

Learning-Style Responsive Approaches for Teaching Typically Performing and At-Risk Adolescents

ANDREA HONIGSFELD and RITA DUNN

Abstract: The authors recommend practical techniques and resources for teaching at-risk secondary students, who are often nontraditional learners. The article describes tactual and kinesthetic instructional resources that research has shown are effective for typically performing and at-risk students who do not learn conventionally.

Keywords: at-risk students, learning styles, nontraditional teaching techniques

We live in a decade of assessments. Since the No Child Left Behind (NCLB) Act was signed into law in 2002, standardized assessments have been a driving force behind educational decisions, program development, material selections, and daily lesson planning in most, if not all, middle schools and high schools across the United States. Standardized tests strongly favor analytic, sequential cognitive processors—that is, students who can concentrate on, internalize, and retain new and difficult information through traditional teaching. Chalk and talk, lectures with required note-taking, assigned readings, and end-of-chapter or end-of-text questions are still common teaching practices in secondary schools. But many at-risk students do not perform well on standardized tests when taught with these methods. Despite their efforts to succeed, many of these youth often struggle

academically, lose interest, suffer reduced motivation, and find themselves embarrassed and even depressed by failure.

In response to the increased presence of high-stakes testing in our schools, Boudett et al. (2005) note that “much has been written about the possibility that school faculties will resort to ‘drill and kill,’ a response that will reduce the quality of children’s education” (700; “drill and kill” refers to the potentially harmful overuse of repetitive, drill-based activities that leads to the destruction of student joy in learning and motivation). We share Boudett et al.’s concern and propose new strategies to better equip typically performing and at-risk students to reach high expectations.

Who Is at Risk of Academic Failure?

Students officially classified as *at risk* fall into several categories. These students

- are diagnosed or misdiagnosed as learning disabled;
- grow up in isolated communities and do not begin learning English until they enter school;
- do not speak English because they have recently arrived from another country;
- live in poverty and lack basic and educational resources in their homes;
- are the children of migrant workers or undocumented immigrants whose presence in our schools is transient; or

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- are homeless and do not have their basic needs of safety and security met. (Dunn and Honigsfeld 2009)

However, many students are at risk but do not fit into any of these categories. Some students are *typically performing* adolescents, who strive to excel but invariably remain in the average or middle group in the eyes of their teachers and parents, as well as in their own eyes. Other students seem initially to perform well in school but then fall behind, become chronic under-achievers, and read less well each year, or even fail to learn to read. Finally they become restless or hyperactive. Many of these youth

- process new and difficult information globally and find it difficult to follow analytic, step-by-step teaching;
- do not seem to try or take school seriously (e.g., draw or doodle while listening; appear bored, tired, or listless);
- are nonconforming or disobedient (e.g., refuse to remain in their seats);
- cannot sit still, concentrate, or pay attention to the teacher for more than a few minutes; or
- may read, but cannot remember and often do not understand what they read.

During the past two decades, Bauer (1987), Braio et al. (1997), Dunn and Dunn (1993), Favre (2007), Fine (2003), and Lister (2005) have established that students who do not respond to traditional teaching are likely to be engaged by hands-on, activity-oriented lessons. Each practitioner-researcher experimented with tactual-kinesthetic resources and implemented a series of nontraditional lesson strategies. They repeatedly found that at-risk students responded well to these lessons and revealed significantly increased achievement, as well as higher levels of engagement and motivation.

Characteristics of Students with Tactual and Kinesthetic Preferences

Many at-risk adolescents in middle schools and high schools tend to be highly tactual learners (i.e., need hands-on learning experiences and manipulatives), kinesthetic learners (i.e., need frequent mobility), or both. Because adolescents have not biologically developed strong auditory skills, at-risk adolescent students are particularly unlikely to remember at least 70 percent of what they hear or read and thus either do not read well or cannot maintain concentration when they are not interested in the required reading (Restak 1979). These youth often struggle and fall behind in traditional classes in which teachers rely on lectures, discussions, and readings. Even when teachers use advanced technology—such as PowerPoint presentations or video streaming—tactual and kinesthetic learners need more than the visual support these resources offer.

How Do Tactual and Kinesthetic Learners Learn?

The best strategies for engaging tactual and kinesthetic learners' minds are to engage their hands and bodies with manipulative instructional resources or to allow them to learn on their feet. These strategies help them form lasting connections between concepts and their applications. Tactual and kinesthetic learners are more likely to internalize comprehensive information while using small- or large-motor movements, rather than while remaining stationary and passively receiving input from the teacher.

Related Research

Researchers have conducted over 850 studies at more than 135 institutions of higher education using the Dunn and Dunn Learning Style Model (www.learningstyles.net). For documentation of the reversal of academic failure through learning-style responsive approaches throughout United States schools, see Dunn and DeBello (1999) and Dunn and Dunn (2008). At least thirty studies have compared the effectiveness of tactual and kinesthetic strategies and traditional teaching for at-risk, special education (SPED), and English-language-learner (ELL) students at various levels.

