
CURRICULUM
Compacting:
A GUIDE FOR TEACHERS

by
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The National Research Center
on the Gifted and Talented
University of Connecticut

CURRICULUM^{*} Compacting:

A GUIDE FOR TEACHERS

* Summarized from

*Curriculum Compacting: The Complete Guide to Modifying the Regular
Curriculum for High Ability Students*

by Sally M. Reis, Deborah E. Burns, and Joseph S. Renzulli

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CURRICULUM **Compacting:** **A GUIDE FOR TEACHERS**

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ABOUT THIS BOOK

“All students, including those who are exceptional, are entitled to a public-supported education in which instruction is geared to their needs, interests and developmental levels.”

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chool districts nationwide indicate, in policy statements such as the one above, that they are committed to serving students' individual needs. Yet, many districts lack the capacity to put such policy into practice. The sad result is that our brightest students are often left repeating lessons they already know, which can lead to frustration, boredom and, ultimately, underachievement.

Many educators would like to help by adapting the regular curriculum for their above average students. Accomplishing this, however, is no small task. Too little time, too many curricular objectives and poor organizational structures—all can take their toll on even the most dedicated professionals.

This book is designed to help teachers overcome those obstacles. Targeted for elementary level educators, it explains how to streamline or “compact” curriculum through a practical, step-by-step approach. Readers learn the skills required to modify curriculum, as well as techniques for pretesting students and preparing enrichment options. Practical issues such as record keeping and administrative support are also included. Both efficient and complete, these guidelines will save valuable classroom time for both teachers and students.

Curriculum compacting, as presented in this book, has been field tested since 1975. It can be used with individuals and groups of students with above average ability in any academic, artistic or vocational area. Most important, it's proven beneficial. Current research demonstrates that compacting can dramatically reduce redundancy, and challenge gifted students to new heights of excellence.

A DEFINITION OF CURRICULUM COMPACTING

Curriculum compacting is a procedure used to streamline the grade level curriculum

There are three basic phases to the compacting process:

- *Defining the goals and objectives of the regular curriculum,*
- *Determining which students have already achieved these goals, and*
- *Offering new and stimulating work for those students.*

These components can be broken down into eight steps:

1. *Selecting the learning objectives for a given subject*
2. *Finding or creating appropriate methods for pretesting these objectives*
3. *Identifying students who should take the pretests*
4. *Pretesting students – before beginning instruction – on one or more of the objectives*
5. *Streamlining practice, drill or instructional time for students who have learned the objectives*
6. *Providing instructional options for students who have not yet attained all the pretested objectives, but generally learn faster than their classmates*
7. *Organizing and recommending enrichment or acceleration options for eligible students*
8. *Keeping records of the process and instructional options available to students whose curriculum has been compacted*



Although enrichment and acceleration may be part of the process, compacting encompasses much more. It is, in fact, more closely associated with diagnosis and prescription, methods used in remedial education.

In remedial education, diagnosis and prescription point out learning objectives students have not yet mastered, and instruction is intended to help them “catch up” with the rest of the class. With compacting, pretesting identifies learning objectives already mastered. Students are allowed to “test out” of certain academic exercises and move on to new material.

A Time-Honored Concept

While the term “compacting” is relatively new, a similar technique was introduced in the 19th century. In the 1860s, high school students in St. Louis, Missouri were permitted to “compress” their academic requirements through accelerated courses, and thus, graduate a semester ahead of their peers.

Compression, enrichment, acceleration and ability grouping are referenced repeatedly in the early literature on gifted education. Acceleration, for example, is often used interchangeably with compression, and includes grade skipping; early entrance into college, high school or elementary school; the opportunity to complete two semesters of work in one semester; and the option of taking part in independent study or small group training. Acceleration may begin with, or result from, the compacting process.

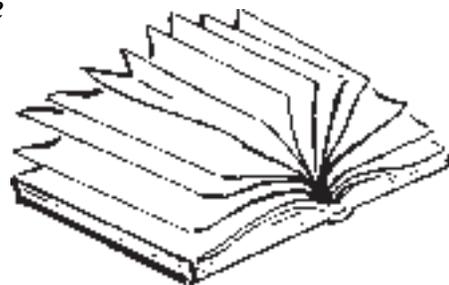
Research Support

A number of scholarly studies confirm the need for curriculum compacting. For example:

- Research conducted in 1980-81 by the Educational Products Information Exchange (EPIE) Institute, a non-profit educational consumer agency, revealed that 60 percent of the fourth graders tested could attain a score of 80 percent or higher in math even before they opened their books in September. The institute published similar findings in social studies with tenth graders, and in science with both fourth and tenth graders.
- A 1988 study completed by educators Barbara Taylor and Barbara Frye concluded that 78-88 percent of average readers in fifth and sixth grade could pass pretests on basal comprehension skills before the skills were covered in class. Accuracy levels were 92 percent for average students and 93 percent for those above average.
- In our research on compacting, we've discovered that most elementary teachers can forego 40-50 percent of the basal regular curriculum for targeted students in the general student population. Additionally, in both language arts and math, many bright youngsters are able to bypass as much as 70 percent of the regular curriculum.

One reason why so many students can demonstrate mastery of the regular curriculum is that today's textbooks are so easy. Research shows that in the past 10-15 years, they've dropped two full grade levels in difficulty. Repetitive curriculum, coupled with this "dumbing down" of textbooks, means that our most able students are often working one to two years below their ability.

