

Section

Styles and Strategies for Helping Struggling Learners Overcome Common Learning Difficulties

The purpose of this section is to provide specific, style-based help and information to classroom teachers and teams of special education teachers as they to develop meaningful plans for hard-to-reach students, underachievers, and students whose academic performance falls below the teacher's, school's, or state's curriculum standards.

In this section, we discuss the most common learning problems that students in each style may experience, along with the solutions that work best for addressing these problems. The problems and solutions discussed fall into the following categories:

- attention
- reading
- writing
- mathematics
- science and social studies
- homework

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Helping Mastery Students Overcome Common Learning Difficulties

Whenever learning becomes abstract or passive, whenever key skills are not explicitly demonstrated and practiced, whenever the Mastery student feels unable to display a high degree of competence on work assigned, whenever the work of the classroom becomes isolated from the physical world, practical applications, real-world relevance, or clear expectations, some Mastery learners' motivation will lag. As they become less motivated or more uncertain, these learners are likely to:

- Withdraw from classroom participation to conceal their perceived lack of competence.
- Ask for increasingly explicit instruction on what they have to do to avoid error.
- Produce minimal work—just enough to get by—because they no longer feel that they can be successful or that the content of the curriculum will be useful to them in the real world.

General Principles

In general, Mastery learners want to work and do well in school. When they withdraw from learning, many of their problems can be addressed cognitively according to four basic principles:

1. clear, clear, clear

Mastery students are motivated by clarity, competence, and success. Motivation starts with clear expectations. Set explicit and measurable goals for both academic achievement and behavior. The better the Mastery student knows the criteria for evaluating the performance, the more he will work to meet them.

2. model, model, model

The skills necessary for success hold whether the skill is fairly straightforward (e.g., studying for a spelling test) or if it's a more abstract and complex skill, such as making inferences, establishing a thesis for an essay, or developing a plan for solving a mathematics problem. The more explicitly the teacher models the skill, the stronger Mastery students will perform.

3. practice, practice, practice

Mastery students need lots of practice on key skills and central concepts. It is not necessary to reduce the thinking, reading, writing, or problem solving in their work; it is only necessary to provide more practice and better feedback on their performance.

4. organize, organize, organize

When it comes to learning complex content, Mastery students need organizational tools. They frequently fool us because they are so good at following directions, but their tendency to focus on details makes it difficult for them to see and use the higher-level concepts necessary to understand content like science and social studies. The use of visual organizers, as well as effective modeling and practice of study skills, can provide an effective boost to Mastery learners.

On the following pages you will find the most common difficulties faced by Mastery learners.



Helping Mastery Learners with Attention

As long as learning is focused on demonstration and frequent practice, Mastery learners display a high degree of attention and are able to focus for long periods on the task at hand. Under these conditions, their ability to focus can be extraordinary. However, the longer they are asked to be passive, the more abstract and conceptual the content, the more disconnected instruction is from something they can do, the greater the difficulty Mastery learners will have sustaining attention.

Possible Solutions:

- Begin lessons by presenting both the long-term goal (write a paper that evaluates Columbus's role as an explorer and an administrator of the new world) and the short-term objective (examine the first draft for how well it uses evidence and make plans for revision).
- Strengthen the connection of tasks assigned to applications in the real world, especially to careers.
- Provide input in short bursts with frequent stopping points for practice.
- Use visual organizers to provide an overview of the long-term task.
- Find ways to measure progress and record the results visually with the learner.

What to Avoid:

- Reducing the complexity of the task (if Mastery learners perceive they are doing lesser work than their peers, their motivation declines).



Helping Mastery Learners with Reading

Reading is not a preferred mode of learning for many Mastery students. Shorter readings, more concrete content, and questions that focus on finding and examining details tend to bring out the best performance in Mastery readers. In addition, they display a strong preference for nonfiction over stories or poetry. Some Mastery learners display significant difficulties with readings and tasks requiring inference. The sensing mode of perception focuses their attention on the details, and they frequently overlook both main ideas and text structure when reading nonfiction. In reading literature, they often encounter difficulties discerning and answering questions about a story's themes, a character's motivation, or an author's techniques. In extreme cases, their tendency to separate information into small bits may lead them to isolate one word from another in oral reading. This can lead to an incorrect diagnosis that they have phonics deficiencies, when the real problem lies with the difficulties they experience using inference to comprehend the connections between words while they are reading.

Possible Solutions:

- Explicitly model and regularly practice the five main types of inferences separately (inference of missing detail, main idea, character motivation, author's techniques and purpose, theme).
- Demonstrate how an understanding of a text's structure (topic/subtopic, procedural, sequence, cause and effect, compare and contrast, problem-solution) can be used to increase comprehension and take effective notes.
- Maximize the use of nonfiction texts in the early phases of instruction.
- Deliver direct instruction in how to interpret complex higher-order thinking tasks and questions in reading, and how to use tasks and questions to develop a reading plan.

What to Avoid:

- Providing students with worksheets.
- Providing students with visual organizers: teach them to design their own.



Helping Mastery Learners with Writing

Mastery students learn quickly to write brief, well-organized pieces that stay close to the directions or task descriptions. In the early years of schooling, they may display a flair for spelling, punctuation, and capitalization. Their handwriting is frequently neat though they may display a preference for printing over cursive and, in general, they do better with nonfiction writing and reports than they do with more creative or personal forms of writing or writing that asks for opinions or evaluations. Some Mastery learners have a tendency to write brief, almost telegraphic prose, keeping to the bare bones of the topic with little attempt to develop or elaborate their ideas in depth. As they move upwards through the grades and the demand for longer and more analytic writing increases, some Mastery students may stagnate as writers, becoming arrested at paragraph-length writings. No matter what the assignment, they do little more than summarize or paraphrase, ignoring requests for analysis of cause and effect, comparison, thesis, or interpretation. Finally, as they advance into the upper grades where success in spelling, punctuation, and grammar becomes less a matter of drill and practice and where there is a greater focus on the ability to discuss complex patterns and apply reason using abstract rules, many Mastery learners seem to lose the control and proficiency of written English.

Possible Solutions:

- Begin writing instruction in early phases by reading and writing “how-to” pieces (e.g., “How to build a kite,” “How to fry an egg”).
- Use your own writing; explicitly model how you locate places where more information, evidence, or detail are needed.
- Use the idea of text structure: topic; subtopic; argument (claim, evidence, counterargument, response); sequence (first, next, then); or comparison (description, similarity, difference, significance) to help students develop plans for writing.
- Emphasize writing pieces, not paragraphs (e.g., letter, editorial, book review, advice column).
- Find real audiences and mentors from outside the classroom to provide concrete feedback to the writer, not on conventions (spelling, punctuation, etc.), but on where the writing becomes confusing or needs more elaboration.

What to Avoid:

- Reducing the length, complexity, or thinking involved.



Helping Mastery Learners with Mathematics

Many Mastery learners display a high level of proficiency for mathematical computation, particularly when the steps in a procedure have been clearly demonstrated and frequently practiced. But when the focus shifts to problem solving, explaining mathematical concepts, or applying and demonstrating mathematical reasoning, some Mastery learners flounder. Word problems may be a particular problem, especially in multistep problems or where the correct operation to apply is not obvious. In the upper grades, as the number of mathematical procedures accumulate and statistical, algebraic, and geometrical reasoning play a greater and greater role, math becomes more challenging for some Mastery learners who focus more on details. At this point, both their computational accuracy and their ability to see the relevance of mathematics may suffer.

Possible Solutions:

- Focus work in mathematics around a math log where students do fewer, but more complex problem-solving assignments. Insist that they illustrate and prove the reasoning they use.
- Emphasize the role of diagramming in interpreting and solving problems in mathematics.
- Use samples of high, medium, and low student problem solving, and explanations of reasoning to provide a touchstone to help Mastery learners assess their progress.
- Model reasoning and explaining processes frequently.
- Make sure that 60% of student work involves word problems.
- Provide visual organizers at the beginning of units to show the central concepts and kinds of problems that will be addressed.
- Use manipulatives, but remember: for Mastery learners, the two best tools are money and graph paper.

What to Avoid:

- Focusing on computation. For Mastery learners it's the reasoning, not the computation, that's deficient.



Helping Mastery Learners with Science and Social Studies

The more skill-oriented and the more focused on memorization of facts and details the content is, the better Mastery learners will perform. Conversely, the more the science and social studies content focuses on concepts and generalizations with assignments centering on critical or creative thinking, the more Mastery students will struggle in their studies.

Possible Solutions:

- Provide as much connection as possible between the content of science and social studies, the life of the community in which students live, and the jobs and careers they might imagine for themselves. In science and social studies, hands-on means moving out into the world or bringing the world right into the classroom.
- Frequently emphasize science and social studies as skill areas, using them to increase students' abilities in reading, conceptualizing, writing, and researching.



- Spend 70% of your science and social studies instructional time on the concepts and only 30% of the time on the details.

What to Avoid:

- Thinking that more content equals more learning. Focus on a few rich and deep ideas, and center instruction on understanding those ideas through reading, writing, conceptualizing, and research.



Helping Mastery Learners with Homework

Given their focus on demonstration, practice, and short answers, Mastery learners do quite well with homework that is essentially a repetition of work they have performed previously in class. They can maintain a regular and reliable homework schedule, stay on task, and check and revise their homework in a responsible manner. Concrete, long-term projects (especially those that require them to build or invent something) that have clear expectations and deadlines with components that have been clearly demonstrated and practiced pose few problems for Mastery learners. However, the more homework relies on reading, inference, problem solving, sustained writing, and analytic or interpretive writing and thinking, the more difficulty Mastery learners will experience, unless these skills have been adequately modeled and practiced.

Possible Solutions:

- If the homework requires complex thinking, critical analysis, or creativity, provide modeling and practice and allow students to begin their work in school to make sure they can be successful.
- Check homework daily and give specific feedback.
- Use the previous night's homework in class the next day as a launching point to the next topic or skill.

