DIFFERENTIATION CAN HELP STUDENTS REACH FULL POTENTIAL (Article #1)

How can teachers tailor content in response to readiness, learning profile and interest?

The following 3-part article series was authored for *EdCal* for Association for California School Administrators (ACSAS), *Learning Matters* for CLS, and The HOPE Foundation "What's Working in Schools" newsletter by Kathy Tuchman Glass, curriculum and instruction consultant, presenter and author. For all three articles in the series, download them from Kathy's website at www.kathyglassconsulting.com.

What is differentiation?

Differentiation is not a new concept nor can it be avoided. Look at any classroom of students. There are undoubtedly those who have trouble sitting still and those who stay seated in an attentive mode all class period. Some prefer the arts to math; others function well with ambient noise as opposed to those who work best with relative quiet. Just like any group of individuals, students come to class with various ability levels, learning styles, and interests. Since this is a fact, learning will be more effective if teachers address these differences. The need to recognize and attend to these differences through differentiating curriculum and instruction is critical in order for students to be engaged and reach their full potential.

Carol Tomlinson, a leading author in differentiation, provides this definition: "In a differentiated classroom, the teacher proactively plans and carries out varied approaches to content, process, and product in anticipation of and response to student differences in readiness, interest, and learning needs" (2001).

To illuminate this definition, teachers need to understand not only what content, process, and product are and how they can be differentiated, but that it is done in response to readiness, learning profile, and interest.
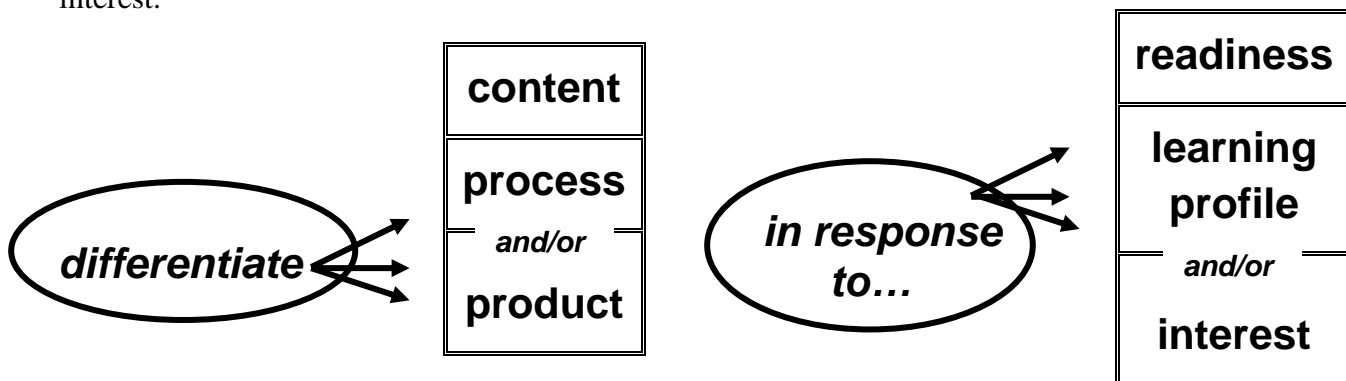
As teachers, you aren't expected to differentiate content **and** process **and** product for every lesson in a particular unit of study in response to students' readiness **and** learning profile **and** interest. Not only is this daunting, but it is not always prudent to differentiate them all. It is important to be aware of this so your expectations are not unrealistic.

What is readiness?

Students have varying degrees of readiness in approaching specific content. Their capacity or scarcity concerning certain subject matter is contingent upon many variables. Some students lack the background knowledge because they might have moved schools and missed a segment of learning, they might have moved from a different country and have a language barrier, they might have been disengaged from school, or they might have a learning issue that precludes them from fully grasping the material at the pace it is delivered to grade level peers.

Conversely, some students might have more readiness because they pick up knowledge quickly and retain it, they are voracious readers of a particular subject and independently seek knowledge beyond the classroom expectations, or they have adults in their lives who engage them outside of school in an area of interest. When you take into account students' readiness levels and plan accordingly, you will be more apt to get the most learning out of your students. Be aware that when differentiating curriculum by readiness, the goal is to challenge students about 10% above what they are able. If kids are constantly challenged far above their readiness levels, they are forever frustrated. But if they are repeatedly asked to work way below what they are able, they are bored and psychologically turned off.

