hand)
3. Respond to simple and complex questions with words, phrases and sentences
4. Understand key concepts of new content information and use of diagrams, poster, and graphic organizers
5. Follow 3 or more step directions.

III. Transitional Levels (Proficiency levels 4-5)

A. Reading

1. Use root words, prefixes and suffixes to gain meaning from grade-level text
2. Use multiple-meaning words correctly
3. Read and understand common homographs
4. Read and identify examples of fact/opinion and cause/effect
5. Understand and use glossaries and indexes
6. Evaluate texts with inferences, drawing conclusions and generalizations
7. Recognize author’s purpose
8. Understand simple idioms, analogies and figures of speech
9. Read and understand compound and complex sentences

B. Speaking
1. Use technical, expanded and descriptive vocabulary
2. Produce simple, compound and complex sentences
3. Relate personal experiences with detail and in logical order
4. Retell or paraphrase stories with descriptive details
5. Contribute to content area discussions by asking and responding to questions

C. Writing
1. Spell correctly regular multi-syllabic words
2. Spell correctly most high frequency and function words
3. Use correct forms of homophones and pronouns
4. Correctly use abbreviations
5. Correctly use possessives
6. Correctly use commas and quotation marks
7. Respond appropriately to a writing prompt in narrative, expository and persuasive writing
8. Write clear and accurate descriptions and comparisons
9. Write from a point of view consistently in a piece of writing

D. Listening
1. Understand grade level terms and concepts
2. Understand complex content-related questions through comparison, generalizations and inferences
3. Demonstrate comprehension through summarizing, explaining, or paraphrasing content information

Grades 9-12

I. Early Acquisition Levels (Proficiency levels 1-2)

A. Reading

1. Uses phonics and decoding to aid in word and text comprehension.
2. Identifies main character(s) and setting of story.
3. Shows understanding through drawing or short verbal phrases.
4. Comprehends sequencing of story events.
5. Understands and uses simple graphic organizers to aid in comprehension.
6. Makes simple predictions (e.g., picture walk).

B. Speaking

1. Uses some appropriate verb and noun endings to indicate possession (e.g., girl’s book), number (e.g., three books), and tense (e.g., calls, called).
2. Uses simple social and academic vocabulary (not at grade-level).
3. Restates information by using words, phrases and simple sentences.
4. Responds to simple content-based questions by using words, phrases and simple sentences.

C. Writing

1. Uses correct spelling for many words appropriate for lower grades.
2. Uses correct forms of regular plural nouns and some common irregular plurals.
3. Correctly uses capital letters in all proper nouns.
4. Uses correct forms of common regular and irregular verbs in simple present tense.
5. Uses regular verbs in simple past tense.
6. Uses words and phrases to write about academic and personal experiences.
7. Correctly uses all forms of end punctuation in simple sentences.
8. Uses simple sentences to write a brief narrative with a clear beginning, middle and end.

**D. Listening**

1. Understands key words, common phrases, and simple sentences in both social and academic settings.
2. Responds to greetings and requests with nonverbal action, one or two words answers, or short phrases.
3. Follows simple one-step directions.
4. Demonstrations understanding of content through pointing, moving, matching, drawing, labeling, classifying, categorizing, gesturing, using pictures or objects, and responding with short words or phrases.

II. Intermediate Levels (Proficiency levels 3-4)

**A. Reading**

1. Uses some vocabulary near grade-level and understands their meanings.
2. Comprehends and illustrates understanding of story elements (characters, plot, setting, etc...).
3. Uses context clues to aid in text comprehension.
4. Uses prediction and inference to aid in comprehension.
5. Identifies fact from opinion.
6. Identifies different genres.

B. Speaking

1. Uses appropriate verb and noun endings to indicate number and tense.
2. Uses technical, descriptive vocabulary to answer questions about age-appropriate topics.
3. Acquires grade-appropriate vocabulary and uses them in social and academic speech.
4. Uses simple and some complex sentences to answer factual comprehension questions and inference questions.
5. Communicates information by using simple and some complex sentences to summarize, define, give opinions, explain, or apply knowledge.

C. Writing

1. Uses correct spelling for many grade appropriate words.
2. Uses present and past perfect tenses of regular and irregular verbs.
3. Uses common verbs, nouns and high frequently modifiers.
4. Correctly uses idioms with prepositions (e.g., wait at vs. wait for).
5. Correctly uses subject-verb agreement in sentences.
6. Formulates compound and some complex sentences.
7. Writes an expository composition that includes a thesis and supporting information.

D. Listening

1. Understands many grade appropriate terms and concepts related to classroom procedures and subject matter.
2. Responds appropriately to questions requiring classification, application, or summarization of information.
4. Demonstrates comprehension of material approaching grade level.

III. Transitional Levels (Proficiency levels 4-5)

A. Reading

1. Uses vocabulary close to grade level and understands their meanings.
2. Comprehends story elements and identifies them.
3. Clearly summaries a variety of text or close to grade level.
4. Evaluates the story and draws conclusions.
5. Predicts with evidence-based information.

B. Speaking

1. Consistently uses appropriate verb and noun endings to indicate number and tense.
2. Indicates possession with the appropriate noun endings.
3. Almost always uses correct verb tenses.
4. Uses technical, expanded, and descriptive subject matter vocabulary.
5. Uses complex syntactic formations as appropriate (e.g., subordinate clauses).
6. Uses language to paraphrase, justify, examine, defend, interpret, contrast, associate, assess and conclude.

C. Writing

1. Uses correct spelling for key concepts and discipline-specific terms.
2. Uses all verbs correctly, including present, past, and future perfect tenses.
3. Consistently uses grade-appropriate vocabulary in written work.
4. Correctly uses transitional words (e.g., however, thus).