This situation can be extremely harmful. It's likely to promote apathy, poor attitudes toward learning, and a habit of doing only what is necessary to survive in school. Underachievement can cause many exceptional students to stumble in secondary school or college because they lack the study habits and discipline essential for academic success.



THE COMPACTOR FORM

The best way to get an overview of the curriculum compacting process is to review "The Compactor."



Developed in 1978 by educators Joseph Renzulli and Linda Smith, the form is both an organizational and a record keeping tool. Teachers should fill out one form per student. Completed Compactors should be kept in students' academic files, and updated on a regular basis.

The Compactor is divided into three sections:

- The first column should carry information on learning objectives and student strengths in those areas. Teachers should list the objectives for their class, followed by data on students' proficiency in those objectives, including test scores, behavior profiles and past academic records.
- In the second column, teachers should detail the pretest vehicles they select, along with test results. The pretest instruments can be formal measures, such as pencil and paper tests, or informal measures, such as essays, products or discussions.
- Specificity is extremely important. Recording an overall score of 85 percent on ten objectives, for example, sheds little light on what portion of the material can be compacted, since students could show zero mastery of two objectives and perfect mastery of eight.
- Column three is reserved for acceleration or enrichment options. In determining these, teachers must be fully aware of students' individual interests and learning styles. The Interest-A-Lyzer, described on page 14, can help identify the former.

Eileen: A Sample Compactor Form

Eileen is a fifth grader in a self-contained classroom. Her school, which is very small, is located in a lower socioeconomic urban school district.

While Eileen's reading and language scores range between two and five years above grade level, most of her 29 classmates are reading one to two years below grade level. This presented Eileen's teacher with a common problem: What was the best way to instruct Eileen?

He agreed to compact her curriculum. Taking the easiest approach possible, he administered all of the unit and level tests in the Holt Basal Language Arts program, and excused Eileen from completing the activities and worksheets in the units where she showed proficiency (80 percent and above). If Eileen missed one or two questions, the teacher would quickly check for trends in those items: if an error pattern emerged, instruction would be provided to ensure concept mastery. Eileen usually took part in language arts lessons one or two days a week. The balance of the time she spent with alternative projects, some of which she selected.

This strategy spared Eileen up to six or eight hours a week with language arts skills that were simply beneath her level. She joined the class instruction only when her pretests indicated she had not fully acquired the skills.

In the time saved through compacting, Eileen engaged in a number of enrichment activities. First, she enjoyed as many as five hours a week in a resource room for high ability students. This time was usually scheduled during her language arts class, benefiting both Eileen and her teacher; he didn't have to search for enrichment options because Eileen went to the resource room, and she didn't have make-up assignments because she was not missing essential work.

Eileen also visited a regional science center. Science was a second strength area for Eileen, and based on the results of her Interest-A-Lyzer, famous women were a special interest. Working closely with her teacher, Eileen chose seven biographies of noted women in the science field. All of the books were extremely challenging and locally available. Three were even adult level, but Eileen had no trouble reading them.

Eileen's Compactor, which covered an entire semester, was updated in January. Her teacher remarked that compacting her curriculum had actually saved him time—time he would have spent correcting papers needlessly assigned! The value of compacting for Eileen also convinced him that he should continue the process.

THE EIGHT STEPS TO CURRICULUM COMPACTING



Step One:

Select relevant learning objectives in a subject area or grade level.

The first step in the compacting process is choosing curricular content and learning objectives. Teachers may refer to the formal curriculum guides issued by school districts or states, or the informal guides provided by textbook publishers.

After locating the objectives, teachers must focus on those that are appropriate for their students. Oftentimes, there's a discrepancy between the objectives noted in the curriculum guides and those actually tested by the school districts. Other objectives may be redundant or overly ambitious.

Clearly, teachers must narrow down the field of alternatives. To assist in the task, they may consider the following criteria:

- 1. To what extent do these objectives represent new learning?**
- 2. Which objectives will best help students increase their use of this content area?**
- 3. Which objectives can be applied to the workplace?**
- 4. Which objectives deal with developing skills or concepts, as opposed to merely memorizing facts?**
- 5. Which objectives are important for high ability students to understand?**
- 6. Which objectives cannot be learned without formal or sustained instruction?**
- 7. Which objectives reflect the priorities of the school district or state department of education?**

Prioritizing Objectives

After the objectives are selected, they should be listed by priority. Because of their importance, the higher-ranked items are the ones teachers will concentrate on with the entire class, while the less relevant ones are prime candidates for compacting.

Simply having a set of learning objectives doesn't tell a teacher how or if these objectives can be adapted to meet students' individual needs. Teachers must know the subject matter, as well as their students' learning styles. Step two in the compacting process can help teachers make these evaluations.

Learning Activities Versus Learning Objectives

The more comprehensive curriculum guides contain both learning activities and learning objectives. How do they differ? A learning activity—whether it’s a lecture, a simulation or an assigned reading—is a means to an end. A learning objective, on the other hand, is the end goal itself; the outcome or behavior students attain through learning activities.

Learning activities serve a variety of purposes. They can introduce, teach, guide, practice, reinforce, transfer or test. Some ask the student to play a passive role, others involve hands-on experiences, and still others employ paper and pencil exercises. Activities also vary according to time frames, grouping structures and modalities.