What is learning profile?

Learning profile includes the way in which students learn best. When you allow students to demonstrate knowledge or work in a classroom environment that supports individual learning styles, student performance will increase. Howard Gardner popularized this area with his multiple intelligences. Robert Sternberg also is known for his work in this area. However, there are other factors to take into account when appealing to students' learning profile. For example, some students might not be bothered by ambient noise, whereas other students are mildly or severely distracted by it. For those students who are adversely affected by the noise, allow them to sit in the periphery of a classroom configuration. You can even provide noise-cancelling headphones or earplugs during times of particular distraction. There are also students who prefer daylight to fluorescent light. If you have a classroom with windows, invite those who prefer natural light to sit near them. Other factors to consider include the physical temperature of a classroom, optimal energy levels based on certain time of day, and mobility preferences. Learning profile can also take into account working individually or in pairs or small groups. Sometimes there could be opportunities for students to choose their own grouping. If so, allow for this flexibility.

What is interest?

Learning profile and interest seemed closely tied. A student who prefers to demonstrate knowledge through a technology project is also more interested in this type of modality than, say, a short story. But it also has to do with their areas of interests. For example, content standards might indicate that all students write a persuasive or research paper, so you need to teach and expect students to produce such a writing genre. To appeal to differentiation by interest, though, you might allow students to choose their own topics of interest as the subject for their papers. Allowing students to select a book for a literature circle is also an example of interest-based differentiation. For math, you might ask students to record various geometric

shapes from a visual of their choice that most appeals to them, such as Picasso's modern art, a photograph, Renaissance painting, etc.

Recap

Let's return to Tomlinson's differentiation definition: "In a differentiated classroom, the teacher proactively plans and carries out varied approaches to content, process, and product in anticipation of and response to student differences in readiness, interest, and learning needs." I have defined what *readiness, interest,* and *learning profile* mean. Next I will explain **content** and provide suggestions for how you can differentiate this curricular element in response to readiness, learning style, and interest.

How to differentiate content

How do you first expose students to brand new information? In other words, what is a common way that you deliver it, or what vehicle do you access to initially share this new information? Typically teachers disseminate information new to students through the content area textbook, other reading materials, or through a lecture. Besides using reading materials, there are other ways to provide content. Teachers might invite a guest lecturer to speak, show a video or pictures, share artifacts, feature a PowerPoint, demonstrate using a lab experiment, access software, or present a formal lecture.

The **content** is the essential knowledge, understandings, and skills of a unit of study or even an individual lesson. It is the new information that you impart to students. To identify the content, you would refer to district, state, or school content standards; access textbooks, curriculum, and other guides; and even defer to the expertise of colleagues or practitioners in the field. This combination of sources will most likely be needed to clearly identify the new content—what students should know, understand, and be able to do. Some refer to the content as the *input* since teachers are filling up students' brains with new information.

There are myriad ways to differentiate content, but it is important for teachers to determine if differentiating this component is effective. For example, you might want to expose the whole class to a video segment, performance, field trip, or primary source document. When I taught the Holocaust, I wanted **all** of my students to hear a survivor's story firsthand. During our slavery unit, I wanted **all** of my students to see a video clip of Alex Haley's *Roots* when Kunta Kinte was ripped from his village. These examples of content were important for all students to experience; however, later in each unit, I differentiated the process (how students make sense of the content) and product (culminating assessment). In other instances, though, it is beneficial to differentiate content, such as providing different groups of students texts appropriate to their readability levels.

Content Options

video audiotape performance demonstration lab experiment	website software guest speaker textbook primary source materials	magazine, newspaper, Internet articles novels/plays/books summary critique/review/analysis	interview lecture PowerPoint presentation technology presentation

Differentiate Content by Readiness, Interest, Learning Profile

- All students may not be equally challenged by the same chapter in a textbook. Assign different reading materials based on students' readability levels (**readiness**) so you match their reading abilities to an appropriately challenging text. Augment or replace the textbook with material that has more rigorous so higher achievers are appropriately challenged. For those who find the grade level textbook inaccessible, find materials that allow them to grasp the content at a level that is just right.

