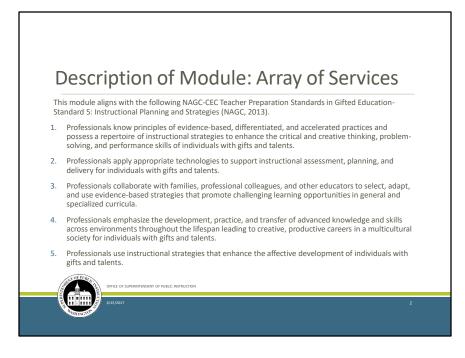


Welcome to Module 4: Developing an Array of Services for Highly Capable Students. In this module, we will explore the number of options that school districts have available to meet the needs of their students. We will also examine how to match the identification of highly capable students to their educational needs.

In this module, the array of services includes both the definition of services that may be provided as described by the state plan, as well as instructional strategies that are commonly used as administrative structures for gifted programs.

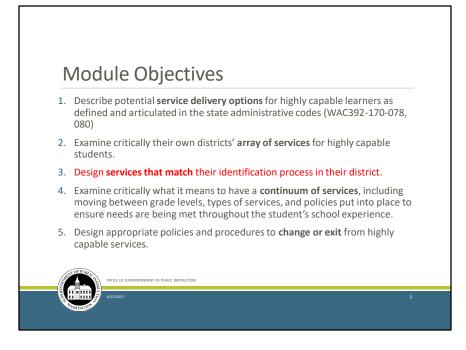
This module introduces participants to the intention of the state laws and regulations related to developing an array services for highly capable students.

Photo Credit: Nancy Hertzog (recycle center in Reggio Emilia, Italy)



These strategies fall under the NAGC-CEC Teacher Preparation Standard 5: Instructional Planning and Strategies.

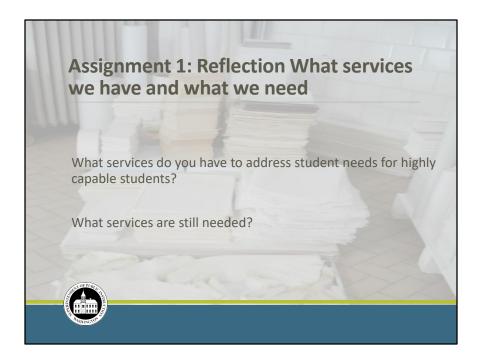
- Professionals know principles of evidence-based, differentiated, and accelerated practices and possess a repertoire of instructional strategies to enhance the critical and creative thinking, problem-solving, and performance skills of individuals with gifts and talents.
- 2. Professionals apply appropriate technologies to support instructional assessment, planning, and delivery for individuals with gifts and talents.
- 3. Professionals collaborate with families, professional colleagues, and other educators to select, adapt, and use evidence-based strategies that promote challenging learning opportunities in general and specialized curricula.
- Professionals emphasize the development, practice, and transfer of advanced knowledge and skills across environments throughout the lifespan leading to creative, productive careers in a multicultural society for individuals with gifts and talents.
- 5. Professionals use instructional strategies that enhance the affective development of individuals with gifts and talents.



Module 4's primary objectives are to have you:

- Gain a deep understanding of the relationship between students' identified strengths and learning needs, and the educational services that would help them to continue to grow within an educational setting.
- Think critically about the services your school district provides, and those that you'd like to add or change after completing this module.
- Articulate the policies and procedures in place that allow for a continuity of services for highly capable students, even when those services differ at grade levels, schools, or outside of the school setting.
- Design policies and procedures to change or exit from services

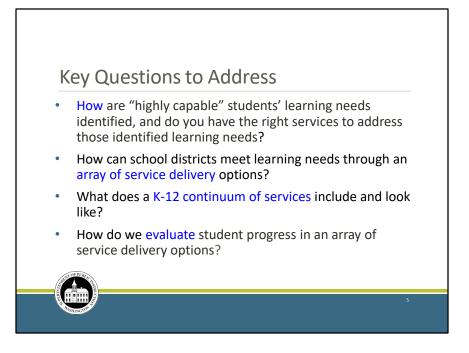
Upon completion of this module, participants will be able to design an array of services to match the learning needs of their identified highly capable students. These services include both administrative structures and instructional strategies that address students' learning needs.



So let's start by asking you to think about how you currently serve your highly capable students. How do your services match your identification procedures? Are there still some services that you would like to design?

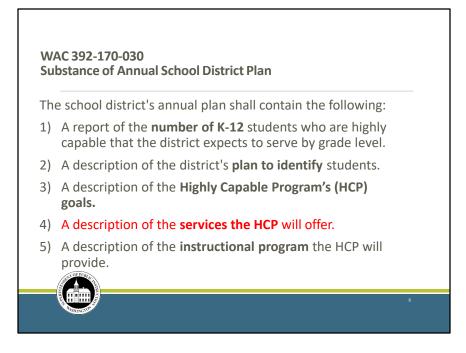
Please think about what services you currently have in your district, and what you think you still need to design to meet the needs of all of your highly capable students.

Image Credit: Nancy Hertzog (Paper Project, Reggio Emilia, Italy)



As we go through the module, there are four key questions that we will address:

- How are "highly capable" students' learning needs identified, and do you have the right services to address those identified learning needs?
- How can school districts meet learning needs through an array of service delivery options?
- What does a K-12 continuum of services include and look like?
- How do we evaluate student progress in an array of service delivery options?