5. Correctly uses subordinate and relative clauses.

6. Responds appropriately to grade appropriate prompt asking for narrative, expository, or persuasive writing.

7. Develops a clear thesis supported with evidence.

8. Presents and justifies a point of view.

D. Listening

1. Understands grade-appropriate terms and concepts related to classroom procedures and subject matter.

2. Follows complex directions involving multiple options and choices.

3. Comprehends extended classroom discourse (e.g., short lectures).

4. Demonstrates understanding of grade-level material (stories, content area information, and oral presentations) by analyzing, evaluating, and examining.

5. Responds to questions requiring inference, comparison, generalization, summarization, explanation, point of view, debate, or discussion.

Strategies that Promote Reading and Writing

There are four skills that must be mastered to learn to read:

1. **Skill with print;**
2. **Decode text;**
3. **Utilizing prior knowledge;**
4. **Comprehension.**

Regardless of how English learners are classified what becomes the differentiating factor is their existing knowledge of **sound/symbol, word order (syntax) and semantics (meaning and context).** Some successful writing strategies that work with English learners are:

1. **Language experience approach**
2. **Interactive Writing**
3. **Literature response groups**
4. **Different types of graphic organizers (see pages 158-162 in Diaz-Rico)**
5. **Shared reading**
6. **Guided reading**
7. **Readers’ Theater**
8. **Literature Response Groups**
9. **Cloze: Using Context to Create Meaning**
All of these methods can be adapted to a variety of literacy levels—always remember that the purpose of an ELL/EL teacher is teach academic content while promoting English language proficiency. Many existing reading programs such as Success for All and Reading First with their heavy emphasis on phonics have resulted in low reading test scores for ELLs/ELs (Diaz-Rico, 2008). These programs tend to be low interest for ELs, so they become frustrated and quit reading, true comprehension never comes.

Math ideas to make it more accessible

- Teach the whole child-this includes math
- Use ELL supplements with content while considering that those supplements are not complete
- Vocabulary must be your premise for teaching math
- Use visuals-picture, definition, must be there as a tool throughout the unit
- Don’t underestimate student’s understanding of concepts-hands on demonstration and manipulatives are essential to ensuring student understanding of concepts as students can SHOW they understand
- Simplify and clarify directions and keep the organization of the page/worksheet consistent to allow for practice and lack of confusion with directions
- Certain curriculums are not as effective for ELL-it is imperative that the curriculum be comprehensible for ELL students so instruction must be re-taught
- Instruction, check for understanding, re-teach, then move on to independent practice and go back to the skill a few days later
- Allow students to work together and in small groups to interact

Effective Assessments must be adapted for ELLs:

- True/false not effective for ELLs
- Project-based assessments or demonstrations are more authentic
- Reduce number of choices of options (limit to three)
- Don’t use timed assessments
- Allow use of adapted study guides during assessment
- Open book tests are ineffective
- Small groups or individual testing
- Oral responses are acceptable for beginning and early intermediate
Cluster/Word Web 3
Write details about your topic in the circles.
Before Reading

1. Preview your book. Circle all the nonfiction text features found in your book.

2. Title:

3. Author:

During Reading

As you read, record any connections (TS, TW, T) you make to the book.

During Reading

As you read, record important information (P) or questions (Q) you have.
Sequence Chart
List steps or events in time order.

<table>
<thead>
<tr>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
</tr>
<tr>
<td>Next</td>
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<tr>
<td>Next</td>
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<td>Next</td>
</tr>
<tr>
<td>Next</td>
</tr>
<tr>
<td>Last</td>
</tr>
</tbody>
</table>
Story Map 1
Write notes in each section.

Setting:  

Time:  

Place:  

Characters:  

Problem:  

Plot/Events:  

Resolution:  

---
| Landforms chosen reflect those found in native country | Landform vocabulary may be incorrect and/or chosen landforms may not be found in student’s native country | Chosen landforms are in native country but may not be major features | Student chosen resources can be found in native country and are major features |
| Written message gives information about where the student is (hypothetically) and writes about landforms there | Lists either a place or landforms but does not connect the two things in writing | Student lists the home country and some landforms but may not explain that they are connected | Student writes where he/she is and what landforms are seen there |
| The illustrations and the writing match by showing and telling about the same thing | Some of the writing and illustrations may match, but not all | Most of the writing and illustrations match | The illustrations and writing match well |

**Student Name** ________________________

**Native Country** ______________________

**Landforms chosen** __________________

____________________________________

____________________________________

**Total Possible Score: 9**

**Student Score: __**

**Teacher Comments:**
## Native American Homes of the Plains

<table>
<thead>
<tr>
<th>Type of Home</th>
<th>Natural Resources used to build the home</th>
<th>Special Features of the home</th>
<th>Picture of the Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teepee or Tipi</td>
<td>Trees for poles</td>
<td>Could be put up or taken down in minutes</td>
<td><img src="image" alt="Tipi" /></td>
</tr>
<tr>
<td></td>
<td>Buffalo hides</td>
<td>Warm in winter and cool in summer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Smoke from inside the tipi came out through a hole in the top</td>
<td></td>
</tr>
<tr>
<td>Earth Lodge</td>
<td>Clay</td>
<td>Partly underground</td>
<td><img src="image" alt="Earth Lodge" /></td>
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<tr>
<td></td>
<td>Grass</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Used by tribes who were part-time farmers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A village may have about 60 earth lodges</td>
<td></td>
</tr>
</tbody>
</table>

http://www.kstrom.net/isk/maps/houses/housingmap.html

site for pictures of Native American homes

**ELL STUDENT PROFILE**

**Student:**

**Grade:**

**Classroom Teacher:**

**Date of Birth:**

**US Entry Date:**

**Birth Country:**

**Language:**

<table>
<thead>
<tr>
<th>Parent/Guardian</th>
<th></th>
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<tbody>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>City</td>
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</tr>
<tr>
<td>State</td>
<td></td>
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<tr>
<td>Zip Code</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
</tr>
</tbody>
</table>

**Siblings at this school:**

**Interpreter name and phone number:**
Definition of Terms

*English language learner (ELL)* - A person who is in the process of learning English and has a first language other than English, or a background that contains non-English, this could include Native America, Alaskan Native, new immigrant, political refugee and migrant students. A student doesn't have to possess an intact native language to be an ELL student.

