How To: Define 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. Know the Common Core. Academic abilities can best be described in terms of the specific curriculum skills or knowledge that students are required to demonstrate. The Common Core State Standards for English Language Arts and Mathematics are an excellent starting point. Teachers should have a firm grasp of the Common Core standards for ELA and Math at their instructional grade level. They should also know those standards extending to at least two grades below the current grade to allow them to better match students who are off-level academically to appropriate intervention strategies.

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 with which the student has difficulty. If available, include specifics about student performance, such as rate of work, accuracy, or other relevant quantitative information.
    - *Typical or Expected Level of Performance*. Calculate a typical or expected performance criterion for this skill or behavior. Typical or expected academic performance can be calculated using a variety of sources, such as benchmark norms, local (classroom) norms, or expert opinion.

Academic Problems: Sample Definitions		
Environmental Conditions or Task Demands	Problem Description	Typical or Expected Level of Performance
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 (Adapted from Haring et al., 1978).	
Hypothesis	Recommendation
• *Skill Deficit.* The student has not yet acquired the skill.	Provide direct, explicit instruction to acquire the skill. Reinforce the student for effort and accuracy.
• *Fluency Deficit.* 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.
• *Retention Deficit.* The student can acquire the skill but has difficulty retaining it over an extended period.	Give the student frequent opportunities for practice to entrench a skill and help the student to retain it over time. Begin by scheduling more numerous practice episodes within a short time ('massed review') to promote initial fluency and then strengthen longer-term skill retention by scheduling additional periodic review ('distributed review') across longer spans of several weeks or more.
• *Endurance Deficit.* The student can do the skill but engages in it only for brief periods.	Consider these ideas to boost endurance: • In structuring lessons or independent work, gradually lengthen the period of time that the student spends in skills practice or use. • Have the student self-monitor active engagement in skill-building activities--setting daily, increasingly ambitious work goals and then tracking whether he or she successfully reaches those goals.
• *Generalization Deficit.* 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.
• *Motivation (Performance) Deficit.* The student is capable of performing the skill and can identify when use of the skill is appropriate—but nonetheless is not motivated 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.).

References

Batsche, G. M., Castillo, J. M., Dixon, D. N., & Forde, S. (2008). Best practices in designing, implementing, and evaluating quality interventions. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 177-193). Bethesda, MD: National Association of School Psychologists.

Bergan, J. R. (1995). Evolution of a problem-solving model of consultation. *Journal of Educational and Psychological Consultation, 6(2),* 111-123.

Christ, T. (2008). Best practices in problem analysis. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 159-176). Bethesda, MD: National Association of School Psychologists.

Fennell, F., Faulkner, L. R., Ma, L., Schmid, W., Stotsky, S., Wu, H., & Flawn, T. (2008). *Foundations for success: The final report of the National Mathematics Advisory Panel: Chapter 3: Report of the task group on conceptual knowledge and skills.* U.S., Department of Education: Washington, D.C. Retrieved from http://www.ed.gov/about/bdscomm/list/mathpanel/reports.html

Foorman, B. R., & Torgesen, J. (2001). Critical elements of classroom and small-group instruction promote reading success in all children. *Learning Disabilities Research & Practice, 16,* 203-212.

Haring, N.G., Lovitt, T.C., Eaton, M.D., & Hansen, C.L. (1978). *The fourth R: Research in the classroom*. Columbus, OH: Charles E. Merrill Publishing Co.

Howell, K. W., Hosp, J. L., & Kurns, S. (2008). Best practices in curriculum-based evaluation. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp.349-362). Bethesda, MD: National Association of School Psychologists.

Upah, K. R. F. (2008). Best practices in designing, implementing, and evaluating quality interventions. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 209-223). Bethesda, MD: National Association of School Psychologists.