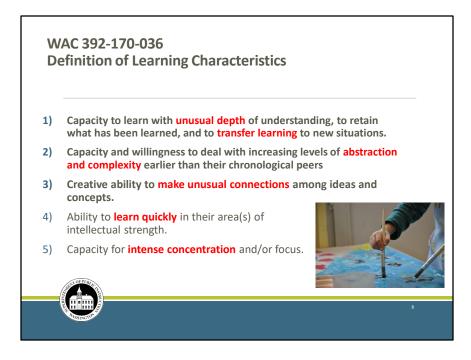
The Washington Administrative Code, or WAC, dictates that each district should include these components in their annual plan.

- 1. A report of the number of K-12 students who are highly capable that the district expects to serve, by grade level.
- 2. A description of the district's plan to identify students.
- 3. A description of the Highly Capable Program, or HCP's, goals
- 4. A description of the services the HCP will offer
- 5. A description of the instructional program the HCP will offer.

Notice that Numbers 4 and 5 include "services" and a description of their instructional program. This means that a "gifted program" must include services, AND an explanation of how the instruction will meet the needs of their identified capable students.



In the previous modules, we discussed best practices related to identifying students who have learning needs for gifted education. In the state of Washington, learning needs are related to the characteristics described in the WACs.



These are the characteristics listed in the Washington Administrative Code.

- 1. Capacity to learn with unusual depth of understanding, to retain what has been learned, and to transfer learning to new situations.
- 2. Capacity and willingness to deal with increasing levels of abstraction and complexity earlier than their chronological peers
- 3. Creative ability to make unusual connections among ideas and concepts.
- 4. Ability to **learn quickly** in their area(s) of intellectual strength.
- 5. Capacity for intense concentration and/or focus.

These characteristics infer that students need increasing levels of abstraction and complexity, opportunities to make unusual connections among ideas and concepts, opportunities to go faster or at their own pace, and opportunities for students to engage in projects with intensity.

The WACs do not regulate whether or not these aspects of instruction have to occur in inclusive or separate settings from other students. They do not regulate how services may be coordinated or developed with other school districts or partnerships with universities, and they do not mandate how many students may be served with these instructional considerations.

Educators in each district are empowered to design services that match their population of highly capable students.



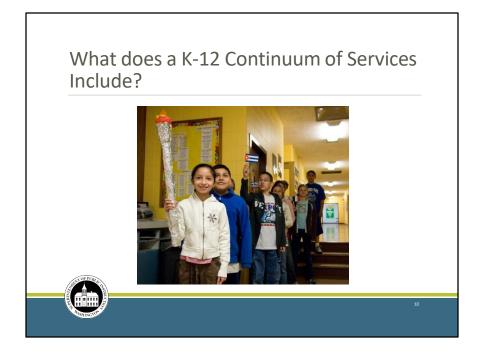
In addition to paying attention to the learning characteristics of highly capable learners as stated in the WACs, a synthesis on research of the needs of identified highly capable students by Rogers noted these important instructional considerations that infer specific programming features;

- Daily challenge in their specific area of talent
- Opportunities to work independently in their areas of passion and talent
- Various forms of subject-based and grade-based acceleration as their educational needs require
- Opportunities to socialize and to learn with peers
- Instructional delivery differentiated in pace, amount of review and practice, and organization of content presentation

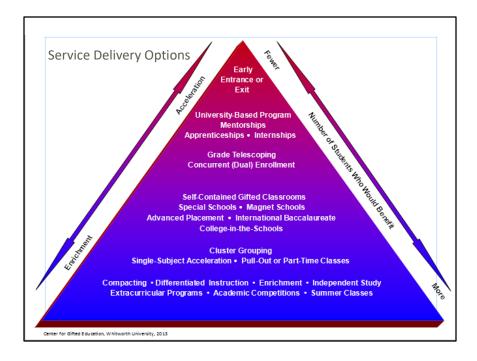
These additional instructional considerations may also take place within or outside of the student's classroom. However, some of these important elements may necessitate the development of outside of classroom, or even outside of grade level services.

Rogers, K. (2007). Lessons Learned About Educating the Gifted and Talented: A

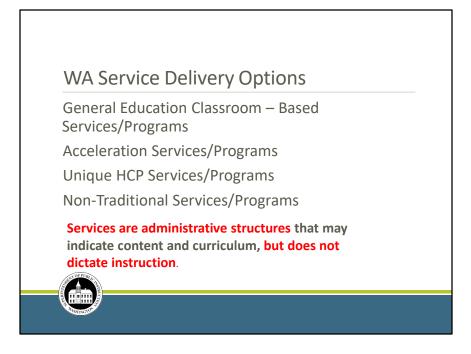
Synthesis of the Research. Gifted Child Quarterly, 51(4), 382-396. Since the text will be available for people to download, it must include the references wherever they are! NH.



In mandating an array of services, the State of Washington validated that no one program fits all of the needs of highly capable students because no group of students, even highly capable students, are all alike. Therefore, we can think broadly about what a continuum or an array of services looks like, and why they must be developed throughout a district to enable students to find services that match their learning needs.