*English learners* (EL) - A person who is in the process of learning English. This term is used almost exclusively in California.

*English as a Second Language* (ESL) - A person who is in the process of learning English; it can also refer to a program model in which students’ classes are conducted in traditional English language arts.

*Content-based ELL* - Learning English through content.

*Culturally and linguistically diverse* (CLD) - Students whose culture, heritage, and native language differs from native English U.S. speakers.

*English language proficiency* (ELP) - Refers to a student’s level of linguistic fluency: pre-operational, beginning, developing or intermediate, expanding or proficient, fluent.

*SHELTERED INSTRUCTION* - Teaching ELL students in an environment where the language of instruction and the academic content have been linguistically adapted and comprehensible teachings strategies are used. Generally, the language minority students are in one classroom while receiving instruction.
References


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</tbody>
</table>
SECTION I

OVERVIEW OF THE HANDBOOK
Instructional Technology Handbook

Introduction
This handbook describes VCSU’s commitment to enhancing teaching and learning with instructional technology, research and training. Technologies can provide powerful support for teaching and learning but the value depends upon how effectively they are used to support instruction. All teacher education students should graduate with the knowledge and skills that will allow them to easily and effectively integrate technology in their teaching.

VCSU is fortunate to have a technology rich environment that provides opportunities for instructors and students. The importance of technology is apparent through the laptop initiative, installation of media technologies, and support for innovation in the classroom. Faculty have developed considerable expertise in the use of instructional technology during the past 15 years and greatly expanded the range of instructional strategies available as well as assessment tools that can be deployed to fit the various situations.

Instructional Technology Standards
This handbook was developed using the standards developed by the International Society for Technology in Education (ISTE). ISTE is the leading organization supporting educators in improving teaching and learning through the effective use of technology in PK-12 and teacher education. The National Educational Technology Standards (NETS) serve as a roadmap for improved learning and teaching. The NETS help measure proficiency and set goals for what students (NETS•S) and teachers (NETS•T) should know and be able to do with technology in education.

Example Strategies
This handbook divides the NETS•Student and NETS•Teacher standards into two sections. Each section provides example strategies that can be used to address the standards and performance indicators. The example strategies are from content method courses on the VCSU campus and examples developed by the Bush Grant instructional technology group. They are intended to assist readers in understanding the type of activities that can be used to address the standards and performance indicators. There are most likely other strategies you use or may develop in the future that will also address the standards.

Bush Grant Initiative
The goal of the Partnership for Educating Teacher Leaders (PETL) project is to recruit, prepare, place and support teachers who are able to effectively ensure that each of their students makes at least one year of progress during each year of instruction. Four key dimensions of teaching are at the core of project activities: assessment, classroom management, instructional technologies, and diversity. This handbook was developed as a component to meet the instructional technologies core project activity.
SECTION II
INSTRUCTIONAL TECHNOLOGY AT VCSU
VCSU Technology Initiatives
Technology at VCSU has always focused on the improvement of teaching and learning and aligns with the campus strategic plan. The laptop initiative provides students with a unique experience and access to computers any time. In addition to the laptop computers students are provided access to other technology hardware and software to enhance their learning experiences. This type of learning environment empowers students to develop skills important to employers such as the ability to work in a team, problem-solving, communication and interpersonal skills.

A technology rich teaching and learning environment exposes students to a variety of technology tools and applications related to their teaching majors. It allows students to apply their knowledge and learn far more information. Faculty embed technology experiences in all classes to extend their learning from the Educational Technology course provided in the professional education sequence.

VCSU Technology Services
VCSU is committed to providing students with quality technology and services. Education is experiencing rapid changes in technology and the development of enhanced learning environments in the K-12 system. Providing a technology rich environment to pre-service teachers at VCSU assists in the transfer of knowledge and skills to their future classrooms. Following is a summary of technology available to students all students:

<table>
<thead>
<tr>
<th>Laptop Computers</th>
<th>Electronic Library Subscriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Classrooms</td>
<td>Personal Web Portal</td>
</tr>
<tr>
<td>Interactive Whiteboards</td>
<td>Online Learning Management System</td>
</tr>
<tr>
<td>LCD Projectors</td>
<td>IP Telephony and Unified Messaging</td>
</tr>
<tr>
<td>Digital Cameras</td>
<td>Web Conferencing</td>
</tr>
<tr>
<td>Digital Video Cameras</td>
<td>Class Recordings</td>
</tr>
<tr>
<td>Document Scanners</td>
<td>State of the Art software</td>
</tr>
<tr>
<td>Interactive Video Services</td>
<td></td>
</tr>
</tbody>
</table>

In addition to the summarized listing above, students in each major are also exposed to various technologies related to their fields of study.

