



Defining Academic Problems: The First Step in Effective Intervention Planning

Students who struggle with academic deficits do not do so in isolation. Their difficulties are played out in the larger context of the school environment and curriculum—and represent a ‘mismatch’ between the characteristics of the student and the instructional demands of the classroom (Foorman & Torgesen, 2001). It may surprise educators to learn that the problem-identification step is the most critical for matching the student to an effective intervention (Bergan, 1995). Problem identification statements should be defined in clear and specific terms sufficient to pass ‘the stranger test’ (Howell, Hosp, & Kurns, 2008). That is, the student problem can be judged as adequately defined if a person with no background knowledge of the case and equipped only with the problem-identification statement can observe the student in the academic setting and know with confidence when the problem behavior is displayed and when it is not.

Here are recommendations for increasing teacher capacity to frame student skills in relation to curriculum requirements, describe student academic problems in specific terms, and generate a hypothesis about why the problem is occurring.

1. **Be knowledgeable of the school academic curriculum and key student academic skills that are taught.** Academic abilities can best be described in terms of the specific curriculum skills or knowledge that students are required to demonstrate. Therefore, the general-education teacher should have a good survey-level knowledge of the general academic skills that students at a given grade level are expected to have mastered as well as key curriculum goals for that course. If the curriculum alone is not adequate for describing a student’s academic deficit, the instructor can make use of research-based definitions to further define the academic problem area. Here are guidelines for consulting curriculum and research-based definitions of academic skills:

- *Curriculum.* The teacher can review the school’s curriculum and related documents (e.g., score-and-sequence charts; curriculum maps) to formulate specific academic skill or performance goals. Of course, if the student is performing well below grade-level (e.g., in math skills), the teacher may want to go ‘off-level’ by reviewing curriculum goals from earlier grades. First, determine the approximate grade or level in the curriculum that matches the student’s skills. Then, review the curriculum at that alternate grade level to find appropriate descriptions of the student’s relevant academic deficit(s).
- *Research-Based Skill Definitions.* Even when a school’s curriculum identifies key skills, schools may find it useful to corroborate or elaborate those skill definitions by reviewing alternative definitions published in research reports, journals or other trusted sources.

For example, an algebra teacher had a student with delays in solving quadratic equations. The instructor found that the school’s math curriculum did not provide a detailed description of the various skills required to successfully complete quadratic equations. So the teacher reviewed the report issued by the National Mathematics Advisory Panel (Fennell et al., 2008) The teacher discovered in that document a detailed description of the component skills for solving quadratic equations, including “factors and factoring of quadratic polynomials with integer coefficients”, “completing the square in quadratic expressions” and “quadratic formula and factoring of general quadratic polynomials”. By combining the skill definitions from the school curriculum with the more



detailed descriptions taken from the research-based document, the teacher was better able to pinpoint the student's area of academic deficit in specific terms.

2. **Describe the academic problem in specific, skill-based terms with a meaningful instructional context** (Batsche et al., 2008; Upah, 2008). Write a clear, brief description of the academic skill or performance deficit that focuses on a specific skill or performance area. Include information about the conditions under which the academic problem is observed and typical or expected level of performance.

- *Conditions.* Describe the environmental conditions or task demands in place when the academic problem is observed.
- *Problem Description.* Describe the actual observable academic behavior in which the student is engaged. Include rate, accuracy, or other quantitative information of student performance.
- *Typical or Expected Level of Performance.* Provide a typical or expected performance criterion for this skill or behavior. Typical or expected academic performance can be calculated using a variety of sources,

Academic Problems: Sample Definitions		
Environmental Conditions or Task Demands ('What is the student supposed to do?')	Problem Description ('What does the student actually do?')	Typical or Expected Level of Performance. ('What is the performance that you expect from this student?')
When completing a beginning-level algebra word problem...	...Ann is unable to translate that word problem into an equation with variables...	...while most peers in her class have mastered this skill.
During social studies large-group instruction...	...Franklin attends to instruction an average of 45% of the time...	... while peers in the same room attend to instruction an average of 85% of the time.
For science - homework...	... Tye turns in assignments an average of 50% of the time...	... while the classroom median rate of homework turned in is 90%.
On weekly 30-minute in-class writing assignments...	... Angela produces compositions that average 145 words...	...while a sampling of peer compositions shows that the typical student writes an average of 254 words.

3. **Develop a hypothesis statement to explain the academic skill or performance problem.** The hypothesis states the assumed reason(s) or cause(s) for the student's academic problems. Once it has been developed, the hypothesis statement acts as a compass needle, pointing toward interventions that most logically address the student academic problems. Listed below are common reasons for academic problems. Note that more than one hypothesis may apply to a particular student (e.g., a student may have both a skill deficit and a motivation deficit).



Academic Problems: Possible Hypotheses & Recommendations	
Hypothesis	Recommendation
<input type="checkbox"/> <i>Skill Deficit.</i> The student has not yet acquired the skill.	Provide direct, explicit instruction to acquire the skill. Reinforce the student for effort and accuracy.
<input type="checkbox"/> <i>Fluency Deficit.</i> The student has acquired the basic skill but is not yet proficient.	Provide opportunities for the student to practice the skill and give timely performance feedback. Reinforce the student for fluency as well as accuracy.
<input type="checkbox"/> <i>Generalization Deficit.</i> The student possesses the basic skill but fails to use it across appropriate situations or settings.	Train the student to identify the relevant characteristics of situations or settings when the skill should be used. Provide incentives for the student to use the skill in the appropriate settings.
<input type="checkbox"/> <i>Motivation (Performance) Deficit.</i> The student is capable of performing the skill and can identify when use of the skill is appropriate—but nonetheless fails to use the skill.	Use various strategies to engage the student in the skill (e.g., select high-interest learning activities; offer incentives to the student for successful use of the skill, etc.).
<input type="checkbox"/> <i>Escape or Avoidance.</i> The student may or may not be able to perform the academic task. However, the student's behavior is intended to stop the academic activity (escape) or to prevent them from participating in the activity (avoidance).	Check for appropriate instructional match to ensure that the student experiences sufficient success in the activity. Use motivation strategies (see above) to promote student interest and engagement. Offer the student opportunities for choice in the academic activity.

References

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Academic Problems: Sample Definitions		
Environmental Conditions or Task Demands	Problem Description	Typical or Expected Level of Performance