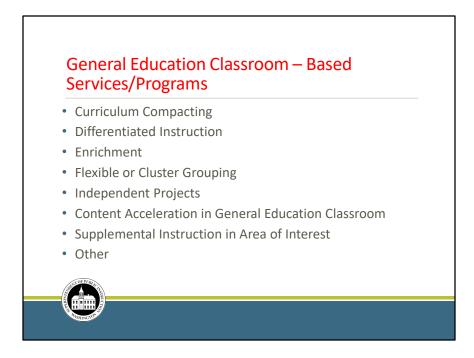
In Whitworth Universities representation of services, the more advanced the expertise of a child, the more advanced the need for intervention. This pyramid also shows that the more acceleration needed, the fewer the students who might benefit from this option.



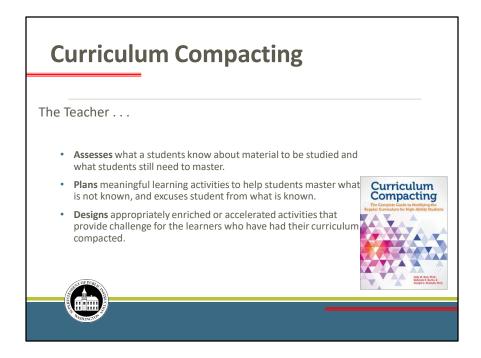
According to WAC 392-170-078 & 080, the State of Washington provides four different administrative structures for creating specialized services for identified highly capable students:

Students may be served within the general education classroom, or in special services that are designed just for them. They may also be served through any form of acceleration, or programs that they label as "non-traditional" which include mentorships, partnership with schools, agencies, or universities outside of their home school district.

Within each of these administrative structures, there are many possibilities for program and instructional designs. The remainder of this module will be breaking down each administrative structure to see these possibilities.



Classroom-based services is a broad category of instructional options. This module provides an overview of these services, but a deep dive into the strategies will be presented in our next Course on Instructional Strategies and Pedagogy for Meeting the Needs of Highly Capable Students.



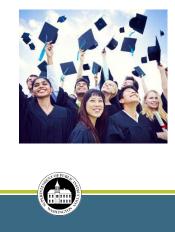
The first instructional tool, "Curriculum compacting", is a strategy in which a teacher assesses what students know about material to be studied and what students still need to master. The teacher carefully plans learning activities for students to master content not yet mastered, and allows students to move beyond the required material that they already know.

The process of curriculum compacting involves three essential steps. First, the teacher must define what is essential for the student to understand, know, and be able to do. Then the teacher must assess or pre-assess the content knowledge that is important to learn and understand. Finally, the teacher creates learning activities that address what still needs to be learned, and provides opportunities for students to go beyond what they already know and learn new challenging material. When we go into depth about curriculum compacting, we will talk about various assessment strategies, managing the class to allow students to work on different assignments, and documenting mastery of the material and student growth.

An excellent resource for how to implement curriculum compacting is the book *Curriculum Compacting: The Complete Guide to Modifying the Regular Curriculum for High-Ability Students* by Reis, Burns, and Renzulli.

Image Source: Prufrock.com

Differentiation

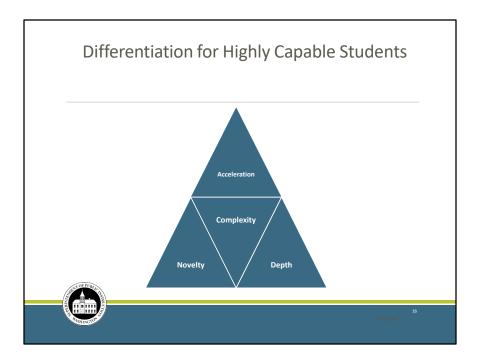


A teaching *philosophy* where teachers strive to meet the needs of their students by *intentionally planning* the curriculum and/or instruction based on student interests, learning profile, readiness levels and/or affect.

-Tomlinson

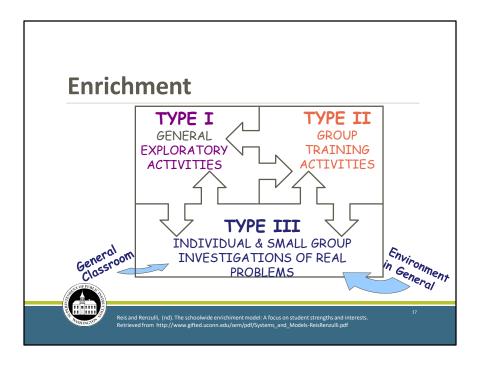
There are many ways teachers can differentiate curriculum and instruction to challenge highly capable learners including, individual learning contracts, independent studies, small group investigations, and tiered lesson assignments. It's important to understand that differentiation is NOT just one teaching strategy. It encompasses a philosophy of teaching meant to be responsive to the diverse needs of learners. Even if students are separated into skill level groups, teachers may still need to differentiate instruction based on how students respond to their work. Differentiation of instruction is not just for highly capable students; teachers must differentiate for students with diverse learning needs, including students who have specific learning disabilities. Teachers also may need to differentiate instruction to be responsive culturally.

Teachers may differentiate instruction for their highly capable learners, and for any students with diverse learning needs.



Often instruction for highly capable students, based on their learning characteristics needs to be more advanced. What does advanced mean? How is it more rigorous? Kaplan identified four ways that teachers can "advance or differentiate" instruction for highly capable learners. They can design learning activities that are novel, accelerated, are further in depth, or have more complexity.