A rich technology environment enables a transformation of nearly all aspects of the learning environment. Students are more involved in the learning process as they use their computers to take notes, conduct research, communicate, create, and solve problems. Students develop electronic portfolios that demonstrate abilities not documented on a resume or transcript. Students, faculty, and staff believe the information technology at VCSU provides a more effective learning environment.
SECTION III

ISTE NETS STANDARDS
ISTE NETS Teacher Standards

1. Facilitate and Inspire Student Learning and Creativity
Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments. Teachers:
   a. promote, support, and model creative and innovative thinking and inventiveness
   b. engage students in exploring real-world issues and solving authentic problems using digital tools and resources
   c. promote student reflection using collaborative tools to reveal and clarify students’ conceptual understanding and thinking, planning, and creative processes
   d. model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

2. Design and Develop Digital-Age Learning Experiences and Assessments
Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S. Teachers:
   a. design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
   b. develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress
   c. customize and personalize learning activities to address students’ diverse learning styles, working strategies, and abilities using digital tools and resources
   d. provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching

3. Model Digital-Age Work and Learning
Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society. Teachers:
   a. demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations
   b. collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation
   c. communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats
   d. model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

4. Promote and Model Digital Citizenship and Responsibility
Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices. Teachers:
   a. advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources
   b. address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources
   c. promote and model digital etiquette and responsible social interactions related to the use of technology and information
   d. develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools
5. Engage in Professional Growth and Leadership
Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources. Teachers:

a. participate in local and global learning communities to explore creative applications of technology to improve student learning
b. exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others
c. evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning
d. contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community
ISTE NETS Student Standards

1. Creativity and Innovation
Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:
   a. apply existing knowledge to generate new ideas, products, or processes.
   b. create original works as a means of personal or group expression.
   c. use models and simulations to explore complex systems and issues.
   d. identify trends and forecast possibilities.

2. Communication and Collaboration
Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:
   a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
   b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
   c. develop cultural understanding and global awareness by engaging with learners of other cultures.
   d. contribute to project teams to produce original works or solve problems.

3. Research and Information Fluency
Students apply digital tools to gather, evaluate, and use information. Students:
   a. plan strategies to guide inquiry.
   b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
   c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
   d. process data and report results.

4. Critical Thinking, Problem Solving, and Decision Making
Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. Students:
   a. identify and define authentic problems and significant questions for investigation.
   b. plan and manage activities to develop a solution or complete a project.
   c. collect and analyze data to identify solutions and/or make informed decisions.
   d. use multiple processes and diverse perspectives to explore alternative solutions.

5. Digital Citizenship
Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:
   a. advocate and practice safe, legal, and responsible use of information and technology.
   b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
   c. demonstrate personal responsibility for lifelong learning.
   d. exhibit leadership for digital citizenship.

6. Technology Operations and Concepts
Students demonstrate a sound understanding of technology concepts, systems, and operations. Students:
   a. understand and use technology systems.
   b. select and use applications effectively and productively.
   c. troubleshoot systems and applications.
   d. transfer current knowledge to learning of new technologies.
SECTION IV

PERFORMANCE INDICATORS AND EXAMPLES FOR TEACHERS
NETS Teacher Standards and Performance Indicators

STANDARD 1 – Facilitate and Inspire Student Learning and Creativity
Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

**Performance Indicator 1a:** promote, support, and model creative and innovative thinking and inventiveness

**Example strategy that supports Standard & Performance Indicator:**
Incorporate existing and emergent technologies to communicate, supplement classroom learning and enhance student engagement with material. (examples of technologies include Twitter, Facebook, Blogging, or Learning Management system tools in products like Blackboard, Desire 2 Learn, and Moodle)

**Performance Indicator 1b:** promote, support, and model creative and innovative thinking and inventiveness

**Example strategy that supports Standard & Performance Indicator:**
Incorporate project/s requiring students to identify a problem or research question, identify sources that directly address that issue, define an analytical approach, and pose a reasoned solution to the problem. (library digital databases, websites and electronic media are useful resources)

**Performance Indicator 1c:** promote student reflection using collaborative tools to reveal and clarify students’ conceptual understanding and thinking, planning, and creative processes

**Example strategy that supports Standard & Performance Indicator:**
Implement a concept mapping activity in which students demonstrate personalized understanding of complex issues. Another strategy could be to have students develop digital portfolios based on course competencies and demonstrate their understanding through self-assessment and reflection. (applicable software may include Kidspiration, Inspiration, Powerpoint and Keynote)

**Performance Indicator 1d:** model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

**Example strategy that supports Standard & Performance Indicator:**
Engage students in a discussion on an issue that is open to interpretation. The teacher will moderate interaction. (establish a discussion board, online forum, video conference, blog, wiki, or in-class debate)
**STANDARD 2 – Design and Develop Digital-Age Learning Experiences and Assessments**

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S. Teachers:

<table>
<thead>
<tr>
<th>Performance Indicator 2a:</th>
<th>design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example strategy that supports Standard &amp; Performance Indicator:</strong></td>
<td>Adapt traditional assignments and activities to apply contemporary tools, or embed in the curriculum the use of diverse technologies to enhance the standard curriculum. (examples might include using Photoshop &amp; a tablet/stylus to adapt a drawing assignment or incorporating Google Earth and GPS technology to illustrate spatial relationships in Geography)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Indicator 2b:</th>
<th>develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example strategy that supports Standard &amp; Performance Indicator:</strong></td>
<td>Engage the students in their own learning by establishing a student-generated project in which they define their own objectives, methodologies, outcomes and assessment. Students will develop their own rubrics and engage in self-assessment. (useful tools include Rubistar, electronic grading system, journaling and peer review)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Indicator 2c:</th>
<th>customize and personalize learning activities to address students’ diverse learning styles, working strategies, and abilities using digital tools and resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example strategy that supports Standard &amp; Performance Indicator:</strong></td>
<td>Differentiate instruction for diverse learners by incorporating scaffolding strategies that effectively support different learning styles. Provide multiple methods for students to demonstrate understanding of content and concepts. (TeacherTube, podcasts, vodcasts, written reports and portfolios)</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Performance Indicator 2d:</th>
<th>provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example strategy that supports Standard &amp; Performance Indicator:</strong></td>
<td>Assess student outcomes with a variety of measures, which account for both student learning styles and effective technologies. Adapt instruction and assessment based on observed outcomes. (examples may include personal response systems, student blogs, Rubistar rubric generator, portfolios)</td>
</tr>
</tbody>
</table>
STANDARD 3 – Model Digital-Age Work and Learning
Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society. Teachers:

**Performance Indicator 3a:** demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations

**Example strategy that supports Standard & Performance Indicator:**
Actively employ technology-literacy in a day-to-day environment and demonstrate an ability to adopt new technologies. (dual-platform operating systems, email, grade software, general office applications, internet applications)

**Performance Indicator 3b:** collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation

**Example strategy that supports Standard & Performance Indicator:**
Establish a digitally connected community that extends beyond the classroom, to facilitate student learning and success. (BlackBoard, D2L, PowerSchool, online library systems, social networking sites such as Ning, Facebook, Wikis, etc.)