- To appeal to **readiness** in math, find appropriately challenging examples to introduce a concept based on students' ability levels. If an example is too lofty, at-risk students will be hard-pressed to begin to understand the concept. For those above grade level, present additional examples that show the concept from perhaps a different perspective so they begin to see the concept expressed in more than one way.

- Allow students to choose a topic of **interest** within a unit of study. For example, allow them to read autobiographies, novels, nonfiction, or biographies as the genre of interest to acquire new information within the greater unit of study.

- Take into account **learning profile**, and invite students to either read selected materials or listen to audiotapes to appeal to auditory or visual learners.

- Make available several different types of graphic organizers so students can choose one that speaks to their **learning style.** Each student completes the self-selected organizer as they listen to a lecture, guest speaker, interview, video or PowerPoint presentation. If teachers assign specific reading materials based on students readability levels as the basis for completing the organizer, they appeal to **readiness**, too. Check out these websites for graphic organizers:
  - http://www.nvo.com/ecnewletter/graphicorganizers/
  - http://www.eduplace.com/graphicorganizer/
  - http://www.edhelper.com/teachers/graphic_organizers.htm
  - http://www.freeology.com/graphicorgs/
- Graphic organizers can also be used to appeal to **readiness** if teachers create or find various graphic organizers that cover a range of complexity levels. Distribute the appropriate one based on students' ability levels to complete as they read, listen, or watch content. For example, you can find various cause-effect or comparison-contrast graphic organizers that vary in degree of difficulty. You can also find graphic organizers online that are in Spanish.

- Steer students to websites or software that appeal to their **readiness or interests.**

Kathy Glass' latest book, **Lesson Design for Differentiation,** *can be accessed through her Web site at www.kathyglassconsulting.com or directly through the publisher at www.corwinpress.com. Refer to her Web site or contact her at kathy@kathyglassconsulting.com for information about customized professional development opportunities and books.*

DIFFERENTIATION HELPS STUDENTS REACH GOALS (Article #2)

How can teachers tailor <u>process</u> in response to readiness, learning profile and interest

Review of differentiation

Carol Tomlinson, a leading differentiation expert, states that in a differentiated classroom, teachers consistently use a variety of instructional approaches to modify or extend three key curricular elements: content, process, and/or product. They do so in response to learners' readiness, interest, and learning style.

In the last article, I defined differentiation and stated that it cannot be avoided. Every teacher in every classroom faces differences among students by virtue of having more than a handful of pupils in a classroom. And most teachers certainly have more than a handful to teach! There are those who are agitated by sitting still too long, and others who can sit for hours. Students excel and take interest in some subject areas over others. Even their learning styles vary so that naturally students, like all of us, learn in different ways.

I explained *content* – one of the three key curriculum components that can be differentiated – and suggested concrete ways to differentiate it. Additionally, I defined readiness, learning profile, and interest. In this article, I will continue this topic by defining and proposing ways to differentiate another component: *process.*

As you read further, remember that teachers are not expected – nor is it necessary – to differentiate content *and* process *and* product for every lesson in a particular unit of study in response to readiness *and* learning profile *and* interest. Not only is this overwhelming, but it is not always wise to differentiate all components. Teachers need to be aware of the goals of a unit of study to determine which facet(s) to differentiate; in my previous article, I gave examples of this point.

What is process?

As explained in my previous article, the *content* refers to the essential knowledge, understandings, and skills of a unit of study or even individual lesson. It is the new information that you as a teacher impart to students, and it emanates from content standards. Some refer to the content as the *input* since you are filling up students' brains with new information.

After exposing students to unfamiliar information, you then need to assimilate and apply the information presented in the *content* to make sense of this new material. This sense-making portion of the unit represents the *process.* It typically is the major portion of the unit as it represents all the activities students engage in, any homework, and the specific lessons. Throughout the *process,* you also conduct many types of formative (or ongoing) assessments to check for understanding.

How can teachers differentiate process?

One frequently used differentiated strategy for teaching or re-teaching is through mini-workshops or small group instruction. In this strategy, students are pre-assessed to determine their understanding of a particular skill, concept, or topic – for example, use complex sentences, define mitosis, multiply by two-digits, or identify the main idea of a reading selection. Based on this information, you might pull a small

group of students who need additional support to hone this learning and conduct a mini-workshop to assist them. Or you might pull advanced level students to introduce them to more complex learning.