Samples of these types of assignments will be described in-depth in the instructional strategies modules.



Enrichment is a broad name for instruction not normally covered in a required curriculum. Enrichment may take place in class, after class, on weekends, or in special programs.

Reis and Renzulli's Schoolwide Enrichment Model defines three different types of enrichment. This model is probably the most known and researched, and has the broadest application for schools to include in their programming. A short description of the model follows:

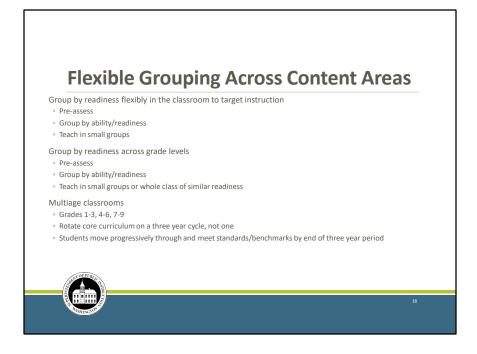
Type I Enrichment consists of exploratory activities designed to expose students to a variety of topics and areas of study not ordinarily covered in regular curriculum. Type II Enrichment consists of group training in thinking and feeling processes; learning-how-to-learn skills; research and reference skills; and written, oral, and visual communication skills. Type III Enrichment consists of first-hand investigations of real problems. These investigations may be individual or small groups working together to investigate a topic or solve a problem.

In this model, Type I and Type II enrichment may be included in the curriculum for all children in a general education classroom. Doing so may provide opportunities for

children whose strengths are not revealed through traditional instruction.

Reis and Renzulli, (nd). The schoolwide enrichiment model: A focus on student strengths and interests.

Retrieved from http://www.gifted.uconn.edu/sem/pdf/Systems_and_Models-ReisRenzulli.pdf

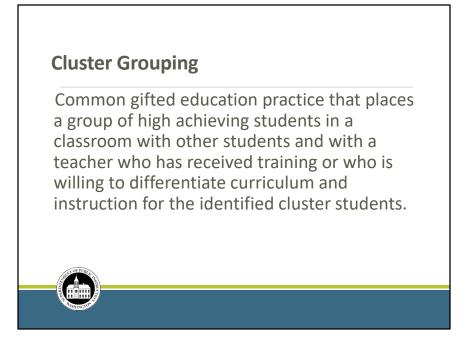


All teachers need to group students for instruction – but how we group students matters. To maximize growth in students, grouping needs to be flexible. This is because children do not learn at the same rate, nor do they bring the same set of skills to every content area. Even though you may want to have a small group of high performing math students, it is possible that when the math content changes, so do the skills of the students in the math group. They may not all be proficient with the same skills. Flexible grouping refers to a process of grouping and regrouping students to match learning needs. With the example given, the teacher may group by readiness levels for one content area, and then need to regroup when that content area changes.

Assessment is a key factor when grouping by readiness. If a teacher just chooses a "high reading group" for the year and keeps the same group all year, the teacher may miss growth in reading ability by other students. This may then cause the teacher to limit potentially valuable instruction for students whose reading skills grew substantially. This is particularly true with young children who are just acquiring literacy skills and for whom growth in reading may happen quickly.

In this slide, one can see that there are many ways to group flexibly, including across

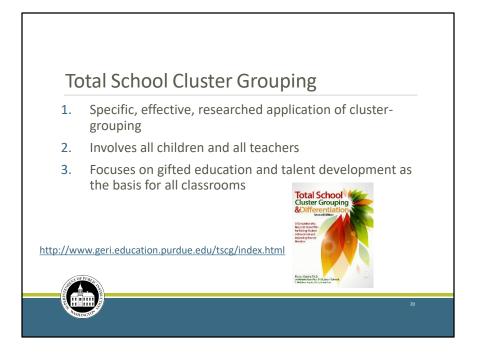
grade levels and classrooms. Teaching in small groups will always allow for more opportunities to differentiate instruction than teaching a large whole group lesson. But remember it is not grouping that helps students to grow, but the change that goes on within the group when curriculum is aligned to students' needs. It's the type of instruction within the group that makes the difference!



Most often, students are cluster grouped within a classroom so that every teacher has a group of similar students with regards to readiness in a subject area. For example, principals may place small groups of 5 or 6 students who are reading one or two years above grade level in a first grade classroom so that the teacher may teach above grade level, and have resources to provide to those students.

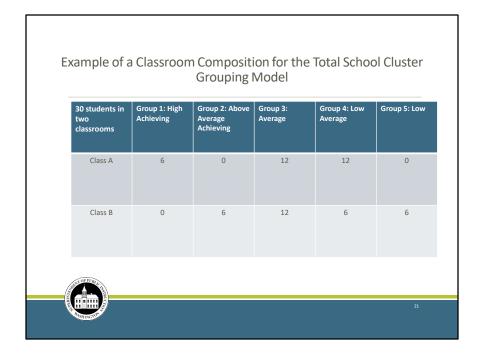
With cluster grouping, administrators may select teachers with the most training in gifted education and provide professional development in differentiation to better serve all students in those classrooms.