**Performance Indicator 3c:** communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats

**Example strategy that supports Standard & Performance Indicator:**
Utilize digital tools to inform and educate constituencies beyond the classroom of urgent, interesting or exciting developments. (listserves, Twitter, NotiFind, digital newsletters, podcasts, online video and images of student-produced artifacts, digital portfolios)

**Performance Indicator 3d:** model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

**Example strategy that supports Standard & Performance Indicator:**
Use digital tools to assist in development of critical thinking and problem solving. (library databases and resources, critical analysis of web sites, research activities, presentation software, turnitin)
### STANDARD 4 – Promote and Model Digital Citizenship and Responsibility

Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

| Performance Indicator 4a: advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources |
| Example strategy that supports Standard & Performance Indicator: Incorporate in all assignments the expectations of academic integrity and protection of intellectual property. Follow documentation/source protocols for employing copyrighted material and proper citation to avoid plagiarism. (turnitin, copyright and fair use guidelines, standardized citation formats for MLA and/or APA) |

| Performance Indicator 4b: address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources |
| Example strategy that supports Standard & Performance Indicator: Commit to learner-centered teaching strategies that promote student creativity and use of alternative digital tools and media to demonstrate learning. (Personal learning contracts, options for varied digital tools and software, open source software, and cooperative learning projects) |

| Performance Indicator 4c: promote and model digital etiquette and responsible social interactions related to the use of technology and information |
| Example strategy that supports Standard & Performance Indicator: Discuss appropriate etiquette with digital tools and potential issues related to irresponsible use. Acceptable use policies could also be discussed. Instructors should engage in digital communication with students and moderate communication between students. (example social tools might be BlackBoard discussion boards, Wimba tools, Blogs, Wikis, Ning, etc.) |

| Performance Indicator 4d: develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools |
| Example strategy that supports Standard & Performance Indicator: Students and Faculty in different disciplines can use the video conferencing technology to conduct observations or practicum experiences, host guest speakers, webinars, podcasts/vodcasts, or virtual tours. One example might be Spanish classes connecting and interacting with classes at partner institutions in Mexico. (Wimba Live Classroom, Interactive Video Network, Skype, Pronto, etc.) |
**STANDARD 5 – Engage in Professional Growth and Leadership**
Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

**Performance Indicator 5a:** participate in local and global learning communities to explore creative applications of technology to improve student learning

**Example strategy that supports Standard & Performance Indicator:**
Determine content area specific learning communities for pre-service or in-service teachers. Have students and faculty take part when possible. In circumstances where this is not possible, establish a learning community for all content area majors. (Example learning community software could be BlackBoard Organizations, Ning, online blogs, etc.)

**Performance Indicator 5b:** exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others

**Example strategy that supports Standard & Performance Indicator:**
Faculty should participate in professional development provided by the VCSU Office of Instructional Design on emerging technology software and tools for the classroom. In addition to professional development instructors may submit mini grant proposals through ITC and the Office of Instructional Design for funding of instructional technology testing.

**Performance Indicator 5c:** evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning

**Example strategy that supports Standard & Performance Indicator:**
Faculty could register for professional journals, online communities or e-publications like eSchool News to increase their knowledge of emerging instructional technology and related research. Faculty should also use available technology when appropriate to enhance teaching and support student learning.

**Performance Indicator 5d:** contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community

**Example strategy that supports Standard & Performance Indicator:**
Faculty could encourage teacher education students to be active in professional organizations and professional development opportunities for life long learning. Faculty should also promote professional development as a participant or as presenter.
SECTION V

PERFORMANCE INDICATORS AND EXAMPLES FOR STUDENTS
NETS Student Standards and Performance Indicators

**STANDARD 1 - Creativity and Innovation**
Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

<table>
<thead>
<tr>
<th>Performance Indicator 1a: apply existing knowledge to generate new ideas, products, or processes.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example strategy that supports Standard &amp; Performance Indicator:</strong></td>
</tr>
<tr>
<td>Students will use digital media in presentations:</td>
</tr>
<tr>
<td>• Powerpoint Slide Shows</td>
</tr>
<tr>
<td>• Digital Slide Shows</td>
</tr>
<tr>
<td>• iMovies</td>
</tr>
<tr>
<td>• Googledocs</td>
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<thead>
<tr>
<th>Performance Indicator 1b: create original works as a means of personal or group expression.</th>
</tr>
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<tbody>
<tr>
<td><strong>Example strategy that supports Standard &amp; Performance Indicator:</strong></td>
</tr>
<tr>
<td>Students will be able to Generate, Design, and Edit Digital Media:</td>
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<tr>
<td>• Design Digital Video</td>
</tr>
<tr>
<td>• Garage Band</td>
</tr>
<tr>
<td>• Audacity</td>
</tr>
<tr>
<td>• Drawing/Graphics Software</td>
</tr>
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</table>

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<tr>
<th>Performance Indicator 1c: use models and simulations to explore complex systems and issues.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example strategy that supports Standard &amp; Performance Indicator:</strong></td>
</tr>
<tr>
<td>Students will be able to experience real-world experiences through simulation and modeling.</td>
</tr>
<tr>
<td>• Stock Market simulation software</td>
</tr>
<tr>
<td>• Texas Instrument Calculator and external data collection sensors</td>
</tr>
<tr>
<td>• Use of multiple operating systems through virtual computer software</td>
</tr>
<tr>
<td>• National Instruments LabView for programming and building virtual instruments</td>
</tr>
<tr>
<td>• Lego software (WeDo, Robolab, and NXT-G)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Indicator 1d: identify trends and forecast possibilities.</th>
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</thead>
<tbody>
<tr>
<td><strong>Example strategy that supports Standard &amp; Performance Indicator:</strong></td>
</tr>
<tr>
<td>Students will be able to locate resources for technology developments:</td>
</tr>
<tr>
<td>• Educational Technology Websites and Sources</td>
</tr>
<tr>
<td>• Online Journal examples: Instructional Technology Journal Technological Horizons (T.H.E.)</td>
</tr>
</tbody>
</table>
- E-School News article summaries and reactions.