Another differentiated strategy is tiered instruction. This is when you create several versions of an assignment to appeal to different ability levels, and then assign the appropriately leveled task to individuals or small groups. A pre-assessment will provide information about which level of the assignment is best-suited for each student or groups of students. These previous examples highlight differentiation for readiness level, but you can also pre-assess students in terms of learning style or interest and provide assignment choices so students can work within their preferred learning mode or area of interest.

You can differentiate for process by questioning to appeal to students' interests and also readiness. Questions for advanced learners are those that contain more depth and complexity; however, all learners are given questions that address the overarching concepts of a given lesson or unit. Some of the many other ways to differentiate for process include developing various learning centers, journal prompts, lab experiments, and project choices.

Any activity or lesson that you conduct in the process stage constitutes practice so students have the opportunity to use the content and construct clear understandings. Throughout this critical time of teaching, it is prudent to continually assess how well students are doing and adjust as appropriate. You will feel the need to formulate your own system of accountability; however, do not over-grade these types of assessments as the emphasis is on **practice.** A tangible formative assessment for an activity might be a journal write response, math problem of the week write-up, or outline. A less concrete albeit critical indicator of how students are faring in their understanding is through observing their participation in small group tasks and whole group discussion. When you consistently and consciously employ formative (or ongoing) assessment throughout the entire course of a unit, you are able to offer learning that best meets students' needs by possibly pulling small groups to re-teach or enrich, revising a lesson, or varying the pace of instruction. Following is a table that lists and explains ways to differentiate process.

Process Options

Anchor activities	Interest or learning centers	RAFT (Role-Audience-Format-Topic)
Exit cards	Jigsaw	Tic-Tac-Toe
Games	Learning contracts	Tiered activities, labs, products
Group work preferences	Literature circles	Varied graphic organizers
Grouping choice	Mini-workshops to reteach or extend	Varied journal prompts
Homework options	Multiple intelligence options	Varied texts, resources,
Interest groups	Organizing information	supplemental materials
		WebQuests

Differentiate Process by Readiness, Interest, Learning Profile

- **Varied texts, resources, supplemental materials:** Make available a multitude of resource materials at varying levels of difficulty so students can process the content based on their *readiness*. The textbook is not the only resource available. High-achieving students can read materials that are more complex and advanced; assign struggling readers less complicated material. Additionally, employ other differentiated strategies for these students, such as reading partners and using classmates' notes or teachers' PowerPoint slides to guide or supplement reading.

- **Organizing information:** Allow students to choose an organizational method that best suits individual learning styles to help them grasp information. Besides outlining and summarizing, students might create a web, chart, diagram, storyboard, or table to organize thoughts in a way suitable for individual *learning styles.*

- **Jigsaw:** The jigsaw strategy involves groups of students reading different material based on *readiness or* their *interests.* Students then teach each other what they have learned. *Group configuration #1:* Arrange students in initial groups and assign or let them choose a subtopic of a greater topic of study. Students read, discuss, and clarify information about the subtopic to become experts. *Group configuration #2:* Students form a different group comprised of one individual from the first group who have become experts on a subtopic. Each student's job is to teach others in his/her group about what s/he has learned from the first group. Students ask questions for clarification and take notes on the subtopic a classmate has explained. At the end of the exercise, students will have learned information about several subtopics. *Extension:* Teachers extend the jigsaw with additional activities to further students' understanding of the reading, plus they can issue an assessment.

- **Learning centers:** Extend and reinforce the skills and concepts of a particular unit through learning centers. Create several meaningful activities and organize/arrange the materials and directions of these activities throughout the classroom—on the floor, at a back table, on a cluster of desks pulled together, or a different room in the school (e.g., media center, library, other classroom with particular resources, etc.). Students are then directed to certain activities—or learning centers—to apply or reinforce *readiness*-based competencies. For example, teachers will dictate that some students visit Centers #1 and #2, and go to other centers only if time allows. Other students are designated to visit Centers #3 and #4. Students show evidence of the work completed at each center through a visible recordkeeping device set up in the classroom or by housing work in a folder.