What to Avoid:

- Giving larger and larger quantities of problems they already know how to do.

Mastery Style and Other Variables

Some Mastery Learners Combine Sensing Thinking with Sensing Feeling— How Does this Double Emphasis on Sensing Affect Their Learning?

Sensing is a perception function that emphasizes the role of physicality in learning. Sensing Thinking/Sensing Feeling students have both more need for and more insight into the physical world than many of their peers. The more they can see, hear, touch, smell, and taste the subjects they learn, the better they can understand them. This is not simply an invitation to experiential learning. Sensing Thinking and Sensing Feeling students need the physical materials but also need to use these materials in:

- *A well-organized learning environment with clear connections to explicit learning goals.*
- *A way that can be applied and used in the real world, not merely in academic settings.*

In addition, a Sensing Thinking/Sensing Feeling student may need more physical activity than some of her peers. The use of stations or centers and other teaching strategies requiring movement and exercise breaks may help enhance a student's attention and ability to concentrate.

Some Mastery Learners Combine Sensing Thinking with Intuitive Thinking— How Does this Double Emphasis on Thinking Affect Their Learning?

Thinking is a judgment or decision-making function that emphasizes the role of logic, evidence, and reasoning in learning. Mastery learners whose top two styles include thinking have both more need for and more sensitivity to the role of logic and reasoning in learning than many of their peers. This emphasis on thinking makes them more likely to need to know the reasons behind rules and procedures than their friends, who place more value on Sensing Thinking and Sensing Feeling. They are much more likely to ask why and to be aware of both their own and others' errors. Mastery learners who are double thinkers:

- *Prefer clear goals and organization but may need to explore the reasons for those goals or organization in discussion.*
- *Might not happily accept a pure discovery method but would learn effectively from repairing and debugging others' work.*
- *Will experience more difficulty with tasks and texts that require empathy and awareness of feelings, and will probably need more modeling in these areas.*

Some Mastery Learners are Introverts—How Does this Affect Their Learning?

Introverted Mastery learners frequently are soft-spoken and concise. They are able to focus clearly for longer periods of time than some of their peers. They prefer to focus on doing a few tasks well, and may find environments full of variety or high stimulation distracting. They can both listen and read somewhat longer than their extroverted peers, but may have some difficulty putting their thoughts or feelings into words. Working alone or with a single partner may come more easily to them than working in small groups or participating in whole-class discussions. In general, they work more slowly and more deeply, with a greater need to check and re-check their work.

Some Mastery Learners are Extroverts—How Does this Affect Their Learning?

Extroverts may talk more easily and use their hands more than their introverted peers. They are also likely to interrupt more frequently, either to ask questions or to insist on reviewing steps in a skill or a procedure. They feel comfortable working in groups and may take on a managerial role, assigning tasks to other members or insisting that rules be followed. They enjoy variety but still insist on high levels of organization and clear goals and expectations. Occasionally, the need for speed and variety may make them slightly careless about aspects of tasks that seem too abstract and, therefore, unnecessary.



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Helping Understanding Students Overcome Common Learning Difficulties

As long as the focus of learning remains a well-organized presentation of complex and stimulating ideas, and the work assigned encourages critical thought and reasoning, Understanding learners' abilities to attend to presentations, read and examine texts, and concentrate on the demands of the work at hand can be truly extraordinary. But when ideas become basic or poorly organized, when questioning is not allowed or encouraged, when the subject under discussion revolves around personal feelings or experiences, when the work assigned resembles drill and practice more than discussion, debate, or critique, the Understanding learner's attention begins to wane, motivation erodes, and they may:

- Withdraw from classroom participation, preferring the stimulation of their own thoughts.
- Increase the questions or challenges to the teacher in an attempt to provoke an intellectual response they can grasp and use to focus their attention.
- Become intolerant of the contributions of their classmates and others, using condescension or sarcasm to communicate their distaste for others' ideas.

General Principles

In general, Understanding learners like to be engaged in critical thinking and academic learning. When they withdraw from learning, many of their problems can be addressed cognitively according to four basic principles:

1. Increase the intellectual content of the curriculum and the complexity of the thinking tasks assigned.
2. Provide clear reasons for routine work and a system that permits Understanding learners to measure and assess their own progress in these areas.
3. Where the curriculum calls for exploration of personal experiences and feelings, use of physical equations, or cooperative groupwork, model explicitly how this work is done but also permit discussion of why it is important.
4. Emphasize the role of reflection in deep learning. Model and practice with students how to become aware of the processes of thinking and attention they are using in solving problems or collecting information.

On the following pages you will find the most common difficulties faced by Understanding learners.



Helping Understanding Learners with Attention

Problems in paying and keeping attention for the Understanding learner usually occur when they perceive what they are learning as overly basic, when they are asked to discuss personal feelings, when they are not encouraged to ask questions about content, or when they feel it is time to move on and learn new information instead of stopping to practice previous learning.

Possible Solutions:

- Begin lessons by focusing on intellectual content.
- Use questions and provocations to stimulate thought and expose complexities.
- Design assessment tasks that require a questioning attitude on the part of students, and that provoke them to analyze, interpret, and organize complex ideas and data.
- Present information in the form of rigorous texts and challenging lectures, but balance this with extensive analytical work, guiding students to constructing and critiquing their own theories through investigation, experimentation, discussion, and debate.

What to Avoid:

- Reducing the role of cooperation and of exploring concerns.



Helping Understanding Learners with Reading

Reading is a highly preferred mode of learning for most Understanding learners. The ability to set their own pace, question, reread, criticize, and organize their thoughts while they read gives them a sense of control over learning that they cannot always exercise during classroom lectures, practice sessions, or discussions. The precision and accuracy of their thoughts, combined with their affection for academic content, makes even some relatively routine reading tasks (such as note taking and answering questions at the ends of chapters) relatively easy and comfortable for them to perform. It goes without saying that they tend to relish reading tasks they see as more demanding—those requiring critical thinking or analysis. In addition, they tend to be sensitive to text structure and can readily apply this awareness to the task of identifying the central concepts and important details. Even when reading literature—as long as the text is rigorous and demanding—they show a marked talent for reading, organizing, and responding to texts in an academic manner. However, when texts become more basic or repetitive, when the details outweigh the ideas, when the questions take on a fill-in-the-blank quality or the content dwells too long on human feelings, Understanding students become restive. Without the guidance of ideas and questions to focus their attention they lose their way, gloss over vital details, and too often believe they have understood a text when they have merely grasped a few basic ideas.

Possible Solutions:

- In the early phases, maximize the use of nonfiction texts in which a position is argued or an opinion is stated. Gradually shift student reading to more information-rich texts and those that explore and deal with human feelings and experiences.
- Organize reading work around essential questions that provoke deeper thought and serve as organizers for ideas and details in the reading.

- Explicitly model and regularly practice:
 - How to select and record key details in reading.
 - How to infer characters' feelings and motivations.
 - How to infer author's purpose and technique.
- Provide modeling, practice, and discussion for interpersonal skills required for cooperative groupwork

What to Avoid:

- Overinvolvement in routine drill work or "basic content." Understanding learners acquire their foundations by working down from the top floors, not up from the basement.



Helping Understanding Learners with Writing

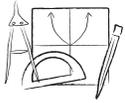
Many Understanding learners write extremely well, if somewhat more slowly than some of their classmates. Their abilities to conceptualize and build their own organizational systems and tools provide them with a support system that makes them appear as naturally academic writers. In addition, their ability to focus on patterns and think through the implications and applications of rules and generalizations frequently turns them into remarkably good spellers and grammarians; that is, if their own distaste for routine or classrooms overly driven by drill and practice do not combine to make them careless or inattentive. However, more routine forms of writing (e.g., letters and summaries) and writing based on personal experience or feelings surprisingly elude Understanding students' talents in other areas. Finally, strong Understanding learners sometimes produce writing that is too full of ideas. Focusing entirely on the academic content they wish to communicate and without the feelings to guide them to their readers' needs, some Understanding writers write prose rich in abstraction but lacking the elaboration readers need to understand what they mean.

Possible Solutions:

- Begin writing instruction with pieces that ask students to argue a point and report on information collected and organized around questions they have designed.
- Use the ideas of claim, evidence, counterargument, and response to organize student writing.
- Use samples of high, medium, and low work in more routine writing forms (letters and reports) or more personal or creative writing to help Understanding learners analyze what excellence looks like in those areas.
- Provide audiences for Understanding students' writing from learning styles not their own, especially Interpersonal learners. Audiences can help the Understanding writer identify when his writing is insufficiently clear and what can be done to increase the warmth and persuasiveness of his prose.
- Organize students into "correspondence teams" where they write—but do not talk—to each other. Exploring the same issue or topic, they stage a written debate in which each side reads, writes, and argues with the other's written stance. (This can also be done successfully through e-mail.)

What to Avoid:

- Focusing exclusively on academic and analytical writing. It is the creative and personal elements of writing where most Understanding learners need work.



Helping Understanding Learners with Mathematics

Given their talent for reasoning and their commitment to logical consistency, it should come as no surprise that many Understanding learners excel at understanding math but occasionally lack the computational fluency many math textbooks require and routinely practice. Focused on ideas, concepts, and mathematical reasoning, Understanding learners will sometimes gloss over memorization of facts and algorithms, preferring to approach each item on a math worksheet in a way that interests and intrigues them. Drill and practice work frequently fails to compel their attention and some Understanding students become careless and inattentive. Finally, some Understanding students, because they love math on its own terms, may have difficulty using language or drawing to explain their mathematical thinking to others. Their solution is their answer, their proof, and their explanation. Translating the language of math into written or spoken explanations may require considerable modeling, coaching, and practice.