**STANDARD 2 - Communication and Collaboration**

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

**Performance Indicator 2a:** interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.

**Example strategy that supports Standard & Performance Indicator:**
Students will be able to use online collaborative tools:
- Ability to use blogs, Google docs, wikis, teacher tube, podcasts
- WebQuests
- Discussion Forums
- Professional Learning Community

**Performance Indicator 2b:** communicate information and ideas effectively to multiple audiences using a variety of media and formats.

**Example strategy that supports Standard & Performance Indicator:**
Students will be able to design and communicate ideas:
- Present information to audiences – PowerPoint, audio, video, text
- Utilize principles of designing effective communication-Visual and Text Elements
- Producing digital media to communicate a specific idea

**Performance Indicator 2c:** develop cultural understanding and global awareness by engaging with learners of other cultures.

**Example strategy that supports Standard & Performance Indicator:**
- Videoconferencing
- Skype (audio/video conferencing tool)
- Wimba Pronto/Live Classroom
- Web pages

**Performance Indicator 2d:** contribute to project teams to produce original works or solve problems.

**Example strategy that supports Standard & Performance Indicator:**
- Cross Curricular - Multiple Content Areas /Project Based learning /Developing Thematic Units
- Virtual Field Trips
- WebQuests
**STANDARD 3 - Research and Information Fluency**
Students apply digital tools to gather, evaluate, and use information.

**Performance Indicator 3a:** plan strategies to guide inquiry.

**Example strategy that supports Standard & Performance Indicator:**
Awareness of soft technologies and software that will aid them
- Concept Mapping/Venn Diagramming/KWL
- Kidspiration, Inspiration
- Brainstorming and collaboration software

**Performance Indicator 3b:** locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.

**Example strategy that supports Standard & Performance Indicator:**
- Conduct Effective Internet searches
- Internet Search Techniques-search engine narrow the topic
- Excel spreadsheets and charts
- Use websites as research for lesson plans and other assignments

**Performance Indicator 3c:** evaluate and select information sources and digital tools based on the appropriateness to specific tasks.

**Example strategy that supports Standard & Performance Indicator:**
- Identify validity of information on websites: checklist for credibility
- Reliable, accurate, relevant sites
- Select and appropriate software applications

**Performance Indicator 3d:** process data and report results.

**Example strategy that supports Standard & Performance Indicator:**
- Synthesize information collected, identify main points, put together in a logical format and an appropriate presentation
- Slideshows
- Create Web sites
- Flash Animation
- Video presentations
STANDARD 4 - Critical Thinking, Problem Solving, and Decision Making
Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

**Performance Indicator 4a:** identify and define authentic problems and significant questions for investigation.

**Example strategy that supports Standard & Performance Indicator:**
- Problem based learning
- Cars sales project in Algebra—use online calculator
- Each content area has authentic problems that can be researched and discussed using a variety of technology tools and processes.

**Performance Indicator 4b:** plan and manage activities to develop a solution or complete a project.

**Example strategy that supports Standard & Performance Indicator:**
- Ongoing weather investigation
- Work in collaborative groups on an assignment and present with a media component
- Use group pages in BlackBoard LMS for group collaboration and assignments.

**Performance Indicator 4c:** collect and analyze data to identify solutions and/or make informed decisions.

**Example strategy that supports Standard & Performance Indicator:**
- Conduct research through digital sources in the library or on the internet
- Use data collection software and equipment related to their field of study (examples could include - SPSS, Vernier Instruments, LabView, Excel, Texas Instruments Calculator, etc.)
- Utilize electronic grading and assessment software to make informed decisions about instruction, remediation, and evaluation.

**Performance Indicator 4d:** use multiple processes and diverse perspectives to explore alternative solutions.

**Example strategy that supports Standard & Performance Indicator:**
- Utilize a variety of technologies and media to complete an assignment, presentation, delivery of a lesson etc.
- Music students use instruments, recording devices, video and music software in a variety of ways to prepare lessons, read sheet music, and practice with interactive
accompaniments.
- Video cameras and digital media editing tools can be used to analyze sports movement and techniques.

**STANDARD 5 - Digital Citizenship**
Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

**Performance Indicator 5a:** advocate and practice safe, legal, and responsible use of information and technology.

**Example strategy that supports Standard & Performance Indicator:**
- Develop an acceptable use policy for use in future classrooms
- Discuss and understand School District Privacy Issues-release of student information/picture for public use
- Read and understand the VCSU/NDUS acceptable use policy

**Performance Indicator 5b:** exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.

**Example strategy that supports Standard & Performance Indicator:**
- Demonstrate effective use of electronic collaboration tools used in online and face-to-face classes (examples could include: BlackBoard, Pronto, social networking software, Blogs, etc.)
- Participation with group projects using technology such as presentations and video
- Promote the use of collaborative tools with faculty and peers

**Performance Indicator 5c:** demonstrate personal responsibility for lifelong learning.

**Example strategy that supports Standard & Performance Indicator:**
- Explore and utilize technology tools beyond the classroom environment
- Develop a mini grant proposal and submit to the VCSU Office of Instructional Design for testing and evaluating emerging technology to enhance student learning
- Attending training outside of the classroom (examples could include, TNT and summer institutes).