Cluster grouping should be flexible. Deciding on cluster groups for an entire year limits those students who strengths end up changing or developing. This is particularly true with young children as they may advance rapidly. Students who are cluster grouped at an early age demonstrate academic advantages that come from middle to high income families --- and these groups may be racially or culturally identifiable. Efforts should be made to think about flexible grouping and allow students to move freely about the groups once young children gain more academic skills. As an administrative structure, cluster groups allow for teachers to narrow the variance of skill readiness in their small group instruction. But one must be cautious not to track students according to the clusters from year to year.

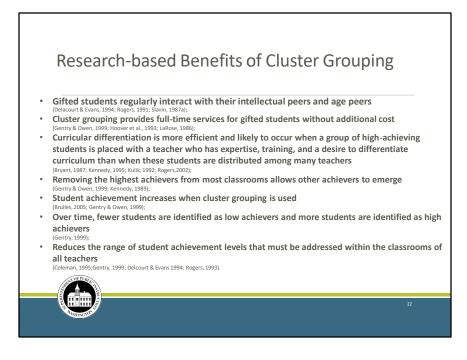


The most recent and comprehensive research on cluster grouping is being done by Marcia Gentry at Purdue. She and her colleagues have been conducting studies with total school cluster grouping as a Javits Grant. Teachers and schools who participate in the research receive professional development on differentiation. As with all structural groupings of highly capable students, instruction is key to their growth and achievement.

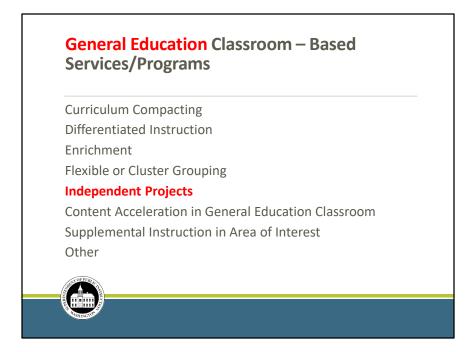
For more information, please visit (<u>http://www.geri.education.purdue.edu/tscg/index.html</u>)



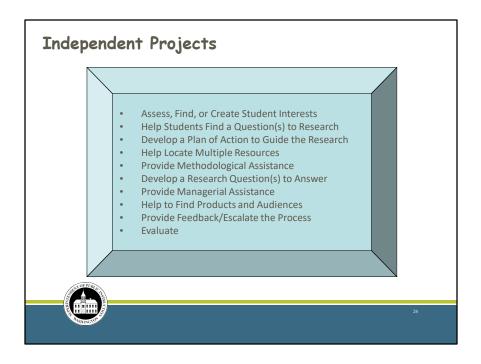
This is an example of two classrooms with cluster groups. Notice that the main difference is in the number of high and low achieving students. Once again, this doesn't take into account that the subject matter in which they excel may differ even within the groups that are clustered. Thus, even within the cluster grouping model, teachers may need to do flexible grouping for subject matter content.



These are some of the findings that are based on research. Take a moment to read them over. A complete list of these references is in the resource section of this module.

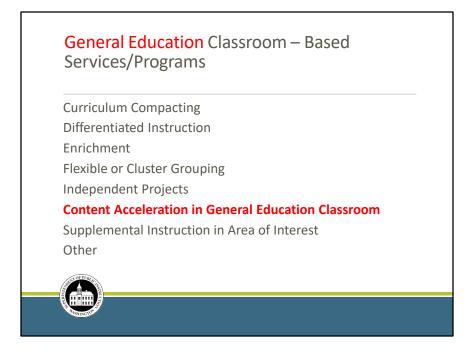


Another way to differentiate instruction in the general classroom is to design independent study projects. There are many ways to provide opportunities for independent study. One thing to remember is that working on independent projects may be an option for all children in the room so that not just one or two children are investigating a topic of their choice. However, for highly capable students, teachers must pay attention to how the independent study is designed to engage students in depth and allow them to seek answers to complicated questions or problems. Independent studies are not a service option. They are an instruction option.



The teacher takes on the role of a facilitator to scaffold the independent study process. In this role, the teacher may suggest and provide resources, help students narrow questions, create plans, and assist in the data analysis process. All of these skills may be strengthened with experience, and the process of independent investigation may be integrated in most units of study.

More concrete ways including sample forms, and resources to implement independent research will be discussed in more depth in the instructional strategies module.



Briefly, we'll talk about acceleration in the general education classroom. Later we will discuss the many types of possible acceleration.



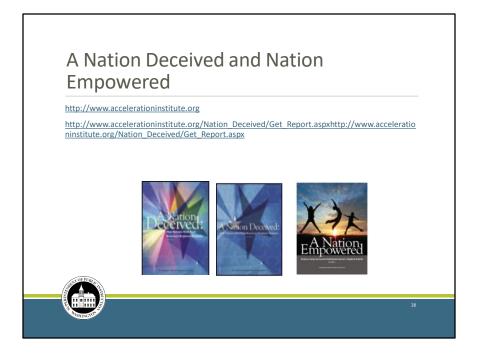
Acceleration, simply defined, means at rates faster or at ages younger than conventional. In a general education classroom some students may be working in a math textbook that is one or two years above their grade level. Or they may be introduced to literature that is significantly advanced for their grade level. Both situations can happen on a regular basis, and teachers may not even think about how they accelerate their curriculum to match the needs of their students.

For reporting to the state and for reporting to parents, it is important to note when students are working above the grade level, even when that acceleration occurs within the general education classroom.