Possible Solutions:

- Focus work in mathematics on solving a small number of complex problems rather than a larger number of simpler exercises.
- Explicitly model for students how to observe and take notes on their problem-solving processes while they are doing math.
- Explicitly model and practice how to use notes taken during the problem-solving process to build specific explanations.
- Provide a visual organizer at the beginning of a unit to show not just the central concepts and kinds of problems that will be addressed, but the intriguing questions that will be explored as well (e.g., “When is a fraction superior to a percentage and vice versa?”).
- Make sure Understanding students can compute easily and well, but emphasize the use of mental math rather than routine algorithms or calculators.

What to Avoid:

- Focusing more than 30% of math curriculum on routine computation.



Helping Understanding Learners with Science and Social Studies

The disadvantages that Mastery and Interpersonal students feel in studying social studies and science—the abstractions, the details, the overwhelming amount of information to be digested and organized—are exactly what makes learning this content both interesting and attractive to Understanding learners. While aspects that attract Mastery and Interpersonal students to science and social studies (the equipment, the animals and plants, the real world of communities and ecology, and the feelings and textures of people’s lives) occasionally prove a burden to the Understanding student’s progress in these areas, in general, most Understanding learners display fairly high skill levels at the kinds of academic learning required by science and social studies. The older they get, the more pronounced these skills become. However, occasionally in the lower grades or when trapped in lower-track classes in science or social studies, the prevalence of drill and practice, concrete work with simple physical tools, repetitive routines of measurement, exploration of personal and social history, or the absence of abstract and complex ideas may undermine Understanding students’ ability to concentrate and master necessary routines and

details.

Possible Solutions:

- Never miss an opportunity to help Understanding learners explore unanswered questions and problems in methodology within the areas of science and social studies.
- Spend 70% of your instruction on key concepts. Take particular care to examine counterexamples, borderline cases, and unsolved mysteries. Leave the remaining 30% for the details.
- Explicitly model and regularly practice how to select the most important details.
- Through explicit modeling, help Understanding learners become more reflective and aware of situations when they “zone out” because they think they understand or because the details are overwhelming.

What to Avoid:

- Acting on the premise that more topics covered equals more learning. Instead, aim for depth by covering fewer, richer topics in more provocative and thought-inspiring ways.
- Believing that real science and social studies are separate human concerns and feelings. It is precisely in these ethical and experimental domains where Understanding learners need the most help.



Helping Understanding Learners with Homework

For most Understanding learners, homework is little or no problem—except occasionally in those situations where the work assigned primarily focuses on practicing routine skills and information previously taught and practiced in class.

Possible Solutions:

- Teach students how to measure and reread progress in routine skills using charts and graphs of their own design.
- Use excerpts from adult journals (e.g., from artists and scientists) to provide models of what excellent reflection looks like.
- For skill work, allow students to choose the level they wish to work at. Instead of assigning large numbers of problems, allow students to work on as many as they need to show their mastery, but ask them to explain how their work demonstrates mastery.

What to Avoid:

- Focusing homework exclusively on skill building and critical thinking. Challenge Understanding learners to begin taking a more creative or personal approach to independent work.



Understanding Style and Other Variables

Some Understanding Learners combine Intuitive Thinking with Sensing Thinking—How Does this Double Emphasis on Thinking Affect Their Learning?

Thinking is a judgment function that emphasizes the role of logic, evidence, and reasoning in learning. Understanding learners whose top two styles include thinking have both more need for and more sensitivity to the role of logic and reasoning in learning than many of their peers. This emphasis on thinking makes them more likely to need to know the reasons behind rules and procedures than their friends who place more value on Sensing Thinking and Sensing Feeling. They are much more likely to ask why and to be aware of both their own and others' errors. Understanding learners who are double thinkers:

- *Prefer clear goals and organization, but may need to explore the reasons for those goals or organization in discussion.*
- *Might not happily accept a pure discovery method but would learn more effectively from repairing and debugging others' work.*
- *Will experience more difficulty with tasks and texts.*

Some Understanding Learners Combine Intuitive Thinking with Intuitive Feeling—How Does this Double Emphasis on Intuition Affect Their Learning?

Intuition is a perception function that focuses attention on patterns, ideas, abstractions, hunches, guesses, and insights. Focusing attention on intuition helps learners step away from the constraints and confusions of the real world and so-called common sense, so they can contemplate the realm of ideas we use to both understand the world and change it. Students with a double commitment to intuition are more in need of and sensitive to the world of ideas, both in terms of what they want to learn and the creations they want to play a role in constructing. The dilemma for double intuitives is that, having stepped so far out of the world, they may have some difficulty stepping back in. Strong intuitives may need explicit coaching, not in how to get critical or creative ideas but in how to use their sensing functions to organize details and knowledge of the real world to make their ideas real and meaningful to others.

Three Tips for Double Intuitives

1. *Provide strong intuitives with a small notebook in which they can collect and record their ideas and questions as they happen, so they can return to them later and select which ones deserve development.*
2. *Explicitly model a variety of organizational techniques and let them use this variety as a set of resources to design their own.*
3. *Develop a confidential password you can easily work into conversations in class that will serve as a "call back code" for a strong intuitive and bring her back from daydreams. (One teacher we know uses the password "ground" as in "This is ground control to Major Tom.")*

Some Understanding Learners are Introverts—How Does this Affect Their Learning?

Introverted Understanding learners are among the most solitary and individualistic of the different styles of learners. Frequently soft-spoken, they are sometimes clumsy or uneasy with "the physical world" and shy about their own bodies. They occasionally appear distracted but are able to concentrate for long periods of time when they are trying to solve a problem or understand a concept. Working alone or with a single partner may come more easily to them than working in small groups or participating in whole-class discussions. In general, they work slowly and deeply and are likely to find variety and stimulation distracting. Longer projects and fewer, more complex problems are likely to be more productive to learning than a large number of short-answer, quicker-return assignments.

Some Understanding Learners are Extroverts—How Does this Affect Their Learning?

Extroverted Understanding learners have strong needs for conversation, variety, and intellectual stimulation. Frequently using their hands to emphasize and illustrate their ideas, they need to bounce ideas off others and may take either or both sides in an argument, pointing out logical inconsistencies and failures of evidence wherever they find them. In learning situations they can be both insistent and persistent in formulating questions and pursuing an argument. Less tolerant of routine and detail than their more introverted colleagues, they display unique talents in organizing ideas and even people to achieve a goal or solve a shared problem. As with many extroverts, silence, work in isolation, and an inability to respond and question can be distracting.



Helping Self-Expressive Students Overcome Common Learning Difficulties

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Without inspiring or stimulating content, opportunities to explore and expand their own interests, imaginative work, and regular feedback through coaching and conversation, Self-Expressive students' motivation will decline and problems with their behavior may occur. Common signs of difficulty include:

- Withdrawal from classroom participation into daydreaming or in pursuit of their own interests (e.g., reading their own book under the desk while the assigned book is being discussed in class).
- Inattention to assigned work; spotty and irregular performance.
- Outbursts of feelings (anger or tears) when they feel they have been judged unfairly by the teacher or their peers.

General Principles

In general, Self-Expressive learners need opportunities for choice, to express their creativity, and to pursue project work that stimulates their imaginations. Whenever learning becomes rote or they have few or no opportunities to pursue their interests, Self-Expressives may lose their motivation. When they withdraw from learning, many of their problems can be addressed cognitively according to four basic principles:

1. Increase the imaginative stimulation in the content through focusing on large and engaging ideas, investigating curious and mysterious objects, field trips, storytelling, and imaginative projects.
3. Provide more sustained time for reading, writing, problem solving, and research.
4. Ensure that there are frequent opportunities for coaching and conversation.
5. Explicitly model and practice all routine and organizational skills.

On the following pages you will find the most common difficulties faced by Self-Expressive learners.



Helping Self-Expressive Learners with Attention

In the grip of an imaginative project, a great book, or a stimulating lecture, no one can outdistance the concentration of a Self-Expressive learner. But they work best during long stretches of time animated by enthusiasm. When work is divided into short sessions with frequent interruptions or transitions, when the answers required are short and objective, and when the life of the classroom is driven by routine, Self-Expressive students either flutter from one focus to another or withdraw into daydreams. In addition, in the grip of an imaginative project or when attempting to understand or conceptualize a new idea, Self-Expressive students occasionally become lost in the tangle of their own thoughts, or in the mismatch between their high expectations and what their current skills actually allow them to produce.

Possible Solutions:

- Begin lessons by provoking students' imaginations: use surprising questions, ideas, and strange objects to set their minds in motion.
- Build units of instruction around imaginative tasks—don't save the interesting work for the end of the unit. Let them learn essential skills and content while they are pursuing the project, not after.
- Provide input in longer stretches. It takes Self-Expressive learners a little longer to adapt to the mood or atmosphere of lectures and reading.
- Regularly interview students about their interests and provide choices in assignments.
- When attention wanes, introduce a metaphor or ask students to create one of their own.

What to Avoid:

- Introducing routine, short-answer work without explicit modeling and practice.



Helping Self-Expressive Learners with Reading

The more well-written, surprising, and imaginative the reading, the better the interest and the comprehension of the Self-Expressive reader. When reading literature, they are particularly adept at inferring characters' motives and feelings, and identifying authors' techniques and purposes; however, they will occasionally extrapolate far beyond the information on the page, generating ideas that, while imaginative and interesting, find little support in the actual words on the page. Nonfiction is likely to be more of a struggle for Self-Expressive students. Well-organized, detail-packed prose—like that found in many textbooks—does little to stimulate their imaginations, and they frequently miss both main ideas and key details. When asked to summarize, they may—like Interpersonal learners—focus on one detail or passage that captured their interest and elaborate on that rather than produce a well-organized retelling that would demonstrate genuine comprehension.

Possible Solutions:

- In the early phases of instruction, focus instruction around imaginative literature (science-fiction, fantasy, poetry). Gradually introduce more objective nonfiction texts.
- Organize cooperative reading groups around shared student interests.
- Reinforce Self-Expressive learners' natural tendency to form mental images while they read, and show them how to apply this skill to help them make sense of nonfiction texts and textbooks.
- Explicitly model and regularly practice inference of missing details and inference of main ideas.