**Performance Indicator 5d:** exhibit leadership for digital citizenship.

**Example strategy that supports Standard & Performance Indicator:**
- Actively participate in campus decision making regarding selection and use of instructional technology
- Participate in campus surveys and assist in development of criteria for laptop selection
Volunteer to participate in advisory committees for instructional technology

STANDARD 6 - Technology Operations and Concepts
Students demonstrate a sound understanding of technology concepts, systems, and operations.

Performance Indicator 6a: understand and use technology systems.

Example strategy that supports Standard & Performance Indicator:
- Develop skills and ability to use different computer platforms and software versions and Operating Systems
- Troubleshoot hardware and software problems
- Develop a basic understanding of different peripheral devices and connections, cables and software necessary to use them.

Performance Indicator 6b: select and use applications effectively and productively.

Example strategy that supports Standard & Performance Indicator:
- Investigate software titles and evaluate them for quality, functionality and use in instruction (commercial software, open source software, and freeware)
- Determine suitable software and hardware systems necessary to complete specific tasks.

Performance Indicator 6c: troubleshoot systems and applications.

Example strategy that supports Standard & Performance Indicator:
- Learn how to troubleshoot basic computer connection problems with the internet, printing, connection of peripheral devices, installation of software and drivers.
- Learn basic maintenance operations on the computer to avoid system trouble (examples could include disk defragmenting, data backup, virus scanning, etc.)
- Use help menus and device manuals to discover solutions to problems with hardware and software

Performance Indicator 6d: transfer current knowledge to learning of new technologies.

Example strategy that supports Standard & Performance Indicator:
- Share knowledge of software and hardware with peers and faculty
- Transfer knowledge of menus and functions between software applications and hardware
- Learn the similarities and differences between common operating systems, software and computer hardware
SECTION VI

GLOSSARY OF TERMS
GLOSSARY

ADA/Americans with Disabilities Act-Section 508—The section of the 1986 ADA Law that contains provisions ensuring that information technology is accessible to people with disabilities.

Animation—A technique in which the artist gives motion to still images by creating and juxtaposing a series of pictures with small, incremental changes from one to the next.

Asynchronous—Not at the same time.

AUP/Acceptable Use Policy—A written document approved by a school district and/or school board, outlining terms and conditions for student/staff use of school district technology, including the Internet and e-mail.

Authority—In judging a work, this refers to the qualifications of the producer, author or editor. (e.g., expertise, reputation, education, etc.).

Bandwidth—The range of frequencies an electronic communications channel can support without excessive deterioration.

Boolean/Boolean search/Boolean operator—A system of logic that, when applied to searches, links search terms with the “operators” AND, OR, and NOT. Boolean operators broaden or narrow the range of a search.

CD-R—Compact disc-recordable. A compact disc on which the user may record information digitally one time and then access it many times.

CD-ROM—Compact disc read-only memory.

CD-RW—Compact disc-rewritable. A compact disc on which the user may record information digitally many times and access it many times.

Circulation policy—Rules that govern the borrowing of library materials by the patrons.

Clustering—Small groups of workstations or learners in a classroom setting.

Copyright—The exclusive legal rights granted by a government to the owner of intellectual property that protects the copyrighted material from unauthorized duplication, sale, or performance.
**Database**—A collection of information organized for search and retrieval.

**Demographics**—Data on a population group relating to age, gender, education, occupation, income, etc.

**Digital camera**—A camera that produces images in digitized form instead of using photographic film. (Example would be flipvideos, Sony Handycam, Canon Vixeo, etc.)

**Discipline-related tools**—Software or hardware developed for a particular area of study such as computer-aided drafting programs (CADD).

**Document camera**—A video camera mounted on a copy stand to show documents, pictures, graphics, and real objects to groups.

**Download**—To receive a file from one computer directly into another computer.

**Electronic book (e-book)**—Hand-held device roughly the size of a paperback book that typically contains enough memory for 75 to 80 novel-length works.

**Fiber optics**—A transmission medium using spun silicon shaped into threads as thin as human hair. It transmits more signals with higher quality than can metal cables.

**File server**—See **Server**.

**Firewall**—Intranet software that prevents external users from accessing a proprietary network, while allowing internal users access to external networks.

**Flash drive**—USB minidrive; a form of removable storage device that allows the user to store files outside the computer.

**GPS/Global Positioning System**—A satellite navigation system that was designed for and is operated by the U. S. military, but with a growing number of civilian users. GPS provides specially coded satellite signals that can be processed in a GPS receiver, enabling the receiver to compute position, velocity and time.

**Graphic organizer**—Software used to organize information graphically such as charts, timelines, chain of events, spider maps, Venn diagrams, or storyboards.

**Graphics**—The creation and manipulation of picture images which may be obtained by a variety of means, including web pages, scanning, and digital cameras.

**Graphics software**—Any computer program that enables the user to draw, display and/or manipulate pictures, charts, or graphs that have been scanned, drawn or imported. Many software applications include graphics components.

**Hardware**—The physical component of technology such as the computer, keyboard, mouse,
Information—A collection of data, facts, intelligence, or knowledge.

Information literacy—The ability to recognize the need for information in intelligent decision-making, formulate questions based on those needs, identify potential sources of information, develop successful search strategies, access a variety of sources of information, evaluate, organize, and integrate that new information into existing knowledge, and use it in critical thinking and problem-solving.

Instant messaging (IM) —A real-time ongoing text conversation with another person.

Intellectual freedom—The right of any person to read or express non-libelous views that may be unpopular or offensive to others as established by the First Amendment to the U.S. Constitution.