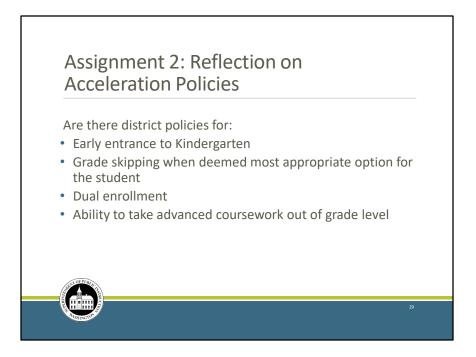


Some forms of acceleration are radical! The students in this picture went to college at 14!

More commonly forms of acceleration include Advanced Placement courses in high school, early entrance to kindergarten, grade skipping, and dual enrollment programs. Dual enrollment may occur at any time during a child's K-12 education. For example, a fourth grader advanced in math may need to take Algebra at the middle school to be appropriately challenged, or a student in high school may be taking classes in both high school and college at the same time. Running Start is an example of a Washington State program where juniors and seniors enroll in community colleges to take college credit while still in high school.



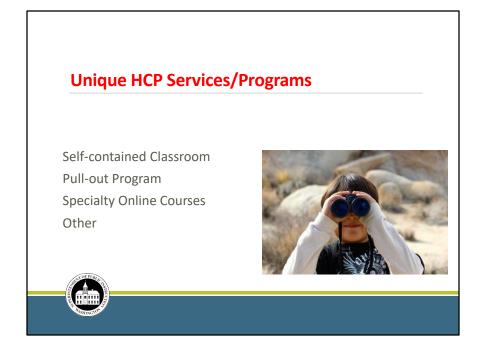
The most comprehensive work on acceleration comes from Nick Colangelo, Susan Assouline, and their colleagues at the University of Iowa. They have an acceleration institute and have published several comprehensive documents, including *A Nation Deceived* and *A Nation Empowered*.



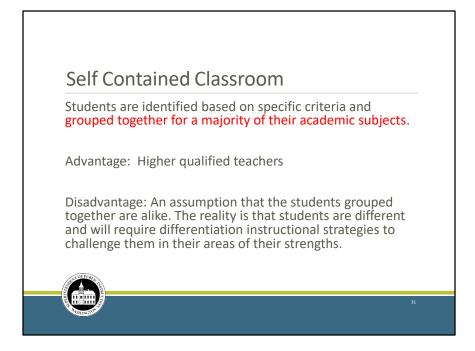
Now is a good time to examine policies in your district that encourage or inhibit accelerated services for highly capable students. List all of the types of accelerated services that your district currently has, and then brainstorm any additional forms of acceleration that students in your district might benefit from if they were available.

Think about the following as examples:

- 1. Early entrance to Kindergarten
- 2. Grade skipping when deemed most appropriate option for the student
- 3. Dual enrollment
- 4. Ability to take advanced coursework out of grade level



In addition to meeting the needs of highly capable students in the general education classroom, or through one of a variety of ways to accelerate their learning, there are administrative structures that may only serve students identified as highly capable. These include placing students in self-contained classrooms, pulling them out of their general education classroom for some parts of their educational time and placing them into what are called pull-out classes, or pull-out programs, or allowing them to pursue courses in their area of strengths or interests – often online. "Unique" Highly Capable Services or Programs are only available to students identified as highly capable.



A common administrative structure for unique services are self-contained classrooms. The original terminology for "self-contained" classes emanated out of the special education literature when students with disabilities were educated together in self-contained classrooms so that they could receive adequate support services. These special education classrooms had teachers who were certified in special education and teaching aides who could assist with intensive educational supports.

With controversies surrounding the isolation and exclusion of students with disabilities and the Federal laws mandating inclusion "to the extent possible" through the "least restrictive environment," more and more special education programs have eliminated self-contained classrooms and adopted inclusive models of educating students with disabilities.

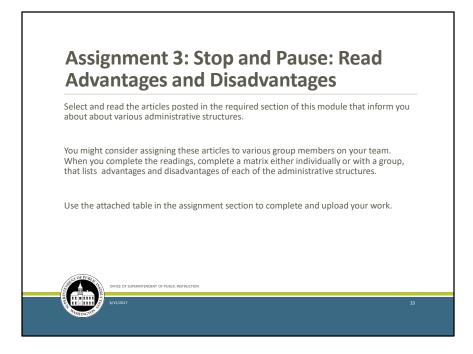
In gifted education, identified highly capable students are grouped together and placed in "self-contained" classrooms. These students are usually placed with teachers who have had training in gifted education, and use substantially advanced or accelerated curriculum. For many districts, self-contained classes are the only administrative structure available to serve highly capable students.

Self-contained classes are often criticized for being racially and ethnically identifiable because the systems that placed students into those classes were heavily biased towards high scores on standardized tests . Another problem with the self-contained model is the assumption that students who scored high and met qualifications for placement were somehow very similar and thus a curriculum that was 2 years above grade level (a typical arrangement for self-contained classrooms) would meet all of their needs. We know that even a group of children placed in highly capable programs does not mean that the children are all alike, and therefore, they may not be served well in the same type of program.

There are advantages and disadvantages to any administrative structure for serving highly capable students.