- Demonstrate how to use text structure to collect/organize notes from a nonfiction reading.
- Encourage students to first skim nonfiction texts to identify questions that can guide their reading. Show them how to use those questions to collect notes during a reading.
- As far as possible, focus reading instruction around imaginative projects that let them apply what they learned from reading.

What to Avoid:

- Assigning readings that are overly formulaic and routine. A good magazine article on a topic generally works far better than a piece of condescending, “high interest” prose developed by a textbook publisher.



Helping Self-Expressive Learners with Writing

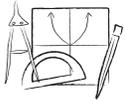
Stimulated by imagination, controversy, or a good provocative question, Self-Expressive learners can write long and well. Writing tends to emerge in gushes, full of vivid language, images, and feelings, followed by sometimes long pauses in which they try to regather and refocus their ideas and energy. Though their writing occasionally is marred by tangents and digressions, most teachers find themselves impressed by the liveliness and inventiveness of what they write. As in reading, nonfiction tends to be more of a problem. Objective, well ordered, expository prose comes less naturally to Self-Expressive writers than do stories, poems, essays, and personal reflections. Both organization and the use of details may present problems. In addition, while their intuition frequently provides them with effective insights into spelling, punctuation, grammar, and especially sentence variety, their eagerness to write may make them neglectful of proper conventions. Their paragraphs—while full of interest and imaginative leaps—may be long and eccentrically organized.

Possible Solutions:

- Begin writing instruction in the early phases with the focus on personal writing based on the student’s interests and thoughts. Gradually introduce work in fiction and more analytic writing.
- Explicitly model how to use sticky notes and highlighters to find “the good stuff” in one draft and use it to provide an outline for a later draft.
- Explicitly model (fifth grade and above) how to “cut and paste” a draft from earlier fragments.
- Assign and coach students in writing imaginatively, but as often as possible provide real, out-of-classroom audiences, readers, and critics of these pieces to help Self-Expressive students develop a more objective perspective on their own work.
- Read excerpts from professional writers’ journals in class.
- Encourage students to keep a writer’s notebook in which they record their experiences, thoughts, and feelings as well as passages they like from their reading. Explicitly model how to use entries in their writer’s notebook to identify longer pieces they would like to write.

What to Avoid:

- Conveying the message that the only criteria for evaluating writing are clarity and organization. Self-Expressive writers want their writing to be interesting to their readers. Use this concern to help them become stronger writers.



Helping Self-Expressive Learners with Mathematics

Mathematics is an area where Self-Expressive students occupy both the highest rungs of achievement and insight and the lowest rungs of confusion and inadequate performance. Blessed with the power to conceptualize and a natural flexibility that permits them to see mathematical situations from a variety of perspectives, they perform best in classrooms that emphasize problem solving, conversation, and illustration of mathematical ideas. When the focus turns to computation, algorithms, and formulas they do considerably less well. With their impulse to exploration blocked, their tendency to ignore or confuse details rises to the fore. When this happens, Self-Expressives not only lose interest, but can become deeply confused about what to do and when to do it.

Possible Solutions:

- Focus mathematics learning on problem solving (first), writing and illustrating mathematical ideas (second), and computational precision (third).
- Regularly emphasize the relationship between art and mathematics.
- Wherever possible, replace worksheets on computation with practice in mental computation where students solve problems in their heads and then discuss and compare strategies.
- Explicitly model and practice computational algorithms and the use of formulas only after students have taken considerable time to explore mathematical ideas.
- Explicitly teach students how to use their natural tendency to form images in their mind's eye to create diagrams for the problems they are solving.

What to Avoid:

- Eliminating computation. But make sure you have a balance. Computation should comprise no more than one third of math assignments.



Helping Self-Expressive Learners with Science and Social Studies

Self-Expressive learners may display a slight preference for social studies over science, especially when the social studies curriculum focuses on the world of ideas, the texture of people's lives, and exotic differences between people of different cultures. However, whenever science concerns itself with similarly engaging subjects (the big ideas of evolution and galaxy development, the exotic adaptations of water-walking lizards, the complexities of the immune system, or the ethical concerns surrounding genetics technology), they perform quite well. It is when content and work becomes routine and focused on masses of detail and textbook knowledge that Self-Expressive students are apt to flounder, lose focus, and miss both the main ideas and important details necessary for comprehension.

Possible Solutions:

- Try to begin with the strange, the mysterious, the exotic, the controversial.
- Wherever possible, substitute well-written articles and books for textbook chapters covering the same material.
- Organize units around projects that ask students to think imaginatively about how to put their knowledge to use. Ask yourself: "What can I have them invent, create, or design that would require them to make use of the concepts they are learning?"





- Explicitly model a variety of note taking skills and ask students to select the one that works best for them.
- As often as possible, organize students into groups based on shared interests related to the topic.

What to Avoid:

- Defining successful social studies and science learning strictly in terms of what students need to know for college. Natural history is part of science and the sociology of the cafeteria is part of social studies.



Helping Self-Expressive Learners with Homework

Homework can be a real struggle for many Self-Expressive students. The combination of their difficulties with organization, their distaste for routine, and the relative isolation in which homework is performed frequently combine to make their homework habits irregular and their work spotty and uneven. Even when the focus of homework is long-term and imaginative, the absence of other people to use as sounding boards may prove troublesome to the Self-Expressive learner.

Possible Solutions:

- Lead discussions in which students talk about where and when they do their homework, in what order they do their homework, and how they decide when they have done a good job and are finished. Don't correct them. Listen. It's important to get their ideas and problems out in the open where they can be explored.
- When working on projects, try to make sure 50% of the work is done in class in sustained work periods where coaching can be provided.
- Encourage Self-Expressive learners to do their homework in the kitchen or dining room where other people are around, but away from televisions, radios, and music.
- Encourage students to use student planners and calendars rather than homework lists, and model for them how to plan their homework by the hour, the day, the week, and the month.

What to Avoid:

- Reducing homework to include only the practice of short-answer skills already worked on in class. Assigning fewer items but items that require thought is a good strategy for the Self-Expressive's homework.

Self-Expressive Style and Other Variables



Some Self-Expressive Learners Combine Intuitive Feeling with Sensing Feeling— How Does this Double Emphasis on Feeling Affect Their Learning?

Feeling is a function that guides how some students make judgments and decisions about their learning. While they are learning, feeling focuses learners' attention on the role of emotions, values, imagination, and social relationships. Self-Expressive learners whose top two styles include feeling will probably display both a greater sensitivity to and a greater need for emotion, imagination, and collaboration in learning. This emphasis on feeling makes them more likely to seek strong relationships with other students and the teacher. It also leads to their being more spontaneous and impulsive and more vivid in their use of language. While they may struggle to stay on task, they are also likely to be more attentive and attuned to the needs of others. As learners, students with a style accent on feeling may:

- *Need more time to develop relationships and establish a mood for learning. This means that transition times, whether at the beginning or end of class, need to be used to help them wind up or wind down, easing from the social to the academic and the academic back into the social.*
- *Be particularly open to the use of Learning Logs and journals as tools to help them reflect on and respond to their reactions to new experiences.*
- *Experience some difficulty working on their own and need modeling and encouragement to help them master the demands for independent work.*

Some Self-Expressive Learners Combine Intuitive Thinking with Intuitive Feeling— How Does this Double Emphasis on Intuition Affect Their Learning?

Intuition is a perception function that focuses attention on patterns, ideas, abstractions, hunches, guesses, and insights. Focusing attention on intuition helps learners step away from the constraints and confusions of the real world and so-called common sense, so they can contemplate the realm of ideas we use to both understand the world and change it. Students with a double commitment to intuition are more in need of and sensitive to the world of ideas, both in terms of what they want to learn and the creations they want to play a role in constructing. The dilemma for double intuitives is that, having stepped so far out of the world, they may have some difficulty stepping back in. Strong intuitives may need explicit coaching, not in how to get critical or creative ideas but in how to use their sensing functions to organize details and knowledge of the real world to make their ideas real and meaningful to others.

Three Tips for Double Intuitives

1. *Provide strong intuitives with a small notebook in which they can collect and record their ideas and questions as they happen, so they can return to them later and select which ones deserve development.*
2. *Explicitly model a variety of organizational techniques and let them use this variety as a set of resources to design their own.*
3. *Develop a confidential password you can easily work into conversations in class that will serve as a "call back code" for a strong Intuitive and bring him back from daydreams. (One teacher we know uses the password "ground" as in "This is ground control to Major Tom.")*

Some Self-Expressive Learners are Introverts—How Does this Affect Their Learning?

Introverted Self-Expressives have an active inner life. Much goes on, but it goes on beneath the surface. Preferring depth to breadth, they find variety and noise distracting and frequently require more time than others to formulate their thoughts and turn them into speech. Their natural idealism blesses them with both persistence and originality, but frequently creates troubles when they perceive their performance is falling short of their ideals.

Some Self-Expressive Learners are Extroverts—How Does this Affect Their Learning?

Extroverted Self-Expressives are outgoing, talkative, and high-spirited. Preferring the oral to the written to some extent, they frequently punctuate their conversations with gestures and body language. Natural mimics, they are often the joker or storyteller in their classroom, though this humor is most often directed at situations and rarely at people. Requiring more variety and social contact than introverts, extroverted Self-Expressives may find silence and isolation distracting. Empathic, with a flair for the dramatic, they will frequently seek out situations where they can play a leadership role.



Helping Interpersonal Students Overcome Common Learning Difficulties

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Whenever learning becomes passive (students are not permitted or encouraged to react or respond to new learning), whenever it seems disconnected from feelings and personal experience (content is abstract, objective, and impersonal), when tasks and questions require analysis, argument, proof, and right/wrong answers, and when the life of the classroom does not facilitate conversation and shared work among students, Interpersonal learners' motivation flags. When this happens, Interpersonal students are likely to:

- Permit themselves to become distracted in daydreams or social conversation.
- Produce minimal work or work that is overly personal, social, or casual in its tone.
- Lean heavily on the teacher, asking directly or indirectly for aid, encouragement, and demonstrations of affection.