In deciding which activities are suitable, it’s critical to take into account students’ learning styles, instructors’ teaching styles, and any course objectives already mastered. Brighter students, for example, may be able to show that they’ve met certain objectives, and therefore, don’t need to take part in the corresponding learning activities. In these cases, the student’s time is better spent pursuing advanced level objectives or enrichment options.



Step Two:

Find an appropriate way to pretest the learning objectives.

Pretesting, as its name implies, is intended to measure students’ skills and talents before instruction begins. It should provide teachers with precise information on:

- 1. Which objectives students have already met**
- 2. Which objectives students have not yet attained**
- 3. Any problems that may prevent student progress with the objectives**

Objective-Referenced Tests

Ideally, a pretest should demonstrate whether a student has full, partial or little mastery of an objective. Objective-referenced tests can do that effectively, as they usually assess one objective at a time through short answer or multiple choice responses. On a practical level, these “paper and pencil” tests appeal to teachers because they can be administered in large group settings, require little time to oversee or correct, and are readily available from textbook publishers or testing companies allowing teachers to keep records of students’ progress.

Performance-Based Assessment

Performance-based assessment is a popular alternative to objective-referenced tests. By asking students to do oral, written or manipulative work in front of them, teachers can observe and evaluate the process students use to arrive at an answer. This procedure is especially successful with younger children who are not yet ready for paper and pencil tests.

Students may be evaluated individually or in small groups, through conferences, interviews or portfolios of completed work. As with objective-referenced tests, this requires preplanning. Teachers must take the time to locate or create the performance tests, making sure that they’re aligned with the desired learning objectives.



Step Three: **Identify students who should take the pretests.**

In step three, teachers identify students who should participate in the pretesting activity. To do this, teachers must first discern students' specific strengths.

This step is critical for two reasons. First, it ensures that when students are excused from class for enrichment activities, they're absent only during their curricular strength times. Second, it eliminates the need to assign make-up work when the students return to the classroom.

Academic records, standardized tests, class performance and evaluations from former teachers are all effective means of pinpointing candidates for pretesting. Another method is observation. Teachers should watch for students who complete tasks quickly and accurately, finish reading assignments ahead of their peers, or seem bored or lost in daydreams. Some students will even tell their teachers that the work assigned is too easy.

Using Test Scores

Achievement and aptitude tests can be a valuable gauge of academic ability. By comparing students' subtest scores with local or national norms, educators can see which youngsters fall into the above average ranges. Since these students usually know more or learn faster than their peers, it's safe to assume that they may benefit from pretesting.

National test results confirm the fact that bright students do not necessarily excel in all subject areas. For example, those who score well in math will not always show equal ability in vocabulary. Likewise, students with good vocabulary skills are not always those who do best in reading comprehension. This underscores the importance of using more than one test, and relying on a battery of data to evaluate students' strengths and weaknesses in specific content areas. Teachers must get a total academic picture.

Teachers must also remember that this information leads only to likely candidates for compacting. In other words, just because students perform well in a given area doesn't mean they've mastered all the learning objectives in that area.

What's more, all test instruments are flawed to some degree. Establishing "cut-off" scores, then, is not an exact science. When it comes to measuring achievement, the debate still rages over "how high is high?"

Overall, students who place above the 85th percentile on subtests of norm-referenced achievement tests may be considered viable candidates for compacting. Some teachers may decide that they want to pretest all students in the classroom. These pretests results can be used to organize ad hoc, small groups of students with common instructional needs.



Step Four: **Pretest students to determine mastery levels.**

Pretests, both formal and informal, help teachers determine student mastery of course material. But what constitutes mastery? Since definitions of mastery vary so, teachers within the same school should strive to reach a consensus.

Administering Formal Pretests

Deciding how and when to pretest students can be a time-intensive exercise. One shortcut is to increase the number of students or objectives examined at one time; for example, if a chapter in a math text covers ten objectives, a small group of students, or the entire class could be tested on all ten objectives in one sitting.

Before starting the testing process, teachers should:

- 1. Point out that some students will already be familiar with the material**
- 2. Ask if any students would like to “test out” of some or all of the unit by demonstrating that they already know the objectives being taught**
- 3. Assure the students that they’re not expected to be competent in all the objectives being tested**
- 4. Tell the students that their curriculum may be streamlined if they can exhibit mastery of some or all of the objectives**
- 5. Help the students understand that they will not be labeled “poor learners” if they can’t pass one or more sections of the test**

Once students agree to the pretests, teachers can give instructions for completing them. Parts of the examination may be taken independently, reducing the amount of time teachers must serve as monitors.

If small group testing is not feasible, teachers can follow the same procedures with individual students. Some educators may want to install a permanent “testing table” for this purpose; others may let students score and record their own test results to save time.

Performance-Based Testing

Some teachers may want to use performance-based testing. If they choose this form of pretesting, they should observe students closely, by taking notes, tracing thought patterns, and posing open-ended questions to assess proficiency with the objectives.

Let’s assume, for example, that the assignment is to write a persuasive essay. The instructions could be to actually create and submit an essay, which teachers would read and analyze for content; teachers could also ask students how they went about organizing their thoughts, to see if they truly understand the assignment.

Similar sessions can be held to assess other abilities, such as decoding rules, solving problems, or processing science skills. Through these evaluations, many teachers will discover the value of performance-based testing as a supplement to pretesting.