For example, Fine (2003) gradually added soft classroom lighting and teacher-designed and student-created tactual and kinesthetic instructional resources and permitted his high school SPED students to work independently, in pairs, or in small groups, instead of relying on direct teaching and assigned readings. He reported higher achievement test scores with average to large effect sizes, as well as measurably improved behavior and attitudes toward school and reduced lateness.

Lister (2004, 2005) compared the effects of traditional social studies instruction with the effects of instruction using tactual and kinesthetic resources for the same content. The achievement of her Bermudian SPED middle school students increased statistically, and she found a large effect size favoring the tactual and kinesthetic resources.

Crossley (2007) examined the relative effectiveness of a Multisensory Instructional Package (MIP; Dunn and Dunn 1992) versus traditional teaching (TT) on science achievement and attitude test scores of middle school ELL and English-speaking students. Students in all three grades received both traditional and multisensory instruction in three sub-units. The results revealed a significant impact on achievement and attitude scores when multisensory instruction was introduced.

Similar practice-oriented and classroom-based research studies have documented the rapidity with which learning-style instructional approaches—specifically tactual and kinesthetic resources—can enhance academic achievement among at-risk student populations.

What Do Tactual and Kinesthetic Learning Activities Look Like in the Secondary Classroom?

Both tactual and kinesthetic activities are designed to be self-corrective exercises in which students do not require teacher feedback on their work, because the resources themselves have the correct answers built in; these exercises can be used independently, in pairs, or in small groups of three or four. Corners and empty sections of the classroom can be used for these activities at designated times during the period. Such instructional resources are enjoyable because of their game-like nature; can be adapted to any content, grade, or ability level; and lead to increased student empowerment, responsibility, and success. Tactual and kinesthetic activities will meet with less resistance than other homework assignments and ensure long-term memory retention (Gremli 2001/2002; Mitchell et al. 2002; O'Connell, Dunn, and Denig 2001). Resources can be created by teachers, individual students, or pairs of students, either at home or in the classroom.

Tactual Resources

Task cards are pairs of cards that look like puzzle pieces. The two parts contain matching information that allows learners to connect definitions to key words or questions to responses (see figure 1).

Pic-A-Holes are self-corrective tactual resources. Teachers can use an inexpensive, two-pocket folder to hold the Pic-A-Holes and 5 × 8 index cards for Question Cards. The hole for the correct answer on each card should be cut through. Then the Question Cards can be placed in the case and a golf tee given to each student. When he or she inserts the golf tee into the hole for the correct answer, the card can be removed from the case (see figure 2).

Kinesthetic Activities

Floor, wall (in which the game board is placed on an available wall surface), or tabletop games; demonstrations; dramatizations; roleplays; and skits all activate students' large-motor skills and enhance their retention of complex content. A typical floor, wall, or tabletop game can follow a board-game template or

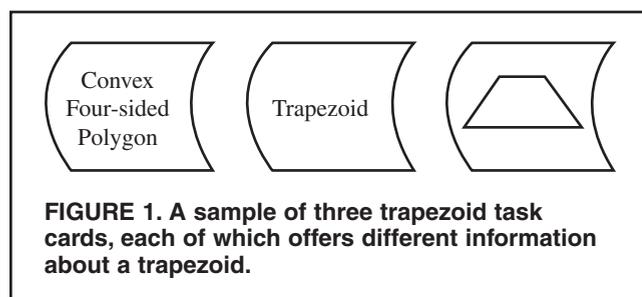


FIGURE 1. A sample of three trapezoid task cards, each of which offers different information about a trapezoid.

a tic-tac-toe outline. Students engage in the game by generating as many questions as possible about the target content alone, in a group, or with a teacher. The teacher then transfers the questions onto index cards and puts the correct answer on the back of each card. Once the props are ready, established rules for the game are set. For a more detailed description of tactual and kinesthetic resources and explicit directions for making them, see Dunn and Honigsfeld (2009).