General Principles

In general, Interpersonal learners want to "experience" learning and forge social connections during the process. As learning becomes increasingly abstract and seems to have little to do with human feelings and personal experiences, these learners often lose motivation. When they withdraw from learning, many of their problems can be addressed cognitively according to four basic principles:

1. Connect content and tasks as closely as possible to students' experiences and real-world contexts, especially those connected to the students' own communities.
2. Increase preparation for, and implementation of, learning partners (student pairs) and cooperative learning groups.
3. Build more opportunities for discussion and the sharing of personal opinions and values into the learning process.
4. Use explicit modeling, practice, feedback, and organizational strategies to develop students' capacities for handling abstract concepts and complex tasks.

On the following pages you will find the most common difficulties faced by Interpersonal learners.



Helping Interpersonal Learners with Attention

As long as the focus on learning can be readily connected to the learner's personal experiences through memory and feelings, or mediated through a context in which they share work with others (as when pairs or teams of students use manipulatives to solve a math problem), Interpersonal learners find it easy to both learn and sustain attention on the task at hand. This is particularly true when they feel affection and respect for the teacher and when feedback and encouragement are regular and ongoing. However, the more distant the content from their own personal experience, the longer they are asked to passively receive information and not react to it, and the more they are cut off from the social interaction they need to confirm or revise their understanding, the greater the difficulty Interpersonal learners will experience maintaining attention and concentration.

Possible Solutions:

- Begin lessons by presenting questions or activities that help them build connections between content goals and their own personal experiences.
- Design culminating tasks that provide out-of-classroom audiences for student work and tasks that permit students to apply learning in a community study or service project.
- Provide input in short bursts followed by collaborative tasks that permit students to integrate and respond to the information given.
- Provide opportunities for Interpersonal learners to teach others what they have learned.
- Ask "you" questions that put students into the content (e.g., "Where do *you* stand on this issue?").

What to Avoid:

- Keeping students in passive mode (listening, viewing videos, etc.) for more than 10 minutes.
- Reducing task complexity (if Interpersonal learners perceive they are learning simpler, less demanding content, they are more likely to go off the task).
- Providing feedback that is so positive that it inhibits students' understanding of what they need to do in order to grow as learners.



Helping Interpersonal Learners with Reading

Reading can be a more comfortable mode of learning for Interpersonal learners than for Mastery learners. When reading stories, history, or poetry that evokes familiar feelings and memories, Interpersonal learners are more than merely capable readers. Though generally preferring oral questions and oral answers, even when questions and tasks are posed and answered in writing, they can be quite adept at inferring characters' thoughts and feelings and exploring their own reactions and responses. But when the text becomes more objective, as in math or science, or when it becomes overwhelming in either the number of details or the level of abstraction, Interpersonal students frequently find it difficult to make sense of what they are reading. Similarly, when their reading assignments ask them to make inferences while reading nonfiction or to analyze texts according to cause and effect, sequence, or abstract themes, the absence of feelings makes it difficult to follow the text or produce satisfactory responses without proper instruction. Under these conditions, they show a strong preference for short-answer work based on simple recall. When longer responses are called for, their answers are frequently brief—made up of isolated



details and described in an overly personal or casual style inappropriate to some kinds of academic work, particularly in the upper grades.

Possible Solutions:

- In the early stages of instruction, maximize the use of fiction and nonfiction that deals with communities, people, problems, and feelings.
- Organize cooperative reading groups around shared interests related to your topic and skill development goals.
- Deliver direct instruction in notemaking skills. Encourage students to make notes on all key readings, and to revise those notes around important questions or text structure.
- Ask students to keep a response journal in which they record their own thoughts and feelings about what they read.
- Focus reading and instruction around higher-order thinking tasks performed in heterogeneous learning pairs and cooperative groups.
- Explicitly model and regularly practice inference of missing detail, main idea, theme, and evidence.
- Deliver direct instruction in how to use higher-order thinking tasks to develop effective reading plans.

What to Avoid:

- Placing too much evidence on reactions to texts. Allow students to discuss their reactions, but begin directing them to the skills of retelling, inference, and evidence-gathering.



Helping Interpersonal Learners with Writing

Interpersonal learners frequently write extensively in and out of school. Prolific letter writers and users of e-mail and social network sites, they find writing about themselves, their feelings, and people they know natural and easy. Spelling, punctuation, and grammar may be more spotty, reflecting speech patterns used in conversation. They run into problems when writing becomes more formalized or when answers to questions require main ideas, supportive details, evidence, proof, or analysis. In these cases Interpersonal learners can become lost, unable to use either their feelings or their knowledge of the real world or other people as a guide. They may become puzzled about what to do and often fail to see the relevance of procedures that seem so different from the natural speech of social interaction. Under these conditions, they often write far too little, and what they do write may appear disorganized (a hodgepodge of obedient prose mixed with random opinions and feelings) and related in a sometimes inappropriately casual tone.

Possible Solutions:

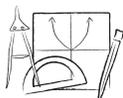
- Begin writing instruction in early phases with the focus on personal writing (reactions, opinions, memoirs) and gradually increase the role of analysis, claims, proof, and counterargument.
- Explicitly model and practice how to revise more casual conversational prose to meet more academic standards.
- Use visual organizers based on text structures to help students make notes and develop plans for analytic writing tasks (topic-subtopic, compare and contrast, cause and effect, etc.).



- Increase the role of correspondence in the writing curriculum. Create situations where, through both e-mail and standard mail, students pursue real purposes (requests, research planning, collaboration) with correspondents beyond the school.

What to Avoid:

- Reducing the length, complexity, or thinking involved in writing assignments.
- Permitting students to write in only one mode or style. Writing should be neither all academic nor all personal.

**Helping Interpersonal Learners with Mathematics**

Like Mastery learners, Interpersonal students may display some flair for computation. The presence of manipulatives, the increasing tendency to teach math in cooperative groups, and the presence of clear procedures that can be followed, provide the necessary support for many Interpersonal students to become successful at mathematical computation. But as more complex concepts and procedures enter the picture (fractions, rates, ratios, percents, long division, square roots, expanded notation, etc.), some Interpersonal learners begin to experience difficulties. The abstract nature of mathematical concepts, the formal nature of mathematical reasoning, the preponderance of explanation and proof, and the increasing difficulties involved in representing mathematical ideas overwhelm some Interpersonal learners. Stuck in classrooms where they are asked to listen passively or work independently without the guidance or support they derive from conversation, they make frequent errors for reasons they don't understand and, therefore, have difficulty correcting.

Possible Solutions:

- Continually provide opportunities for students to solve complex math problems through conversation and collaboration in small groups and learning partnerships.
- Provide opportunities for students to teach their new mathematical ideas to others.
- Model and practice a variety of ways of representing mathematical ideas and procedures visually and verbally.
- Use "prove-it sessions" to practice mental computation, and then explain the how and the why of the strategies they used to perform these mental computations.
- Use home-based and community-based mathematics projects to explore how mathematics can be used as a real-life learning tool.

What to Avoid:

- Focusing primarily on computation as a goal of instruction and assessment. Remember, over-routinization of mathematical learning inhibits the development of mathematical understanding for Interpersonal students.



Helping Interpersonal Learners with Science and Social Studies

The great advantage of science to the Interpersonal learner is the presence of real-world objects and concerns: microscopes, rulers, foul-smelling chemicals, and even animal specimens conspire to provide a firm sense of reality to their sensing mode of perception. In addition, the lives of animals and living communities and their endangerment through pollution and industrialization animate and engage their feelings, and promote their understanding of the content. The great advantage of social studies, on the other hand, is its concern with people: the texture of their lives, their feelings, thoughts, triumphs and tragedies, issues that haunt them, stories they tell, the decisions they make. All of these combine to provide firm support for the Interpersonal student's learning process.

The great disadvantages of both science and social studies to the Interpersonal learner are threefold:

1. *The increasing focus on remembering vast amounts of detail as students move up through the grade levels.*
2. *The increasing role of complex abstractions and generalizations.*
3. *The decline in the role of feelings, stories, and investigations into the student's own community.*

These three tendencies work together to overwhelm many Interpersonal learners' skills at organizing content knowledge. Moreover, these factors decrease their sense of relevance and their abilities to make connections between content knowledge and the feelings and emotions that guide and direct their learning.

Possible Solutions:

- Begin instruction in science and social studies by connecting topics and skills to present social concerns and applications.
- Organize students into collaborative groups for both conducting research and studying for tests and assessments.
- Explicitly model and practice notemaking skills that will help students collect and organize the vital information in what they read.
- Spend 70% of instructional time on core concepts and only 30% of time on the details.
- Use journals and Learning Logs to help students reflect on and evaluate their learning in social studies and science.
- Practice visualizing ideas through sketches and drawing; practice performing ideas through role play and simulation.

What to Avoid:

- Acting on the belief that content learning equals content coverage. Science and social studies provide almost limitless opportunities to make very real connections to students' lives, communities, and experiences.



Helping Interpersonal Learners with Homework

For Interpersonal learners, the problem with homework is that it is done at home—frequently at a desk, in their bedroom, alone. Under these conditions, many Interpersonal learners are deprived of the social content that animates and directs their learning. With no feedback on the spot, it is all too easy for Interpersonal learners to become distracted by more personal and social concerns, leaving their homework for the school bus or the school hallway where at least they can do it together.

Possible Solutions:

- Divide students into home learning teams. These teams should meet for ten minutes, three times a week to discuss problems they confront with learning at home and to pose questions for the teacher and the class.
- In assigning long-term projects, design units so that 50% of the project work can be done in school where the teacher and other students can provide coaching tips and feedback as the project is developing, not when it's almost due.
- Do occasional homework assignments along with your students and discuss the problems you encountered.
- Divide students into learning pairs. Give each student in a pair her own set of questions and her partner's answers. Then ask each student to coach her partner to correct answers on the telephone or through e-mail.