An Option: Pretest All Students in the Class

Pretests may also be administered to the entire class. Although it may entail more work for the teacher, it provides the opportunity for all students to demonstrate their strength in an area. In fact, involving everyone in the process can boost individual confidence and build a stronger sense of community in the classroom. Equipped with a matrix of learning objectives, teachers can fill in the test results and form small, flexible groups based on skill needs.

Pretesting Students with Special Needs

Mastery levels are bound to fluctuate among students. Youngsters with learning disabilities, visual or hearing impairments, or who speak English as a second language, must often be evaluated differently than their peers.

Consider, for example, a student who demonstrates superior understanding of science concepts. If the goal of compacting is to develop the potential talents of all students, then shouldn't she too, be allowed to take part in alternative learning activities even if her spelling and language arts skills are low? There are, in fact, several ways to accomplish this:

- 1. Try to compact the students in their best content area, even though performance may be below grade level in another content area. Students can spend classroom time, as well as some recess, lunch or after school time, in alternative activities.**
- 2. Place the students in enrichment programs during the language arts period, since language arts are incorporated into most other subjects. Although students may not be working with the same set of skills as those being taught, they would apply other language arts skills during research, problem-solving and project-sharing exercises.**

Implementing curriculum compacting for special needs students may be difficult for many teachers. But studies show that the rewards justify the hours spent. Engaging these students in the process can elevate self-esteem, foster positive attitudes toward learning, and, in the long-term, improve performance.

Securing Help for Pretesting

There are a number of resources that teachers can use to help conduct pretests:

- **Parent volunteers, aides and tutors can lend a hand administering tests.**
- **Reading, math and other curriculum specialists can assist in identifying learning objectives and student strengths.**
- **District consultants and teachers of gifted children may be available to help with pretests and other aspects of compacting. This service is especially vital during the first few years, when teachers are trying to organize and implement the compacting program.**
- **Companies are developing new computer technology to pretest and provide individual instruction to targeted students.**



Step Five:

Streamline practice or instructional time for students who show mastery of the objectives.

Students who have a thorough grasp of the learning objectives should be allowed to take part in enrichment or acceleration activities. This exposes them, during class time, to material that is not only new and stimulating, but more closely aligned to their learning rates and abilities.

For illustration purposes, let's say that a student has mastered three out of five objectives in a given unit. It follows, then, that the student should not take part in the classroom instruction of those three objectives. Depending upon the teacher, some students may be excused from specific class sessions (for example, the Monday and Wednesday portions of vocabulary building), while others may forego certain chapters or pages in the text or specific sets of learning activities.



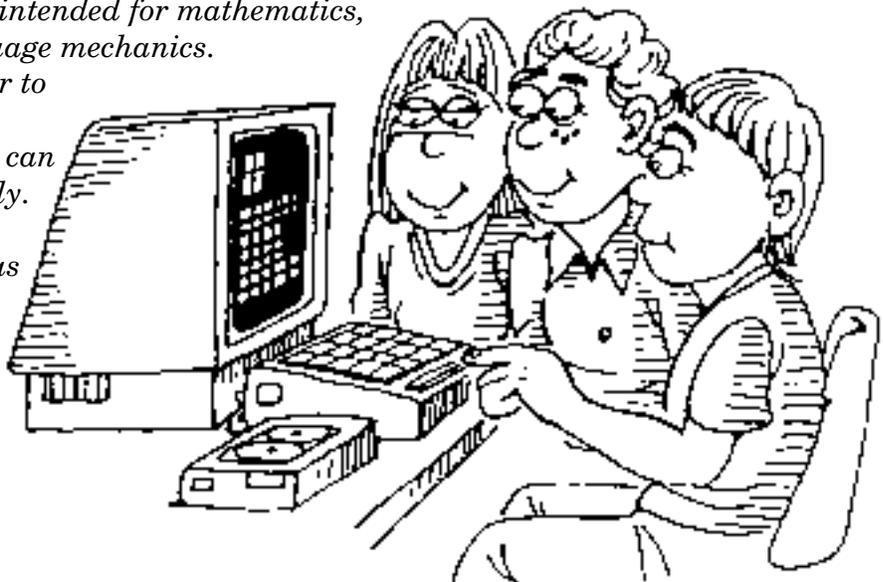
Step Six:

Provide small group or individualized instruction for students who have not yet mastered all the objectives, but are capable of doing so more quickly than their classmates.

How should teachers instruct students who qualify for compacting, but have not yet mastered all the objectives? An obvious solution is to have them engage in the same lessons as their classmates. If the brighter students progress at a faster pace, teachers can condense the material through "content compacting."

Content compacting differs from skills compacting. As the name implies, it compresses overall course material that students have already mastered, or are able to master in a fraction of the normal time. Skills compacting, on the other hand, eliminates specific skills that students have already acquired. Content compacting is also designed for general knowledge subjects—social studies, science and literature—whereas skills compacting is intended for mathematics, spelling, grammar and language mechanics.

Skills compacting is easier to accomplish. Pretesting is a simpler process, and mastery can be documented more efficiently. Content compacting, on the other hand, is more flexible, as students can absorb the material at their own speed. In content compacting, the means of evaluation are also less formal; teachers may require an essay, an interview or an open-ended short answer test.





Step Seven:

Offer academic alternatives for students whose curriculum has been compacted.