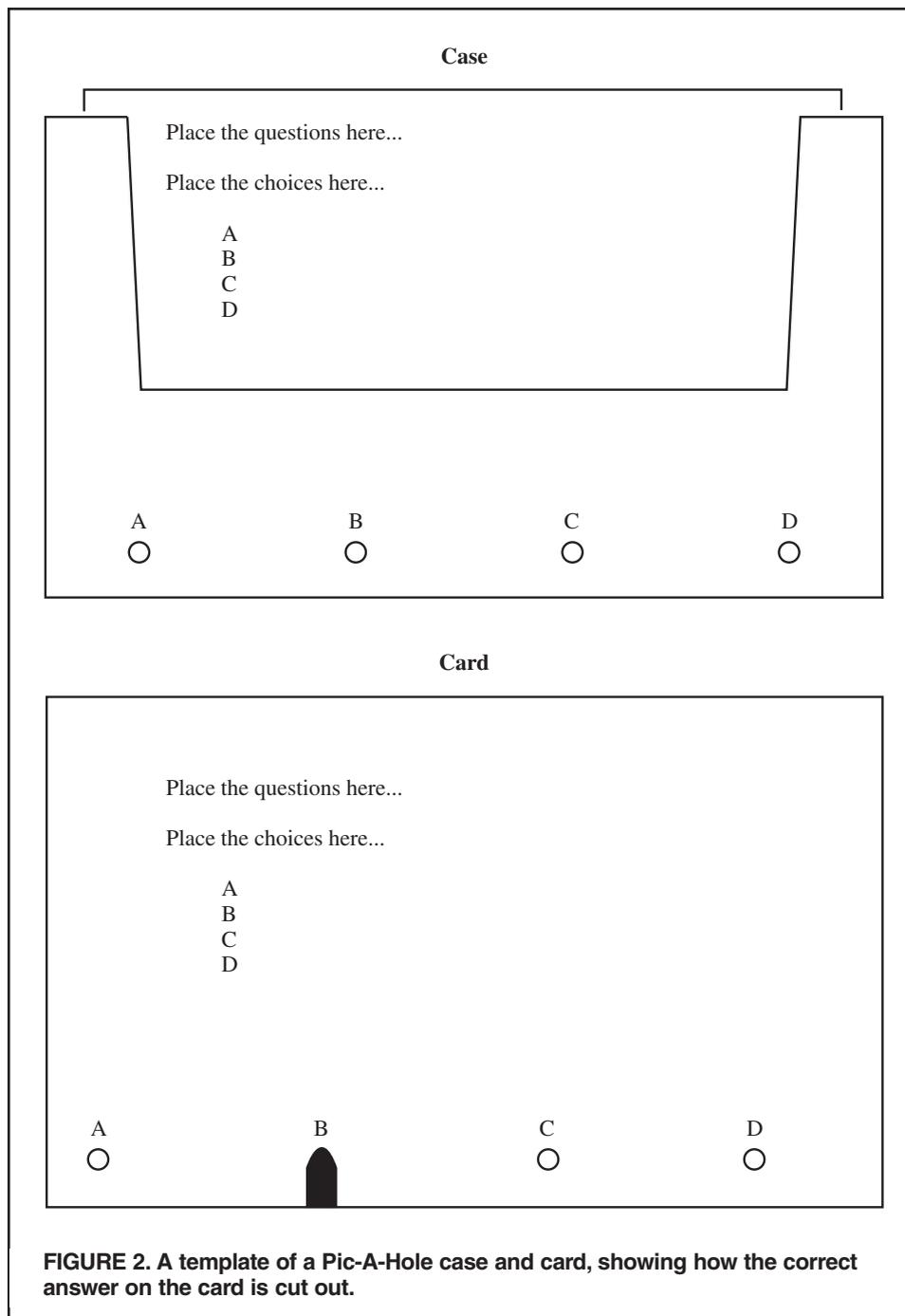
Tactual and Kinesthetic Learning and Test Preparation: Oxymoron or Key to Success?

Even the most creative teachers who use multiple modalities, innovative techniques, advanced technology, and nontraditional teaching techniques are perplexed when preparing their students for standardized tests. High-stakes test preparation using tactual and kinesthetic resources and activities needs special attention. A few examples of successful practices in this area are provided:

- A seventh-grade social studies class practiced answering document-based questions (DBQs) in preparation for their annual standardized assessments. Instead of asking students to complete test preparation packets, however, the teacher recreated the DBQ exam as a gallery walk. He placed eight enlarged documents (e.g., cartoons, quotes, pictures, historical photographs, short paragraphs) around the classroom for students to examine and distributed a response sheet that required answers to any five questions from an itemized list. Students could work independently, in pairs, or in small groups as they chose.
- In preparation for an eighth-grade English and language arts exam, an English teacher designed a wall game using a tic-tac-toe template. Two teams competed to name literary elements exhibited in assigned excerpts. Once the literary elements were correctly identified, the team placed an X or O on an erasable tic-tac-toe board mounted on the wall.
- In a high school living-environment class, the teacher encouraged his students to think like test writers and assigned teams of three students the task of generating Pic-A-Hole cards with sample test questions. The students wrote question stems using key concepts from the assigned chapter and generated three "distractor" answers that were not obviously incorrect for each question.

Why Do Tactual and Kinesthetic Resources Work when Other Strategies Do Not?