What to Avoid:

- Assigning homework that no one sees or interacts with except the teacher. As often as possible, make sure someone responds to or works with the student's homework.





Interpersonal Style and Other Variables

Some Interpersonal Learners Combine Sensing Feeling with Sensing Thinking—How Does this Double Emphasis on Sensing Affect Their Learning?

Sensing is a perception function that emphasizes the role of physicality in learning. Sensing Thinking/Sensing Feeling students have both more need for and more insight into the physical world than many of their peers. The more they can see, hear, touch, smell, and taste the subjects they learn, the better they can understand them. This is not simply an invitation to experiential learning. Sensing Thinking and Sensing Feeling students need the physical materials but also need to use these materials in:

- *A well-organized learning environment with clear connections to explicit learning goals.*
- *A way that can be applied and used in the real world, not merely in academic settings.*

In addition, a Sensing Thinking/Sensing Feeling student may need more physical activity than some of her peers. The use of stations or centers and other teaching strategies requiring movement and exercise breaks may help enhance a student's attention and ability to concentrate.

Some Interpersonal Learners Combine Sensing Feeling with Intuitive Feeling—How Does this Double Emphasis on Feeling Affect Their Learning?

Feeling is a function that guides how some students make judgments and decisions about their learning. While they are learning, feeling focuses learners' attention on the role of emotions, values, imagination, and social relationships. Interpersonal learners whose top two styles include feeling will probably display both a greater sensitivity to and a greater need for emotion, imagination, and collaboration in learning. This emphasis on feeling makes them more likely to seek strong relationships with other students and the teacher. It also leads to their being more spontaneous, more impulsive, and more vivid in their use of language. While they may struggle to stay on task, they are also likely to be more attentive and attuned to the needs of others. Students with a style accent on feeling may:

- *Need more time to develop relationships and establish a mood for learning. This means that transition times, whether at the beginning or end of class, need to be used to help them wind up or wind down, easing from the social to the academic, and the academic back into the social.*
- *Be particularly open to the use of Learning Logs and journals as tools to help them reflect on and respond to their reactions to new experiences.*
- *Experience some difficulty working on their own and need modeling and encouragement to help them master the demands for independent work.*

Some Interpersonal Learners are Introverts—How Does this Affect Their Learning?

Introverted Interpersonal learners are apt to be soft-spoken, and may occasionally need to hunt for words as they try to transform sensation and feeling into appropriate vocabulary. Preferring depth to breadth, they are more likely to focus on one or two friends and relationships rather than building up a wide network of acquaintances. Preferring to focus on doing a few tasks well, they may find classrooms rich in variety and motion distracting, and they may need quiet time to collect and organize their thoughts and feelings.

Some Interpersonal Learners are Extroverts—How Does this Affect Their Learning?

Extroverted Interpersonal students talk easily and often in social situations, often using their hands and body language to convey meanings and shadings their words cannot express. They are friendly and outgoing—frequently popular—cultivating and managing a wide circle of friends rather than devoting themselves to only one or two special relationships. Preferring breadth to depth, they have strong needs for variety and stimulation, and they may have trouble settling down and paying attention in sparse classrooms with little or no social interaction.

Section



Using Force Field Analysis to Design More Powerful Interventions

In this section, we'll look at how an academic intervention team uses a technique known as Force Field Analysis to develop and deliver highly targeted instructional interventions for one of their struggling students.

TEACHER TALK

When Do I Use Force Field Analysis?

A Force Field Analysis is an intensive and focused plan for intervention designed with a single student in mind. It takes considerable time and effort, and often an intervention team rather than an individual teacher, to conduct a Force Field Analysis, but the results are almost always worth the effort. In general, Force Field Analysis should be reserved for those students who are in greatest danger of "slipping through the cracks." In RTI parlance, Force Field Analysis is a Tier 3 intervention, meaning it should be applied to students who require extensive and sustained support, those 5% who struggle the most in your classroom.

Using a Force Field Analysis to Help Students Develop Needed Abilities

To work more intensively and personally with individual students, you may wish to use a procedure known as a Force Field Analysis. Force Field Analysis is a way of plotting the positive and negative forces at work in a student's learning profile and then using that information to develop goals and interventions. Below is a Force Field Analysis developed by an Academic Intervention Team for a ninth-grade student named Marshall Sterling.

- 1. Identify a student who is having difficulty.**
- 2. Briefly describe in writing what you know about the student, including background, interests, and learning behaviors. Include the student's specific difficulties as you've diagnosed them.**

Marshall Sterling likes to be thought of as different and unique. In a school of 1200, he is one of the few students who dresses the way he does, wearing tight jeans, tee shirts featuring old cartoon characters, jewel-toned tennis shoes that match the color of his tee shirts, and large, plastic-framed glasses that are non-prescription. He has a small but close group of friends and stays out of trouble.

The school psychologist agrees that Marshall Sterling shows no signs of alcohol or drug use. In general, he is outgoing and friendly with peers and teachers, and has a strong attendance record. Marshall is the middle of three children and lives with his older brother, younger sister, and mother. Of the three Sterling children, Marshall seems to be the only one who makes an effort to maintain a relationship with his father. Marshall's mother is not unwilling to play an active role in Marshall's academic development, but she has little time for significant at-home help.

Last year, Marshall was part of two remedial programs: a small-group, pull-out reading program taught by a reading specialist, and an additional core extension class of 12 students taught by a communication arts teacher in place of an elective. Because of Marshall's academic history, his weak standardized test scores, and his poor grades in core content areas (especially English and history), he has been identified as a student who will need continued explicit instruction in reading as well as additional help in core subject areas.

The one class that Marshall excels at is art, where he is especially adept at coming up with new ways to express himself.

As far as Marshall's reading goes, here is what the team has noticed:

1. Reading about 180 words per minute, which is only slightly below the expected level. Fluency does not seem to be the main source of Marshall's problem.
2. Struggles with comprehension. When asked questions about the text, he can answer some of the fact-based questions but not main-idea or inference-based questions. New vocabulary words also pose barriers to Marshall's comprehension.
3. He has difficulty retelling or summarizing what he's read.
4. Good at visualizing. He can describe images he sees in his head, often vividly and creatively.
5. He often sketches and doodles while reading.
6. His attention span is short. After 3-5 minutes of silent reading, Marshall's attention begins to flag. However, if he is given opportunities to stand up and move around, he is able to "reset" his attention for another 3-5 minutes.
7. Struggles with interpretation. Instead of looking to the text for details that might support a particular interpretation, Marshall relies almost entirely on the personal. For example, when asked about a character's motivation, Marshall will say something like, "Because that's how I would do it."
8. Is often embarrassed about his difficulties, but becomes comfortable talking about them after forming trusting relationships with teachers and peers.
9. Participates freely in classroom discussion and groups, but has little to say about the text itself. Likes to bring up personal stories or introduce unusual and humorous ideas that are sometimes disruptive, though not intentionally so.

3. Based on your description, identify what you believe to be the student's preferred learning style and attitude. Include the reasons for your hypothesis.

Marshall seems to be strong in both the Self-Expressive and Interpersonal styles. His **dominant style** is most likely **Self-Expressive**, as evidenced by his:

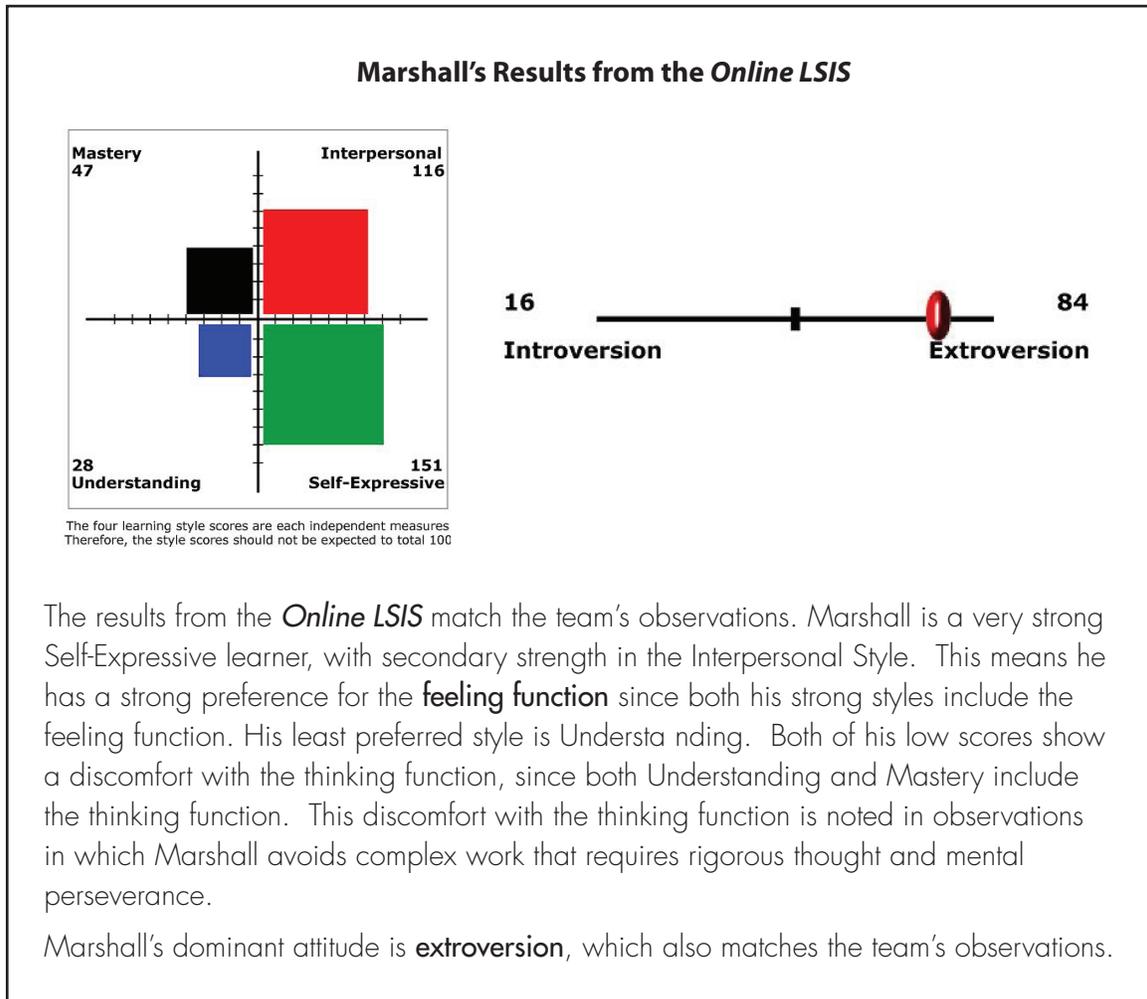
- Strong desire to be seen as different
- Unique style of dress
- Creative visualization and sketching while reading
- Way of bringing up unusual ideas in class
- Strength in artistic expression

Marshall's **dominant attitude** seems to be **extroversion** as evidenced by his:

- Eagerness to participate
- Outgoing personality
- Comfort with being the center of attention (i.e., the way he dresses)

4. Compare your perceptions and observations with the results from the *LSIS*.

Note: If there is a significant discrepancy between your perceptions and the results of the *LSIS*, it is a good idea to use a Learning Style/Multiple Intelligences Checklist to verify your observations.