Alternatives often exist to provide acceleration and/or enrichment for students whose curriculum has been compacted. This step proved to be the most challenging and the most creative for teachers who participated in our study. The possibilities for replacement activities include:

- **Providing an accelerated curriculum based on advanced concepts**
- **Offering more challenging content (alternative texts, fiction or non-fiction works)**
- **Adapting classwork to individual curricular needs or learning styles**
- **Initiating individual or small group projects using contracts or management plans**
- **Using interest or learning centers**
- **Providing opportunities for self-directed learning or decision making**
- **Offering mini-courses on research topics or other high interest areas**
- **Establishing small seminar groups for advanced studies**
- **Using mentors to guide in learning advanced content or pursuing independent studies**
- **Providing units or assignments that are self-directed, such as creative writing, game creation, creative and critical thinking training**



Teachers will have to decide which replacement activities to use and their decisions will be based on factors such as time, space, resources, school policy and help from other faculty (such as a gifted program teacher or a library media-specialist). But while practical concerns should be considered, what should ultimately determine replacement activities are the degree of academic challenge *and* students' interests. If students understand that if they demonstrate proficiency, they will earn some time to pursue their own interests, they will often work to earn this opportunity. Our role as teachers is to escalate the challenge level of the material students are pursuing to be able to provide adequate academic challenges. **Many additional suggested alternatives for students are provided after Step Eight.**



Step Eight:

Keep records of the compacting process and instructional options for compacted students.

Any differentiated program requires added record keeping. Unlike a regular classroom where all students are on the same page or exercise at any given time, teachers who provide a compacted curriculum have students doing different assignments at different levels and different times. Keeping concise records, then, is essential, and can be time-consuming without proper planning. Teachers and administrators should collectively decide how the compacting process should be documented. Regardless of form, all written documentation should contain these basics:

- 1) Student strength areas, as verified by test scores or performance**
- 2) The pretests used to determine mastery, and the learning objectives that were eliminated**
- 3) Recommended enrichment and acceleration activities**

The Compactor was designed expressly to track the compacting process. Teachers employed in states or provinces with mandates for gifted education can substitute the compactor form for the Individual Education Plan (IEP), thus curbing the paperwork required for state-funded services.

No matter what record keeping vehicle they use, it's critical that teachers thoroughly chronicle the compacting process. The facts and figures they compile can be used in parent-teacher files. They can also be included in students' permanent academic files. The information can even help win support for compacting when the idea is being "sold," since people tend to react more favorably to issues presented in a written format.

Examining Curriculum Alternatives

The most challenging part of compacting is deciding what students should do with time that they have earned. In deciding which curriculum alternatives to use, teachers should first list all the enrichment and acceleration activities available in their school districts. These can be organized around five major topics:

- 1. Classroom Activities** - Independent or small group study; escalated coverage of the regular curriculum; mini-courses; special interest groups; clubs; interest development centers; and special lessons for furthering cognitive and affective processes
- 2. Resource Room and Special Class Programs** - These include the same activities as above, but often held in locations outside of the classroom, and may be taught by special teachers
- 3. Accelerated Studies** - Grade-skipping; honors and advanced-placement courses; college classes; summer or evening classes; early admission to kindergarten or first grade; cross-grade grouping; continuous progress curricula; and special seminars
- 4. Out of School Experiences** - Internships; mentorships; work-study programs; and community programs, such as theater and symphonic groups, artists' workshops and museum programs
- 5. District, School or Departmental Programs** - Encompasses the options above, plus correspondence courses, and programs for independent study, special counseling, career education and library studies

Besides interests, teachers must take students' preferred learning styles into account. Learning styles may be discerned through observation, interview, or more formal means, such as the Learning Styles Inventory, devised by Joseph Renzulli and Linda Smith. This inventory matches students with their "comfort level" of academic structure.

Enrichment Materials in the Classroom

Gifted education teachers are excellent sources for enrichment activities. The services they supply range from alternative teaching units or materials, to mentoring student projects.

For teachers who don't have access to these specialists, there are a host of commercially published materials on the market. These kits, books and activity cards, which offer high quality at reasonable prices, can be adapted to individuals or small student groups of all ages.

Assessing Students' Interests

Student interests are key in choosing enrichment or acceleration options. When asked what they enjoy most about compacting, children consistently cite the freedom to select their own topics of study; conversely, their biggest objection to regular curriculum is the limited opportunity to pursue their favorite subjects.

We commonly assume that when a student excels in a given area, he or she has a special interest in it. This is not always true. Often, students perform well in a course because they've been directed and rewarded by parents and teachers. Students may also lean toward one academic area simply because they've had little exposure to others.

Still, if a youngster is outstanding in math, for example, the teacher should try to promote further interest in the subject. A good way to do this is to suggest an accelerated math activity; if the student and parents agree to it, they should proceed. If, however, the student would rather work on a self-initiated project, then the teacher should try to accommodate those wishes while also considering how to provide an appropriate level of challenge.

Interest-A-Lyzer

The Interest-A-Lyzer is a 13-item questionnaire devised to help students examine and focus their interests. Basically, the youngsters are asked to imagine themselves in a series of real and hypothetical situations, and then relate how they would react.

The primary purpose of this exercise is to stimulate thought and discussion. Students not only come to know themselves better, but also get a chance to share their discoveries with both teachers and peers. To ensure that students draw a true "self portrait," teachers should:

- **Tell the students that there are no grades, or right or wrong answers**
- **Assure students that their responses will be kept confidential, if they wish**
- **Instruct students to follow directions carefully, to avoid group conformity or stereotyped responses**
- **Allow students to complete the questionnaire without pressures or time constraints**

Teachers play a dual role in fostering student interests. Once they've identified general categories of interest, they must refine and focus them, then provide students with creative and

productive outlets for expressing them. A child who enjoys rock music, for instance, may want to become a musician. But there are other avenues he or she could pursue as well, such as that of radio announcer or concert producer. Teachers must be sensitive to students' talents and inclinations within their fields of interest, and at the same time, encourage them to explore a range of options within those fields.