Tactual and kinesthetic instruction work because the learners' strongest perceptual modalities are in these areas. Auditory and verbal processing often lag behind tactual and kinesthetic learning, which are the first perceptual modalities to develop, even at the high



school level. At the same time, at-risk learners often are attentive to visual elements. Therefore, all tactual and kinesthetic resources that teachers use, create, or ask their students to create should include colorful pictures, diagrams, or other eye-catching images that reflect the content students need to master.

How to Introduce Kinesthetic and Tactual Strategies to the Classroom

Normally lethargic, uninterested students will become engaged in participatory learning—particularly when they are not only permitted but required to move. The

following strategies are useful for experimenting with tactual and kinesthetic teaching with your students:

- Use simple tactual resources as homework assignments first.
- Design lessons that include gallery walks and invite students to visit various exhibits placed around the room on available wall space.
- Encourage adolescents to generate questions or answers to problems in small groups and then have a representative member of each team walk to an adjacent team and share ideas.

- Once you expose students to floor or wall games, encourage them to design their own.

A Word of Caution

Tactual and kinesthetic resources alone may not produce the increased achievement desired from at-risk youth. Reinforcing knowledge and skills through students' secondary and tertiary perceptual preferences ensures that they master the required skills and knowledge. A learning style comprises a complex set of individual characteristics that range from environmental, emotional, and psychological to physiological and sociological preferences. Research and best practices both validate that style-responsive instruction generates more engaged, motivated, and successful students—so keep thinking and teaching outside the box!

REFERENCES

- Bauer, E. 1987. Learning style and the learning disabled: Experimentation with ninth-graders. *The Clearing House* 60 (5): 206–8.
- Boudett, K., R. J. Murnane, E. City, and L. Moody. 2005. Teaching educators how to use student assessment data to improve instruction. *Phi Delta Kappan* 86 (9): 700–6.
- Braio, A., T. M. Beasley, R. Dunn, P. Quinn, and K. Buchanan. 1997. Incremental implementation of learning style strategies among urban low achievers. *Journal of Educational Research* 91 (1): 15–25.
- Crossley, H. 2007. Effects of traditional teaching versus a multi-sensory instructional package on the science achievement and attitudes of English-language learners versus other middle-school minority students. EdD diss., St. John's University.
- Dunn, K. J., and R. Dunn. 2008. Teaching to at-risk students' learning styles: Solutions based on international research. *Insights on Learning Disabilities: From Prevailing Theories to Validated Practices* 5 (1): 89–101.
- Dunn, R., and T. C. DeBello, eds. 1999. *Improved test scores, attitudes, and behaviors in America's schools: Supervisors' success stories*. Westport, CT: Bergin & Garvey.
- Dunn, R., and K. Dunn. 1992. *Teaching elementary students through their individual learning styles: Practical approaches for grades 3–6*. Boston: Allyn & Bacon.
- . 1993. *Teaching secondary students through their individual learning styles: Practical approaches for grades 7–12*. Boston: Allyn & Bacon.
- Dunn, R., and A. Honigsfeld. 2009. *Differentiated instruction for at-risk students: What to do and how to do it*. Lanham, MD: Rowman & Littlefield.
- Favre, L. R. 2007. Analysis of the transformation of a low socioeconomic status African-American, New Orleans elementary facility into a demonstration Learning-Style School of Excellence. *Journal of Urban Education: Focus on Enrichment* 4 (1): 79–90.
- Fine, D. 2003. A sense of learning style. *Principal Leadership* 4 (2): 55–59.
- Gremli, J. 2001/2002. Learning sequenced instruction on the short- and long-term achievement of seventh- and eighth-grade general music students. *National Forum of Applied Educational Research Journal* 11 (2): 63–73.
- Lister, D. 2004. Comparisons between the learning styles of under-achieving and regular education sixth-grade Bermudian students and the effects of responsive instruction on the former's social studies achievement- and attitude-test scores. PhD diss., St. John's University.
- . 2005. Effects of traditional versus tactual and kinesthetic learning-style responsive instructional strategies on Bermudian learning-support sixth grade students' social studies achievement- and attitude-test scores. *Research for Educational Reform* 10 (2): 24–40.
- Mitchell, D., R. Dunn, A. Klavas, V. Lynch, N. Montgomery, and J. Murray. 2002. Effects of traditional versus tactual/kinesthetic instruction on junior-high school learning-disabled students. *Academic Exchange Quarterly* 6 (3): 115–22.
- O'Connell, D. M., R. Dunn, and S. Denig. 2001. Effects of traditional instruction versus instruction with teacher-constructed and self-teaching resources on the short- and long-term achievement and attitudes of tenth-grade science students. *American Biology Teacher* 65 (2): 93–102.
- Restak, R. M. 1979. The other difference between boys and girls. In *Student learning styles: Diagnosing and prescribing programs*, ed. National Association of Secondary School Principals, 75–80. Reston, VA: National Association of Secondary School Principals.

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