- **Interest centers:** Similar to learning centers, interest centers are set up throughout the classroom and even in other school locations or housed in folders or boxes that can be worked on at students' desks. Interest centers are meant to allow students to explore a topic in further depth based on their *interests*. This interest-based motivation is what differentiates interest centers from learning centers, which focus more on mastery. The topics for interest centers can be related to a current unit of study or another topic outside the unit.

- **Anchor activities:** Because students work at different paces, in a differentiated classroom students are given a choice of activities (called anchor activities) to work on independently when they finish work early. As students work on these activities that extend the concepts and skills of a lesson or unit, teachers have the opportunity to pull individuals or small groups of students for assessment or further instruction. Examples of anchor activities can include writing in a student journal, responding to a writing or math prompt, reading an independent reading book or other reading materials, completing a graphic organizer, solving a problem, etc.

DIFFERENTIATION HELPS STUDENTS REACH GOALS (Article #3)

How can teachers tailor **product** in response to
readiness, learning profile and interest

In the first installment of this 3-part article series, Kathy defined differentiation and focused specifically on the key curriculum component of *content*. Additionally, readers learned how teachers can differentiate content in response to readiness, learning profile, and interest. In her second article, she continued the series by presenting ways in which teachers can tailor *process* – another curriculum component – in response to readiness, learning profile and interest.

Review of differentiation definition

As education-reform advocate Theodore Sizer stated (1984): "That students may differ may be inconvenient, but it is inescapable. Adapting to that diversity is the inevitable price of productivity, high standards, and fairness to the students." To ignore the fact that students – like all individuals – have various learning styles, interests, and levels of abilities is basically short-sighted and unfair to students. Differentiation is a call to action. It is a way that teachers can address the differences among individuals and groups of students so they get the most out of learning. Carol Tomlinson, a significant contributor to differentiation, offers this widely quoted definition: "In a differentiated classroom, the teacher proactively plans and carries out varied approaches to content, process, and product in anticipation of and response to student differences in readiness, interest, and learning needs" (2001).

Review of content and process

The *content* is the essential knowledge, understandings, and skills of a unit of study or even an individual lesson. It is the new information that teachers impart to students. To identify the content, educators would refer to district, state, or school content standards; access textbooks, curriculum, and other guides; and even defer to the expertise of colleagues or practitioners in the field. This combination of sources will most likely be needed to clearly identify the new content—what students should know, understand, and be able to do. Some refer to the content as the *input* since teachers are filling up students' brains with new information. Sometimes it makes sense to differentiate content; other times it is not prudent. For instance, if teachers were to invite a guest speaker to the class to introduce or enlighten them on a concept or experience, all students would benefit from hearing this individual. Teachers might differentiate the activities that follow the talk.

After exposing students to unfamiliar information, teachers then need to devise opportunities for students to assimilate and apply the information presented in the *content* to make sense of this new material. This sense-making portion of the unit represents the *process.* It typically is the major portion of the unit as it represents all the activities students engage in, any homework and the specific lessons. Throughout the *process,* teachers also conduct many types of formative (or ongoing) assessments as practice opportunities and to check for understanding.

What is product?

Essentially, in a classroom teachers present new information (content) and create a multitude of opportunities for students to work with these new ideas so they can learn them (process). After students grapple with this new information for a period of time that represents the length of the unit of study, students are then asked to demonstrate that they have indeed mastered the content presented. This is what the product is: evidence of learning after a considerable unit of study. Product is the culminating product or summative assessment that teachers issue for students to demonstrate understanding of a unit's content and process. Since content is what students should know, understand, and be able to do, the product should be designed in a way that allows students to demonstrate this learning and do so with a clear and appropriate criteria for success. Some teachers issue a test after a given segment of learning, which signifies just one type of product. But products also come in other forms. Teachers might consider issuing both a final exam and a different type of product for a comprehensive assessment of what students have come to know, understand, and be able to do.

In a language arts classroom, products can include a performance, poster project, interview, or formal writing assignment (e.g., response to literature, persuasive, summary). In a science class, a summative assessment could be writing a lab report or building a kite in a physics unit. In math, students can respond to various math prompts and even create and solve their own based on criteria. Differentiating products is a powerful and valuable means of allowing students to exhibit what they have learned. Teachers might present the summative assessment to students at or near the beginning of the unit so they are well aware of expectations and have specific goals in mind as they work to accomplish each task that leads to the final product.