Intellectual property laws—Laws governing the tangible products of the human mind and intellect that have the legal status of personal property, including works protected by copyright and patented inventions. A person’s ideas are covered as soon as they are recorded or made manifest in some form.

Interactive Whiteboard (IWB) - a large interactive display that connects to a computer and projector. A projector projects the computer's desktop onto the board's surface, where users control the computer using a pen, finger or other device. (SmartBoard and Promethian Activboard)

Internet—A widely-used worldwide public computer network, initially developed by the U.S. military, that links smaller computer networks and allows users on different computer systems to communicate with one another on a global scale.

Intranet—The communication network of computers within an organization, or company, available only to the users within the organization.

Jigsawing—A learning strategy in which different class groups work on a part of the whole, not all working on the same part at the same time. The parts are added to each other to form the whole.

Keyword—A searchable word in a title, subject, or body of text.

LAN/Local Area Network—A network of computers located at one site.

Macros—A series of instruction (or mini computer programs) that enable the user to carry out specific tasks when certain key combinations are pressed.

Mail Merge—A feature within a word-processing program that enables the user to merge a document with a data file of names and addresses, for the purpose of personalized mass mailings.
Media—Types of information sources or any type of product used as a means of communication or to transmit information or both (e.g., books, compact discs, motion pictures, newspapers, television, videotapes).

Modem/MODulator-DEModulator—A device that allows a computer to connect to the Internet over conventional phone lines.

MP3 (MPEG Audio Layer 3)—A format for compression of audio files to reduce them into more manageable size, especially when using the Internet.

Multimedia—Combined use of media (text, graphics, sound animation, or video) resulting in an artistic presentation of information.

Netiquette—Standards of polite behavior while using the Internet.

Online—Connected to a network of computers, usually the Internet.

OCR/Optical Character Recognition—Software designed to convert text on paper into digital format by scanning a document, which can then be manipulated by using a keyboard.

OPAC/On-line Public Access Catalog—A computerized library catalog that replaces the card catalog and provides for additional search strategies such as keyword.

Operating System—The software that controls and manages all of the functions of a computer that allows it to operate. e.g., Windows XP, DOS and OS2.

PDA/Personal digital assistant—A hand-held device that can be used to store digital information, calculate, telephone, fax, and network. Information can be typed in via a portable keyboard, entered by touching letters on a screen with a stylus, tracing the letters on the screen with a stylus, or downloading information from a computer or another PDA.

Peripherals—Hardware devices such as printers, scanners, external modems or keyboards that are connected to the computer through ports, and through which information can be transferred.

Portfolio—A systematic and organized collection of a student’s work, records of observations, and test results, used to assess student progress and often including some form of self-reflection by the student.

Primary sources—Documents containing firsthand knowledge that has not been interpreted by others, such as a diary, a journal, an interview, or an eyewitness account. See also Secondary sources.

Privacy Issues—Library checkout records are private and should not be shared with a third party without due process of law. However, most AUP’s state that all files and activities
conducted on school machines are not considered private and are subject to viewing by the system administrators.

**Process**—The series of problem-solving actions involved in creating a product

**Product**—The end result of an information inquiry process, such as a written report, speech, or electronic presentation. Also widely known as **Information product**.

**Productivity tools**—Any type of software associated with computers and related technologies that can be used as tools for personal, professional, or classroom productivity (e.g., Microsoft Office).

**Project**—The complete process involved in solving a problem.

**Projection devices**—Hardware designed to project an image from a source such as a computer or VCR to a screen for viewing.

**Query**—See Search queries.

**Reliability**—In judging a work, this has to do with a publisher consistently producing quality products over a long period of time and using support information that has been proven very accurate in the past. (e.g., Gale Research Company, The H.W. Wilson Company, etc.) See also **Authority**.

**Scanner**—A device that converts images, text, or a barcode on a paper page into a digitized format by scanning the printed document with light.

**Search engines**—Applications on the Web that search other Web sites using keyword(s) and then listing those documents where the keywords were found.

**Search queries**—Strings of terms such as keyword, subject, title, or author, linked together with the Boolean operators, AND, OR, NOT, to enable the researcher to conduct online searches for information.

**Secondary sources**—Documents containing information that has been reported, analyzed, or interpreted by individuals who have used primary sources, or other secondary sources for data.

**Server**—A computer that makes services available on a network. A file server enables others to access files, while a Web server is the computer system that makes its Web pages available to others.

**Software**—Computer program or electronic data.

**Spreadsheet**—Software that organizes data as a matrix of rows and columns through which
information can be manipulated through using formulas.

**Storyboard**—A visual representation of the sequential presentation of information to be included in a media product.

**Synchronous**—At the same time.

**Technology**—A man-made tool used to accomplish a task or solve a problem or the use of a body of information and the systematic application of resources to produce outcomes in response to human needs or wants.

**Templates**—Pre-designed layouts for documents that may include font selection, text and graphics boxes, formatting for labels or letterheads. The templates may come standard with a software program, or may be created by the user.

**Truncation** - Use of an asterisk, or other symbol, to take the place of one or more letters in a term in order to search all words that include a root word. (e.g., wom*n for woman or women, farm* for farmer, farming, farms).

**URL/ Uniform Resource Locator**—An address on the World Wide Web that, when typed in the locator bar on a search engine, will bring the user to the desired page on the Internet.

**Virtual Classroom**—A classroom that only exists on the Internet.

**WAN/Wide Area Network**—A network that extends over multiple buildings or sites.

**Web Cams**—Small video cameras, usually mounted on the computer, that allow video conferencing through the Internet.

**Web site**—A page, or group of pages, specified by a network address or URL (Uniform Resource Locator) on the World Wide Web.

**WebQuest**—An inquiry-oriented activity in which most or all of the information used by learners comes from resources on the Internet. The model was developed in early 1995 at SanDiego State University by Bernie Dodge and Tom March.
SECTION VII

REFERENCES
References


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SECTION VIII

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