Interest Development Centers

Creating interest development centers is also an effective strategy. Unlike traditional learning centers which focus on basic skills, interest centers invite students to investigate topics within a general theme, such as bicycling or the education of people with hearing impairments. Shelves, therefore, must be stocked with manipulative, activity-oriented tools. Films, pamphlets, magazine articles, library books, slides, display items—all are standard fare. Resources that introduce children to research skills, not just reference skills, are valuable, too. An interest center on bicycling, for example, could feature texts on how to make a bike path, seek city council permission to erect public bike racks, or plan a bike safety rodeo.

Once teachers have set up the center, they should formally “unveil” it to their students. A 20-minute session revolving around a film, speaker or discussion is generally all it takes to enthuse children about the new resource.

Not all students will want to explore every interest center topic. But when several centers are established over the school year, most youngsters delve into at least one activity. Evaluating students' interest inventories should help teachers launch projects that appeal to the majority of students.

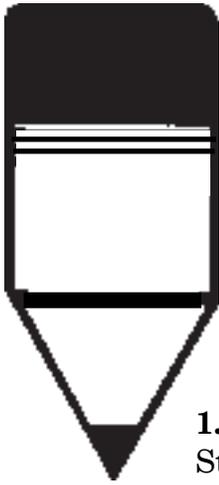
Perhaps the most critical success factor, however, is teachers' attitudes. If teachers insist that only students who finish their work can use the center, then some students will erroneously equate center activities with skill development. On the other hand, those teachers who allocate time for all students to enjoy center projects send the message that exploratory and creative pursuits are just as valuable as textbook and worksheet assignments. Encouraging children to be risk-takers and information-gatherers reinforces important behaviors—behaviors that lead to a love of independent learning. If students develop an interest and want to pursue independent study, a 12 step process for guiding students through independent study starts on page 16.

SOME CLOSING THOUGHTS

Curriculum compacting demands time and energy on the part of both teachers and students. Yet, over the years, we've discovered that it saves teachers precious hours, once they're familiar with the process. Most educators who now compact effectively say that it takes no longer than normal teaching practices. More importantly, they tell us that the benefits to all students certainly make the effort worthwhile.

We hope that you've found this booklet beneficial. In the final pages, we've included a short section on commonly asked questions on curriculum compacting beginning on page 19. There's also a select bibliography, should you care to explore the subject further.





Guiding Students Through Independent Study

We've devised a 12-step process for teaching students how to produce quality enrichment projects. This process, which has been applied in classroom and resource room settings, has evolved over several decades and countless activities.

Two comments can be made on the steps themselves. First, they don't have to be followed in the order given. Second, some can be eliminated if students can accomplish the learning objectives in other ways.

1. Assess, Find or Create Student Interests

Students should select topics in which they have an intense interest. In some cases, teachers may have to spark an interest by introducing new fields of study or extending the regular curriculum; the Interest-A-Lyzer and scheduled speakers can also serve as motivators.

2. Conduct Interviews to Determine Interest Strength

Teachers should try to ascertain, through face-to-face interviews, how deeply committed students are to their interests. For example, if a youngster likes journalism and wants to produce a school newspaper, he or she might be asked these questions:

- 1. How long have you been interested in journalism?**
- 2. What sources have you contacted to learn more about the subject?**
- 3. Have you ever tried to publish a class or neighborhood newspaper? Why or why not?**
- 4. Have you ever visited your local newspaper?**
- 5. Do you know anyone else interested in this topic?**
- 6. If I can help you find either books or people to talk to about your project, do you think it might give you some good ideas?**
- 7. How did you become involved in journalism?**

Posing these questions will reveal if the student has seriously considered the amount of time independent study entails, and how to go about producing a unique product.

3. Help Students Arrive at a Question or Questions to Research

Most educators have little difficulty recognizing "families" of interest: scientific, historical, literary, mathematical, musical, athletic. Problems arise, however, in fine tuning a broad area, and defining a specific interest as a research question.

The majority of teachers are not experienced in asking the right questions about narrowly drawn fields of study. Yet, this part of the process is critical. How it's handled will determine whether a student starts on the right or wrong track. Given that, teachers can help students secure the "how to" books or resource people that routinely probe these important questions. Students who want to ask the right questions about problem focusing in anthropology, for instance, must begin by looking at the query techniques anthropologists apply.

4. Formulate a Written Plan

Once students have brainstormed a question, they should draft a written plan for researching it. Many teachers employ contracts with students. Others prefer journals or logs, and still others use a Management Plan to organize ideas and develop time lines.

5. Work with Students to Locate Resources

For advanced content and methodological aid, teachers should direct students toward “how-to-do-it” books, as well as biographies and autobiographies, periodicals, atlases, letters, surveys, films, phone calls and personal interviews. Librarians and media specialists should also steer students to sources beyond encyclopedic references.

6. Provide Methodological Assistance

In this step, the emphasis shifts from learning about topics, to learning how one gathers, categorizes, analyzes and evaluates data. The teacher’s role, then, is to show students how to identify and obtain the resources that explain how to properly investigate their topics.