5. Look for patterns within the style profile that can increase your insight into the student's learning behaviors.

Every style has assets and liabilities, and each style has different ways of withdrawing, rebelling, and conforming. To help you conduct your Force Field Analysis, review Figure 4.1, "Patterns of Withdrawal, Rebellion, and Conformity According to Style." Now that you know the student's dominant styles, do you recognize any of these patterns of behavior in the student?

Marshall:

- Sometimes withdraws from tasks involving logic and details into his own world.
- Is not particularly rebellious, though he can be disruptive when he introduces unusual ideas into classroom discussion.
- Clearly conforms to the idea of "being different" and "marching to the beat of his own drummer."

FIGURE 4.1 **Patterns of Withdrawal, Rebellion, and Conformity According to Style**

Style Behavior	Mastery	Understanding	Self-Expressive	Interpersonal
Withdrawal	<p>Withdraws from imagination and feelings. Becomes compulsive about details and order.</p> <p>Seeks an authoritarian environment with strict rules.</p>	<p>Withdraws from people and the physical world to the world of ideas and study.</p> <p>Becomes a recluse and consumed with intellectual pursuits.</p>	<p>Withdraws from reality and details to fantasy and daydreams.</p> <p>Follows personal interests at the expense of everything else.</p>	<p>Withdraws from logic and thinking rationally to emotions.</p> <p>Becomes consumed with personal doubt and often feels a lack of self worth.</p>
Rebellion	<p>Rebels against lack of clear standards and against abstract ideas.</p> <p>Becomes dogmatic, stubborn, and insensitive: "My way or the highway."</p>	<p>Rebels against rules without reason, "touchy-feely" activities, and nonsensical routines.</p> <p>Becomes sarcastic, argumentative, and arrogant.</p>	<p>Rebels against conformity and rules.</p> <p>Becomes overly idealistic, passionate and emotional.</p> <p>May have difficulty accepting anything but his/her own standards about what's right and appropriate.</p>	<p>Rebels against insensitivity or lack of belonging.</p> <p>Becomes anxious and aggressive.</p> <p>Often exhibits antisocial behavior.</p>
Conformity	<p>Conforms to rigid standards and codes of behavior.</p> <p>No tolerance for ambiguity or deviation from the norm.</p>	<p>Conforms to high standards. Nothing is acceptable.</p> <p>Critiques and doubts the validity and veracity of everything.</p>	<p>Conforms to being different, to "traveling upstream," to "going against the current."</p>	<p>Conforms to peer group, immediate impulses, and the need for approval and self gratification.</p>

6. Use a Force Field Analysis to analyze the positive and negative forces operating in the student's profile.

In order to bring about needed change, the negative forces (liabilities) need to be reduced while the positive forces (strengths) need to be capitalized on and increased.

Forces working for:	Forces working against:
<ul style="list-style-type: none"> • Few behavioral problems – stays out of trouble • Likes to participate • Comfortable discussing his own experiences and artistic expression • Fluency is at or close to grade level • Likes to build relationships with teachers and peers • Likes cooperative learning and group work 	<ul style="list-style-type: none"> • Has trouble paying attention for extended periods of time • Struggles with comprehension • Difficulty with summarizing and main ideas • Has trouble interpreting beyond the personal level • Is often impulsive and non-reflective

7. Establish goals and objective based on your analysis.

<p>Goal 1: To help Marshall develop key comprehension skills, including:</p> <ul style="list-style-type: none"> • Identifying main ideas and supporting details; and • Summarizing and retelling reading passages. <p>Goal 2: To help Marshall control and increase his attention so he can:</p> <ul style="list-style-type: none"> • Read independently for at least 20 minutes; and • Focus on what he's reading in order to process and remember important information. <p>Goal 3: To help Marshall construct valid interpretations using evidence from the text.</p>
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8. Interventions: develop classroom activities and teaching strategies to meet each goal.

Potential Activities/Teaching Techniques

- 1. Interview:** Have Marshall assess his own strengths using a survey and checklist. Ask him what he believes good readers do when they read as well as what gets in the way of him being a stronger reader. Together, identify behaviors that will support Marshall's learning.

Addresses: Goal 1: Analytical thinking needed for general comprehension skills

Taps into: Need to work with others, desire to develop trusting relationships with teachers, desire to be seen as an individual

Develops: Ability to self-reflect, objectivity, ability to curtail impulsivity
- 2. Illustrate main ideas:** Marshall illustrates and describes the "movie in his head" that he sees as he reads, using sketches, drawings, and concept maps to capture main ideas.

Addresses: Goal 2: Attention is controlled with active participation
Goals 1 & 3: Analytical skills related to comprehension and interpretation

Taps into: Active learning, visual creativity

Develops: Task focus, ability to interpret beyond personal level
- 3. Work with an Understanding learner:** Marshall receives direct, overt instruction from the teacher in using a Main Idea Organizer to find big ideas and supporting details, then works with a peer who is strong in this area and can model the task for him.

Addresses: Goal 1: Development of analytical thinking skills related to comprehension
Goal 2: Attention is controlled with peer interaction

Taps into: Need for group/team learning and peer connection

Develops: Interpreting beyond personal level, ability to reflect, objectivity
- 4. Use Post-it™ notes to summarize and predict:** Marshall stops at the end of each paragraph to see what he has read in his head, to verbalize out loud what he has read, and to write a one-sentence summary on a Post-it.

Addresses: Goal 1: Comprehension as shown by summarization and paraphrasing
Goal 2: Attention is enhanced by accountability for brief writing at the end of each paragraph

Taps into: Strong visualization skills that will allow his brain time to slow down and process what he's read in order to better remember it; the verbalizing and writing of it on a Post-it involves multiple modalities to assist in memory storage

Develops: Attention, memory, summarization skills, and creates a visual for quick re-reads later as needed
- 5. Personalize content by using metaphorical thinking:** Ask Marshall, "What if you were an idea and wanted to become a main idea? How would you make yourself stand out from the rest of the ideas?"

Addresses: Goal 1: Understanding main ideas/supporting details
Goal 2: Personal connections increase attention and task focus for Marshall

Taps into: Need for personal connection and for need to stand out and be seen as different; ability to think creatively through a metaphor

Develops: Ability to reflect, ability to begin moving beyond the personal

6. Use evidence for everyday activities: To help Marshall internalize the thesis evidence structure he needs to use in his freshman English class for all written assignments, ask him to provide evidence for and against statements like: "It is easier to take care of a plant than a pet."

Addresses: Goal 3: Learning to use evidence to construct valid interpretations

Taps into: Need for personal connection (self-to-text)

Develops: Ability to interpret beyond personal level, to think systematically and logically

7. Use statement strips or adhesive notes: Give Marshall statement strips about a topic (e.g., "Spiders eat insects that carry diseases.") and provide a thesis statement such as "Spiders are helpful to humans." Have Marshall cut out the statement strips and paste them under Evidence For or Evidence Against columns. Also, use Post-it notes to help him identify key words and evidence in a text. Provide a short text after he has done the above activity and have Marshall cite evidence in the text that proves/disproves the topic sentence or main idea.

Addresses: Goal 1: Main ideas/supporting details

Goal 2: Increased, focused attention on reading

Goal 3: Valid interpretations, focus on evidence

Taps into: Active learning, needs for hands-on, kinesthetic movement to enhance attention

Develops: Ability to interpret beyond personal level

8. Collaborative summaries: Read text aloud first and ask students to listen. Students then reread the text and, in groups, develop a collaborative summary. Each student identifies what he/she believes are the three to five most important points. Groups or pairs negotiate their lists until all agree on the same points. Then they write a summary together.

Addresses: Goal 1: Summarizing

Goal 2: Increased, focused attention

Taps into: Need for group work

Develops: Ability to interpret beyond personal level and ability to write clear summaries/paraphrase texts

9. Response journals: Have Marshall use a journal to record his thoughts before he shares them. Read regularly and provide feedback. Emphasize importance of thinking ideas through before speaking.

Addresses: Goal 2: Controlling impulsivity issues related to poor attention

Goals 1 & 3: Increased analytical skills needed to comprehend and interpret texts

Taps into: Need for personal connection, strong sense of self and self-expression

Develops: Ability to reflect, ability to curtail impulsivity, clarity of thought, and control over language

10. Vocabulary's CODE: Teach Marshall how to manage new vocabulary via a meta-cognitive, brain-based process:

- Connect to the word (associations, word parts, context)
- Organize words by creating a concept map
- Deep Process the most important words to ensure comprehension
- Exercise new words regularly to ensure long-term storage

Addresses: Goal 1: Comprehension/new vocabulary

Taps into: Strong visual and spatial skills

Develops: Systematic thinking about words, deeper processing to facilitate comprehension and memory

9. Develop a plan for implementation.

If the interventions are being implemented by a team, make sure you develop a plan that clearly assigns the appropriate interventions to the various teachers and specialists.