Ways to Differentiate Product by Readiness, Interest, and/or Learning Profile

Teachers can differentiate content, process, and product in response to readiness, interest and/or learning profile.

Learning contracts (Berte, 1975; Knowles, 1985; Robbins et. al, 2000; Tomlinson, 1998, 1999; Winebrenner, 1992)	**Content, Process or Product for Readiness/Interest/Learning Profile:** A learning contract is an agreement between the teacher and student about independent work that students will accomplish with teacher guidance. It can be part of the curriculum compacting plan or not. The contract can take many forms and be used for individuals or groups of students. For example, a student who has shown mastery of certain skills and concepts from a pre-assessment, can work on a learning contract while the class works on teacher-directed learning. During some lessons, these students work independently on the contract, but other times they join the class for whole group activities or lessons with content matter they need to learn. Students with learning contracts must abide by working conditions and rules set forth by the teacher and agreed to by the student(s), such as working quietly, not disturbing the teacher when s/he is teaching, following activity directions, maintaining a log of work accomplished, abiding by timelines, etc. Criteria for performance (or scoring guide) are necessary to focus students as they work on projects.

WebQuest (Dodge, March, 1995; Kelly, 2000)	***Process or Product for Readiness/Interest:*** A WebQuest is a short- or long-term/individual or small group project. Its focus is inquiry-oriented as students research information on teacher pre-selected websites to investigate a research question. Students read and analyze the resources from the websites and produce a product showing evidence of understanding. The nature of the activity or project and the associated websites can be differentiated.
Independent Study	***Process or Product for Interest/Readiness:*** Students discuss with teachers a topic that forms the basis for a project. The focus can be problem-based or an exploration of a topic that is of interest to the student. Both teacher and student collaborate to determine the steps in the process to product completion, timeline of each step, the form the product will take, and criteria for success. Independent study is also based on readiness as some students may not be prepared to assume the responsibility of independence in completing the product. Students can work independently, in pairs, or small groups.
Complex Instruction (Cohen, 1994)	***Process or Product for Learning Profile:*** Teachers emphasize each student's talents and contributions in a cooperative group by creating and assigning specific challenging and complex learning tasks geared to each student's intellectual strength. A significant goal is for students to appreciate each other's intellectual strengths as they work collaboratively to produce a meaningful product. For example, students work together on creating a fictitious island. Tasks within the project include creating a brochure, drawing a detailed map with a legend, orating the political views of the island, writing a constitution for the island, etc.
RAFT (Santa & Havens, 1995)	***Process or Product for Readiness/Interest/Learning Profile:*** RAFT is an acronym for role, audience, format, and topic. Students work on an assignment that takes into account four components: <u>Role</u>: ***From whose point of view is the piece written? What role should the student assume?*** <u>Audience</u>: ***Who is the audience? Who will see, read, or use this?*** <u>Format</u>: ***What is the more effective and meaningful product format to show understanding?*** <u>Topic</u>: ***What is the topic focus for the product or assignment?*** Teachers can differentiate by readiness by making more challenging RAFT choices than others. They can also create a few RAFTs for the same essential understandings and tier them for different levels of learners. This strategy can also be differentiated by interest or learning style so students can choose a RAFT topic or format that most appeals to them.
Group Investigation (Sharan & Sharan, 1992)	***Process or Product for Interest/Learning Profile:*** In groups, students select and explore specific subtopics of interest within a general problem area. Students plan and execute investigation relying upon multiple sources as they gather, organize, and analyze the information. Groups present their information in a variety of forms that appeal to learning styles; classmates and the teacher evaluate the presentations.
Tiered activities, labs, products (Tomlinson 1983, 1999)	***Process or Product for Readiness:*** Teachers create various interesting and thought-provoking versions of an activity or culminating product at a range of difficulty levels. Students are then assigned activities or products at an appropriate level of challenge. Even though they vary in the level of complexity, all tiered work focuses on what all students should know, understand and be able to do. Students can work in pairs or small groups with learners of similar readiness profile, or work independently. If students work in groups, the number of each group will not necessarily be equal given the ability levels of students in a given classroom.