Correct guidance at this phase almost guarantees that students will be first-hand investigators rather than reporters. Clearly, the caliber of instruction students receive here will differentiate their projects from those of their peers.

7. Help Students Choose a Question

Students can often decide, at this point, which question or area they want to research. In addition, many begin to investigate their topics.

8. Offer Managerial Expertise

Managerial assistance consists of helping students secure the information they need. Teachers can set up interviews with public officials, gain access to laboratories or computer centers, transport youngsters to college libraries and help distribute questionnaires or other printed pieces. At this stage, the student emerges as the leader and expert, while the educator assumes a more supportive role.

9. Identify Final Products and Audiences

A sense of audience is integral to students’ concern for quality and commitment to their tasks. With that in mind, teachers should lead students to appropriate audiences and outlets for their work.

Teachers should also stress the impact creative efforts can have. Students should be aware that a job well done can bring more than individual expression and personal satisfaction; it benefits others by changing how they think or feel, or enhancing the quality of life in other, more tangible ways.

10. Offer Encouragement, Praise and Constructive Criticism

Almost every endeavor can be improved through revision, rewriting or closer attention to detail. Teachers must convey this fact to students, as they review the youngsters’ projects with a sharp, yet sensitive eye. For their part, students should feel that the teacher’s greatest concern is helping them achieve excellence, and that constructive feedback is vital to the process.

11. Escalate the Process

Critical feedback is highly successful in improving student projects. While progress is usually slow but sure, teachers can speed it along by giving criticism that's as positive and precise as possible, an approach that also reaffirms students' confidence in their efforts.

Oftentimes, bright students resort to simple or unimaginative research methods because they haven't been taught more advanced ones. Educators can change this by showing them how professionals work. Teachers, media specialists and librarians can assist students in phrasing their questions, designing research, gathering and analyzing data in an unbiased way, drawing conclusions and communicating their results.

12. Evaluate

Students always want to know how they're being "graded." However, we strongly discourage the formal grading of independent projects, since no letter grade, number or percent can accurately reflect the knowledge, creativity and commitment students develop during their individual study.

Nonetheless, evaluation and feedback do promote growth, and should be used. The ideal process is a two-way street: it actively involves students, and familiarizes them with the evaluative procedures. To help students appraise their own work, we suggest a short questionnaire, such as the one below:

- 1. How did you feel about working on the project?***
 - 2. What did you learn through your study?***
 - 3. Were you satisfied with the final product? In what ways?***
 - 4. How were you helped with your project?***
 - 5. Do you think you might like to undertake another project in the future? Do you have any ideas what that project would be like?***
-

Questions and Answers

Q. What is required before you start compacting?

A. To compact effectively, you must have:

- 1) A clear understanding of your curricular objectives
- 2) Knowledge of which students have already mastered those objectives, or are capable of mastering them in less time.

It also helps to have some background information on compacting itself, and an idea of the pretest devices and alternative activities you plan to use. *Curriculum Compacting: The Complete Guide to Modifying the Regular Curriculum for High Ability Students* provides in-depth coverage of the subject. This book is available from Creative Learning Press, P.O. Box 320, Mansfield Center, CT 06250. In addition, a one-hour videotape of a satellite training by Sally Reis is available from The National Research Center on the Gifted and Talented at The University of Connecticut.

Q. What type of staff development is initially necessary?

A. Teachers and staff should first get a general overview of compacting. Creative Learning Press has videotapes specially produced for this purpose; there is also an outstanding book on the subject entitled, *It's About Time: Inservice Strategies for Curriculum Compacting*, by Alane Starko.

After everyone's been oriented to compacting, they should meet to determine learning objectives, methods of pretesting, and other critical elements in the process. Additionally, teachers should try to observe, within a classroom setting, other teachers who successfully compact curriculum.

Q. Can classroom teachers compact curriculum without the help of teachers who work with gifted children?

A. Yes! In fact, classroom teachers bear the primary responsibility for implementing the compacting process. But, if gifted teachers are available, they can ease the job by procuring enrichment resources, or upgrading the challenge level of the regular curricular materials.

Q. What about administrative support—should I tell my administrator about my decision to compact?

A. Absolutely. We feel that most administrators will be supportive, but because compacting is such a major innovation, it's essential that they be consulted before you begin. Doing this may prompt your administrator to ask other teachers to participate.

Q. Should parents be informed if their child's curriculum has been compacted?

A. We want parents to be active partners in compacting and, therefore, strongly recommend that they be notified once it's been initiated. A good way to do this is through a brief letter which describes the process. Parents should understand, for example, that compacting may change the amount or type of paperwork their children bring home.

Q. What should I tell my class about compacting?

A. Compacting should be explained in simple terms to all students. Among the points you should touch upon are pretests, the fact that some students may already know the material being tested, and that exciting learning activities exist for students who have already mastered the material.

You should also spell out, in advance, the rules regarding behavior while students are doing alternative work. Two such rules may include working as quietly as possible, and not interrupting the teacher while he or she instructs the rest of the class.

Q. At what grade level should compacting be introduced?

A. The ideal time to start compacting is soon as children enter school. We've found that when the process begins in kindergarten, youngsters learn to use their independent time more appropriately, and choose more suitable enrichment activities.

Similarly, it's often easier to compact in an elementary classroom than it is in a secondary class. Elementary teachers generally see students perform for a larger block of time, and in more than one subject area. Secondary teachers, on the other hand, may have them for only one 50-minute session a day. This gives them limited time to determine competency.