Option	Number of Studies	Academic ES
Early entrance to school	68	.49
Subject acceleration	21	.59
University-based programs	11	.23
Distance learning	3	.33
Cross-graded classes	15	.45 (.46) ^a
Advanced Placement or International	22	.29
Baccalaureate classes		
Dual enrollment	36	.32
College in the schools	4	.29
Mentorships	15	.57
Grade skipping	32	1.00 (.56) ^b
Grade telescoping	28	.45
Nongraded or multiage classes	20	.43
Credit by examination	13	.59
Early admission to college	37	.35
Full-time ability grouping	32	.49 (.33)°
Performance grouping	16	.34
Within-class grouping	9	.34
Cluster grouping	13	.62
Peer-tutored dyads	5	0.00
Like-ability cooperative groups	3	.26
Curriculum compacting	13	.83 (.26) ^d
Credit for prior learning	15	.56
Plan, Rogers, K. (2007). Lessons Learned Abo Child Quarterly, 51(4), p388.	but Educating the Gifted and Talented: /	A Synthesis of the Research. Gifte

In Karen Rogers' article, *Lessons Learned about Educating the Gifted and Talented: A Synthesis of Research,* she reviewed literature on all types of models and examined effect sizes for academic outcomes that were a result of being placed in a specific model. She found that grade skipping and other forms of acceleration or ability grouping had larger effects than within class grouping, cooperative learning, or peer tutoring. However in her abstract she reiterated,"...the strongest lesson of all to be gained from the research base in gifted education is that there are many different ways in which these options for gifted learners can be offered in a school. It is completely up to the school to select those that will work best with its current philosophy, staff, and school community" (Rogers, 2007).



Select and Read the articles posted in the required section of this module that inform you about various administrative structures.

You might consider assigning these articles to various group members on your team. When you complete the readings, complete a matrix either individually or with a group, that lists advantages and disadvantages of each of the administrative structures.

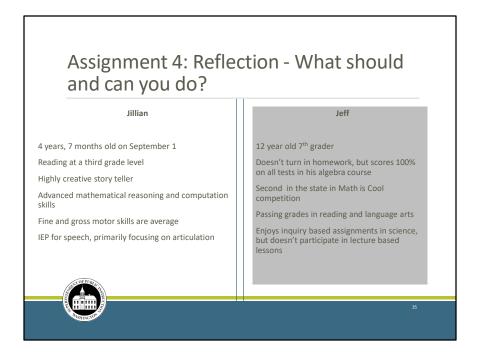
You may use the attached table in the assignment section to complete and upload your work.



In Washington State, districts may design non-traditional services for their highly capable students. These may include mentorships (inside or outside of school settings), partnerships with industries or institutions of higher education, or other types of collaborations across districts, or ESDs. For example, one potential collaboration might ensue when a district creates an internship program for high school seniors to spend part of their days working with various types of employers, and opens this internship opportunity to neighboring schools. Districts may contract with a Higher Education institution to pay for in person or online classes. Districts may also design summer programs or after school programs that target developing potential and provide enrichment and talent development for students who are currently being underserved in the highly capable programs.

Some other non-traditional services may include academic competition preparation such as Science Olympiad, future problem solving bowl, or participation in an invention convention. Students may also be exposed to the talents of community members who share their expertise in areas, such as dance, biology, or chess.

There are numerous possibilities for school district personnel to design services that best "MATCH" the identified needs of the district student population.



This slide gives you two different profiles of students who need highly capable services. In your small group, or on your own, design services that you think best meet their needs. Upload your response to either activity (assignment or discussions) section of this module. The title of this assignment, is "What should and can you do?"

	Elementary	Middle School	High School
nhance	Site based services including differentiated and enhanced instruction	Site based services including differentiated and enhanced instruction	Site based services including differentiated and enhanced instruction
Accelerate and Enhance	Flexible grouping across subject areas	Honors and accelerated courses	Honors and accelerated courses (AP, College in the High School)
Accel	Early entrance/dual enrollment and/or grade skipping	Dual enrollment and/or grade skipping	Dual enrollment/Running Start Contracts with Institutions of Higher Education
ich	Extracurricular activities/groups	Extracurricular activities/groups	Extracurricular activities/groups, mentorships, internships
Enrich	Academic competitions	Academic competitions	Academic competitions

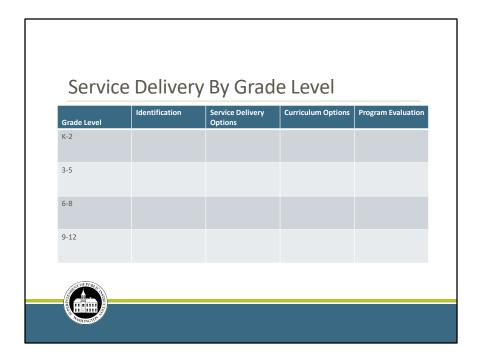
In the next three slides, we give examples of how an array of services can be designed for students in districts of all sizes.