	For example, there might be one group of four high achievers and two of struggling students. The rest of the groups are comprised of at-grade level students. Commonly, activities or products are tiered so that there are three varying levels of complexity, but there can also be two or five levels. Example: In a poetry unit, one particular assignment can be tiered in which advanced students identify and analyze a poet's use of metaphor, symbolism, and imagery in a sophisticated and complex published poem; at grade level students identify and analyze the use of metaphor in a less complex poem; struggling learners find two similes in a poem at an appropriate level for them and discuss in a teacher-led group the purpose of the similes used in the piece.
Tic-Tac-Toe (variations by Winnebrenner, 2002 and Tomlinson, 2001)	***Process or Product for Readiness/Learning Profile:*** Teachers create a variety of assignments or products that appeal to learning profile and place them in a tic-tac-toe grid. Students choose which assignments or products they want to complete so that they win a game of tic-tac-toe. Specifically, students choose three assignments that are in a row horizontally, vertically, or diagonally. Teachers can intentionally design the board to appeal to readiness by fashioning tasks in appropriate rows based on level of difficulty. Or teachers can create three different Tic-Tac-Toe boards each geared to an ability level. In this way, the Tic-Tac-Toe boards serve as a tiered product. Students share their work with others who completed a different set of three choices.
Portfolios	***Product for Interest:*** Teachers can assign students to collect a sampling of their best work in a portfolio. To guide collection, teachers can make a list of the contents of the portfolios and allow for student choice. Within the portfolio, students write a self-reflection answering such questions as: *Which piece is your favorite and why? Which piece might you revise? Which piece shows your best work? Which piece was the one most challenging and why?*
Grade-level and individual student learning rubrics	***Product for Readiness:*** Rubrics – or scoring guides – delineate how students will be assessed or evaluated for a given product. It guides both students and teachers in identifying quality work. Sometimes teachers find or create a rubric that represents the key criteria for assessment. They can create rubrics for the different levels of learners in a classroom being mindful of satisfying standards. Other times, teachers and students collaborate to create a rubric that is appropriately challenging to use as a guide for goal-setting when working on a project. The columns represent performance factors (e.g., emergent or approaching grade level, capable, developing, advanced or numbered 1 to 4, 5, or 6). The rows indicate the criteria being assessed.
I-Search (Joyce & Tallman, 1997; Macrorie, 1988) or research project	***Product for Interest:*** In an I-Search paper, students actively engage in the research process by exploring answers to interest-based questions that they generate. The research involves four steps from formulating the research question to representing knowledge gained. For a traditional research paper, students can choose a topic of interest within a greater unit of study.
Community mentorships to guide product	***Product for Interest:*** Teachers can assist students in arranging mentorships with employees in the community to complete a product. For example, students who are working on independent study or an I-Search paper might choose a topic related to the environment. To research information for this product, students can spend time working with environmentalists to better understand what qualifications are required in the job, what

	problems these employees face, how to participate in an environmental study, and so forth.
Community service projects	**_Product for Interest:_** Students can determine a need in the community and create a service learning project that reaches out to the community. This appeals to many students because it allows them to do real-world work in an area of interest. For example, students could start a recycling program at a school, organize a tutoring program to benefit struggling students, visit a senior center regularly and read to the seniors or play games with them, or coach younger children in a sport at a local recreation center that is in need of such a program.
Product format choices	**_Product for Readiness/Interest/Learning Profile:_** Teachers can allow students to show their understanding of what they have learned by choosing a product to complete from a teacher- or student-generated list of choices. Offering several product choices can appeal to student learning profile. For example, teachers can list a variety of choices such as interview, short story, news article, project cube, 3-D model, game board, song, PowerPoint presentation, iMovie, and so on. To design products for readiness and interest, provide a wide array of topic choices that are more challenging and complex for advanced learners and less so for struggling learners. Insure that all choices are interesting and thoughtful and also allow students to show evidence of conceptual and "big idea" learning. A criterion (rubric) for performance is necessary to guide students as they work on products.
Modify performance assessments	**_Product for Readiness/Learning style:_** Teachers can assist students in showing what they have learned through modifications of assessments and teacher support. For example, students who have difficulty showing what they know through a written essay that a teacher issues can be asked to tape record their responses to the essay questions instead. Or students who have fine motor issues can keyboard their responses. Other ways to support success include: extending the due date of products, providing checkpoints along the way with a calendar for students to track and complete work in chunks, and/or submitting sections of a product and assessing them in pieces.