Q. What are the least difficult subject areas to compact?

A. Usually, skill areas with highly sequential curricular organization, such as spelling, mathematics and grammar, are the least difficult to compact. Once you're familiar with the process, you may compact any subject area. Teachers have even reported wonderful results in art and music.

Q. Am I correct in assuming that if I teach process writing or the "whole language" approach, compacting is unnecessary?

A. No. With process writing, youngsters who master the writing objectives for their grade level shouldn't just move up another difficulty notch, as is often the case. Instead, they should be allowed to pursue enrichment assignments or projects of their choice.

The same holds true for the whole language approach. If students show mastery of the learning objectives, simply replacing time with grade level trade books, for example, may not be the best option. The alternatives presented must be challenging, and keyed to students' interests.

Q. Is it better to compact by time period (every marking period, for instance) or by instructional unit?

A. Compacting by instructional unit is best. A “unit” generally refers to an instructional period that revolves around a theme, chronological time period or a set of academic objectives.

For example, to compact a sixth grade unit on Johnny Termaine, the teacher would modify the curriculum for students who have either read the novel, or who could read and master the learning objectives more quickly than their classmates.

At the elementary level, teachers frequently compact a basic skills unit of instruction, such as the teaching of long division.

Q. Do you recommend compacting an entire semester, leaving the last two months free for student self-selected projects, or compacting 2 1/2 days a week, leaving the rest of the time for alternative work?

A. Most teachers prefer to compact two or three days a week, and set aside one or two days or short blocks of time for enrichment assignments. When you compact a semester, it demands tremendous time and energy to plan a full two months of enrichment options.

Q. Will I be more successful if I initially compact one student’s curriculum instead of a whole group’s?

A. Teachers have effectively compacted curriculum for individual students, but the students often feel uncomfortable being singled out. It’s better, then, to start with a small group. Working with several students doesn’t demand much more time, or many more resources, than working with one student.

Q. If I compact for my high ability students, and let them leave the class for alternative activities, won’t the quality of my classroom discussions suffer?

A. Many teachers have expressed this concern, which is merited to some degree. However, we must also remember that less able students are sometimes intimidated by the presence of brighter students, and, consequently, won’t contribute to the discussions.

To resolve the problem, teachers might try some classroom sessions with the gifted students, and some without them; if the discussions succeed better with the advanced students, then it makes sense to include them.

Q. Do students who are not in the gifted program ever benefit from compacting?

A. Yes, most definitely. According to our field tests, many average students get great value from curriculum compacting in one or more content areas. We believe that the compacting process actually helps reverse the “dumbing down” of the curriculum, which benefits all students, as do the enrichment materials brought into the classroom for use during compacted time.

Q. What about lower ability students—can they take part in enrichment opportunities?

A. All students, regardless of ability, should be given time to enjoy enrichment opportunities. Everyone would agree that every student should, in fact, learn the problem solving, creative thinking skills and other facets of process training that alternative activities provide. Teachers could schedule a special time for these activities, such as Friday afternoons from 2-3 p.m.

Q. Should curriculum be compacted for underachievers?

A. Underachievers should be considered for compacting. Youngsters who underachieve are often bright students who are bored with the regular curriculum. In many instances, they’ve also discovered that finishing their lessons before their classmates only means that they’re assigned more of the same work.

Case studies show that compacting can break this unproductive cycle. By directing underachievers to more challenging work, rather than simply extra work, we give them an incentive to excel.

Q. How do I grade when I compact curriculum?

A. You should grade on the regular curriculum which has been compacted. In our opinion, grades should reflect mastery of content and not time spent in a subject area.

When you do substitute independent study, we don’t think it should be graded. Our preference is to provide some qualitative, holistic evaluation of the work done.

Note: If you find that students are not using their time for alternative study wisely, you should talk over the problem with them. You might reiterate the concept of compacting, and explain what the next step would be if behavior doesn’t change (such as a parent meeting). Compacting represents a radical educational departure for most students, and it takes time for them to adjust.

Q. Is there a way to physically reorganize my classroom space to make compacting easier?

A. Yes! You can set up “student stations,” consisting of a desk or table with two or three chairs for independent study or free reading. A small, comfortable library corner, or special learning or interest centers, can also be established.

Q. How expensive is compacting to implement?

A. To facilitate compacting, you’ll need additional resources. You may have to order pretests and other instruments to measure proficiency. And, if your students don’t have access to a gifted specialist, you’ll have to arrange in-class activities for them instead. With as little as \$800 in start-up funds, and an annual budget of \$200 per building, you can start and maintain a library of enrichment resources. These items can be loaned to classrooms as needed.

Securing operating funds is easier when school districts adopt a systemized approach to compacting. Not only is there philosophical backing, but money for materials can be formally budgeted.



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Step One:

Select relevant learning objectives in a subject area or grade level.

Step Two:

Find an appropriate way to pretest the learning objectives.

Step Three:

Identify students who should take the pretests.

Step Four:

Pretest students to determine mastery levels.

Step Five:

Streamline practice or instructional time for students who show mastery of the objectives.

Step Six:

Provide small group or individualized instruction for students who have not yet mastered all the objectives, but are capable of doing so more quickly than their classmates.

Step Seven:

Offer academic alternatives for students whose curriculum has been compacted.

Step Eight:

Keep records of the compacting process and instructional options for compacted students.