Conducting a Force Field Analysis

WORKSHEET Force Field Analysis

1. Identify a student who is having difficulty.

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2. Briefly describe what you know about the student.

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3. Identify what you believe is the student's learning style and dominant attitude. Include your rationale.

Style: _____ Attitude: _____

Reason:

4. Compare your perceptions with the results of the LSIS.

Dominant Style: _____ Results from LSIS: _____

Secondary Style: _____ Attitude: _____

Tertiary Style: _____

Least-preferred Style: _____

5. Look for patterns within the profile that can increase your insight (use Figure 4.1, Patterns of Withdrawal, Rebellion, and Conformity According to Style).

6. Conduct a Force Field Analysis.

Forces working for:	Forces working against:

7. Establish goals and objectives.

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8. Develop appropriate interventions.

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9. Develop a plan for implementation.

Section

Teaching Students About Their Learning Styles

Research into the importance of metacognition shows that when students are taught to reflect on their own reasoning skills—or “think about their own thinking”—their thinking becomes more refined and their motivation to improve as learners increases (Costa & Kallick, 2008, 2009). Teaching students about learning styles leads to the kind of deep self-awareness that all good learners possess. By learning about their own learning strengths and weaknesses as well as the different approaches to learning embodied by their classmates, students develop flexibility and adaptability in their thinking and a greater sensitivity to differences in general. What’s more, instructional approaches that help students reflect on how their minds work lead to better self-concept, greater self-direction, and the ability to choose the most effective strategies for overcoming particular learning challenges.

The learning styles model can be taught rather easily to elementary through high school students. In this section, you will learn how to teach students about learning styles using:

- questioning techniques
- reflection activities
- tasks in style

Teaching Students About Style

Over the next few pages you will find four techniques—Questions in Style, Reflection Charts, Reflecting in Style, and Tasks in Style—that can help students discover more about who they are and how they learn. This emerging self-awareness helps both the teacher and the student capitalize on learning strengths and minimize weaknesses.

Questions in Style

Questions in Style is an approach that asks students to explore relationships between a text and a set of style-based questions. Students work with questions in all four styles: questions that ask what students remember (Mastery), questions that require explaining and proving (Understanding), questions that require the use of their imagination (Self-Expressive), and questions that invite them to reflect on and share their feelings (Interpersonal). It is important that the teacher asks them to consider and explain the types of thinking different types of questions engage. Modeling sessions and “Think-Alouds” in which the teacher explains what she is thinking as she answers the questions provide students with the foundations to begin exploring the thinking inherent in each type of question.

For example, Figure 5.1 below shows an activity that an elementary teacher used in conjunction with the first few chapters of Betsy Byars’ classic children’s novel, *The Pinballs*.

FIGURE 5.1 **Questions in Style — *The Pinballs***

<p>Mastery</p> <p>Who are the three main children in the book?</p> <p>How did each end up in the Mason’s foster home?</p>	<p>Interpersonal</p> <p>Think about the different characters you have read about. Which character do you identify with the most?</p>
<p>Understanding</p> <p>What do you think Mrs. Mason means when she says, “I guess ‘homesickness’ is a very real kind of illness, like measles or mumps”?</p>	<p>Self-Expressive</p> <p>The character Thomas J. is very quiet. What do you imagine he is thinking when he meets the other children for the first time?</p>

Source: *The Strategic Teacher: Selecting the Right Research-Based Strategy for Every Lesson*. Copyright ©2007 Thoughtful Education Press.

One resource that you can use to teach your students how to identify the style of thinking embedded in the questions you ask and how to construct quality responses to all styles of questions is a classroom poster (see Figure 5.2 on the next page).

FIGURE 5.2 Classroom Poster: Responding to Questions in Style

THE THOUGHTFUL CLASSROOM™

Responding to Questions in Style

Use this simple framework to help you identify the styles of the questions you encounter and construct quality responses to all styles of questions.

<p style="text-align: center;">Mastery Questions</p> <p>focus on remembering key content and skills. Mastery questions might ask you to:</p> <ul style="list-style-type: none"> • Recall • Describe • Sequence • Provide examples • Summarize <p>When responding to a Mastery question, ask yourself:</p> <ul style="list-style-type: none"> – Is my answer accurate? – Can my answer be verified? – Have I captured the key points and important details? 	<p style="text-align: center;">Interpersonal Questions</p> <p>help you to make personal connections to the content. Interpersonal questions might ask you to:</p> <ul style="list-style-type: none"> • Describe feelings and reactions • Empathize • Value and prioritize • Reflect • Make or evaluate decisions <p>When responding to an Interpersonal question, ask yourself:</p> <ul style="list-style-type: none"> – How can I use my own experiences to better understand the question? – Does my response reflect my personal feelings? – How can I “connect the dots” between my own values and the content?
<p style="text-align: center;">Understanding Questions</p> <p>focus on concepts, big ideas, and generalizations. Understanding questions might ask you to:</p> <ul style="list-style-type: none"> • Compare and contrast • Prove • Explain • Classify • Infer or interpret <p>When responding to an Understanding question, ask yourself:</p> <ul style="list-style-type: none"> – Is my reasoning clear? – Is my response supported by evidence? – Is my analysis insightful? 	<p style="text-align: center;">Self-Expressive Questions</p> <p>stimulate the imagination. Self-Expressive questions might ask you to:</p> <ul style="list-style-type: none"> • Associate • Think divergently • Develop similes or metaphors • Predict or hypothesize • Create or imagine <p>When responding to a Self-Expressive question, ask yourself:</p> <ul style="list-style-type: none"> – Is there another perspective or “angle” I can take on the question? – Is my response creative or original? – How can I make my response more intriguing to others?

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Source: *Questioning Styles and Strategies: How to Use Questions to Engage and Motivate Different Styles of Learners*. Copyright ©2007 Thoughtful Education Press.

Reflection Activities

Reflection Charts

Asking students to step back from the learning experience and to advise themselves on how to improve is an ideal way to engage both the personal and analytical sides of learning. Once students have a basic understanding of the four learning styles, it is a good idea to ask them to keep Reflection Charts in which they note what they did, what styles they used, and what advice they would give themselves to minimize learning weaknesses. Take a look at the sample Reflection Chart (Figure 5.3) completed by a middle school student.

FIGURE 5.3 **Sample Reflection Chart**

Noticed	Styles	Advice to Self
<ul style="list-style-type: none"> • I'm very organized • I had a hard time getting past the details and talking about the theme of the play. • I worked well with my team. • My team looked to me to keep the best notes. 	<ul style="list-style-type: none"> • I work well in Mastery and Interpersonal. I'm weakest in Self-Expressive. 	<ul style="list-style-type: none"> • I need to pay more attention to characters' motivations and the way the author writes. • I need to trust myself more, to try to be creative sometimes instead of just looking for direction from the teacher.

Reflecting in Style

Reflecting in Style asks students to think back on work they have done and to use the four styles to develop a deep awareness of how they think and work. The goal of this activity is to determine how the lessons learned about one's self might be applied to the next project (see Figure 5.4 below).

FIGURE 5.4 **Reflecting in Style—Sample Questions**

<ul style="list-style-type: none"> • What did you do to complete the project? Describe the steps you took. 	<ul style="list-style-type: none"> • What did you like about doing this project? • What didn't you like? • How has carrying out this project changed the way you view yourself as a learner?
<ul style="list-style-type: none"> • Which steps worked best for you? Why do you think so? • As you did the project, what didn't work so well? • How do you know you did a good job? • How do you know the project was done well? List at least three reasons. 	<ul style="list-style-type: none"> • In doing this project, what did you learn that you might apply in doing another project? • If you were to do this project again, what might you do differently?

Tasks in Style

This method asks students to complete four tasks while simultaneously reflecting on their style preferences and dislikes. (Alternatively, you can have students complete tasks in a set order or give them the choice of which tasks they would like to complete.) One particularly effective way to use Tasks in Style is to assign tasks that have to do with learning styles as content. This way, students are deepening their own understanding of learning styles while they are becoming more aware of who they are as learners. Figures 5.5 and 5.6 are examples of Tasks in Style in various learning styles at both the elementary and secondary levels.

FIGURE 5.5 **Elementary Tasks in Style**

<p>Mastery - Make a List</p> <ol style="list-style-type: none"> 1. Write your name on four pieces of paper. 2. Write the name of one learning style on the top of each page. 3. Trace the correct icon on the bottom of each page. 4. List three facts about each learning style on the four pages. 	<p>Interpersonal - The Helping Hand</p> <p>Trace your hand. In each finger outline, write or draw something that tells a friend about yourself as a learner.</p>
<p>Understanding - Explain</p> <p>Compare your learning style to that of a classmate or relative. Include the strengths and weaknesses of the two styles you are comparing.</p>	<p>Self-Expressive - Picture This</p> <p>Pick four animals to represent each of the learning styles. On separate pieces of drawing paper, draw and color each animal. Then explain why you picked each animal to represent a particular learning style.</p>

FIGURE 5.6 **Secondary Tasks in Style**

<p>Mastery</p> <p>Write the name of each learning style. Under the name, write three facts about that learning style. Then, pick a character who represents that style.</p>	<p>Interpersonal</p> <p>Develop a lesson plan for teaching learning styles to an elementary school student.</p>
<p>Understanding</p> <p>Write a brief essay that compares your learning style to that of a classmate or relative. Include the strengths and weaknesses of the two styles you are comparing.</p>	<p>Self-Expressive</p> <p>Design four symbols to represent each of the learning styles. On separate pieces of drawing paper, draw and color each symbol. Then explain why each one represents a particular learning style.</p>

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