Instruction instruction Multiage self-contained Honors and accelerated courses College in the High School, etc.) Dual enrollment and/or grade Dual enrollment and/or grade Skipping Dual enrollment and/or grade Early entrance Apprenticeships and mentorships Academic compactitions: Academic compactitions:		Elementary	Middle School	High School
Bigger Performance differentiated and enhanced instruction differentiated and enhanced instruction Multiage self-contained classroom Honors and accelerated courses Honors and accelerated courses (A College in the High School, etc.) Dual enrollment and/or grade skipping Dual enrollment and/or grade skipping Dual enrollment/Running Start Early entrance Apprenticeships and mentorships Apprenticeships and mentorships		Cluster grouping	Cluster grouping	Cluster grouping
Early entrance Apprenticeships and mentorships Apprenticeships and mentorships Academic competitions: enrichment	inhance	differentiated and enhanced	differentiated and enhanced	Site based services including differentiated and enhanced instruction
Early entrance Apprenticeships and mentorships Apprenticeships and mentorships Academic competitions: enrichment	erate and Ei		Honors and accelerated courses	Honors and accelerated courses (AP, College in the High School, etc.)
Academic competitions: Academic competitions: enrichmen	Accele			Dual enrollment/Running Start
Academic competitions; Academic Academic competitions; enrichment		Early entrance	Apprenticeships and mentorships	Apprenticeships and mentorships
groups	Enrich	Academic competitions; enrichment groups	Competitions; enrichment	Academic competitions; enrichment groups
\sim		STOF PUBLIC		

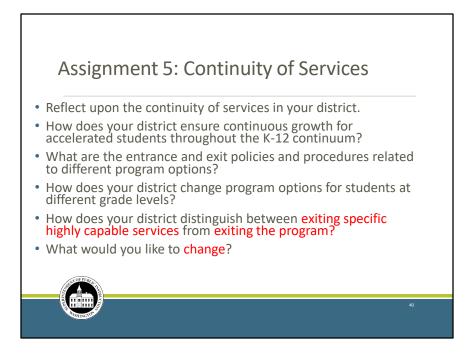
Notice how services include both enrichment and acceleration.

	Elementary	Middle School	High School
Accelerate and Enhance	Magnet School	Magnet School	Magnet Programs (STEM, the arts, etc.)
	Cluster Grouping with differentiated instruction	Cluster Grouping with differentiated instruction	Cluster Grouping with differentiated instruction
	Early entrance and grade skipping policy	Apprenticeships and mentorships	Apprenticeships and Mentorships
	One day a week pull-out program	Honors and accelerated courses	Honors and accelerated courses (AP, IB, College in the High School, etc.)
	Guided investigations	Guided investigations	Independent study
	Dual enrollment	Dual enrollment	Dual Enrollment/Running Start/On-line courses
Enrichment	Academic Competitions	Academic Competitions	Academic Competitions
Enrich	Enrichment groups and extracurricular activities	Enrichment groups and extracurricular activities	Enrichment groups and extracurricular activities

In large districts there are more ways to group students, including, but not limited to, magnet or specialized schools in the arts or STEM.



Services may differ by size of district, within a district, or by grade level. In early grades, students may be served in the general education classroom to address students with potential to perform at high levels, as well as those who are already performing at high levels. In middle and high school, children may opt into honors or AP classes. District personnel have the option of varying the services by grade level, but the district must have a continuity of services so that students do not lose services when they change grade level.



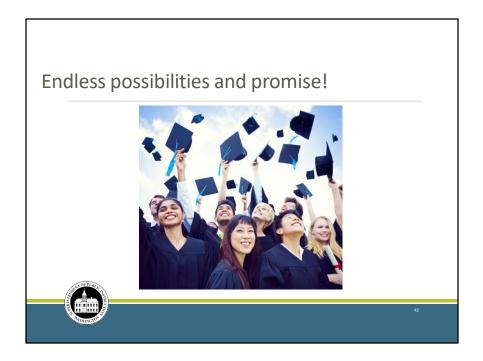
Think about the services in your district, and ask yourself how your district provides continuity to ensure growth for all of its identified highly capable services. Is there anything you would like to see changed?

Write a brief summary of the policies that you have in place to ensure a continuity of services in your district, or write about changes you would like to make to ensure continuity of services. Upload this summary into the assignment (or discussion).

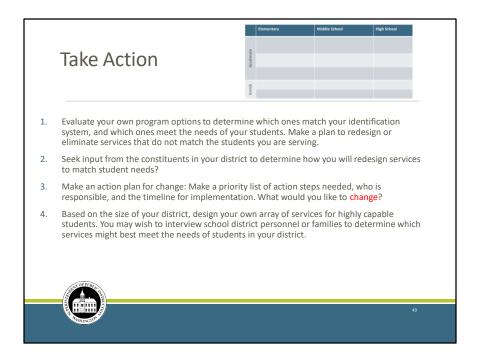


To conclude our module we wanted to remind you of the importance of offering an array of services, the new Gifted Program Paradigm in Washington, not just a single gifted program. A high quality program will offer a continuum of services, integrated into the school day for students so that they continue to grow in their strengths and areas of challenge.

Quality gifted programs reflect the philosophy of the school district. No single program fits all students, and teachers should feel empowered to serve their students, based on what they know, in a multitude of ways.



Possibilities for serving highly capable students are endless! We encourage educators to Take Action!



Now it's your turn to take action and design an array of services for highly capable students in your school district. You may choose one of these topics, or start with your own question, and design an investigation into "What is the optimal design of highly capable services for your district?" You may use the template at the end of this presentation or design your own. Be sure to include grade levels for the different services that you design. Please upload your action plan to this assignment site in CANVAS.