

Facilitating Strategy Transfer in College Reading Courses

JANE MCGRATH
PARADISE VALLEY
COMMUNITY COLLEGE

ARDEN HAMER
INDIANA UNIVERSITY
OF PENNSYLVANIA

The success of a developmental reading course really should be measured several semesters later by how well the students have transferred their new strategies to their content courses. To help facilitate this transfer, a list of ten instructional strategies are presented that have been developed from the literature and classroom experience. Specific classroom activities based on those strategies are also included.

In the one or two semesters developmental students spend in college reading courses, they are exposed to a variety of strategies designed to help them read, understand, and retain the information they need in academic texts and supplemental materials. Strategies are defined as tools and techniques learners consciously select to complete a task accurately and efficiently.

Typically, students can demonstrate mastery of several strategies during the reading course. Unfortunately, that is not enough. Unless students transfer the strategies — successfully adapt and use the strategies gained in the reading class in content area courses and beyond — the reading course is of little use. As Weinstein et al. (2000) says, “if transfer to other academic coursework and future learning tasks does not occur, these programs are of little value to the students or the institution” (p. 735).

RESEARCH ON STRATEGY TRANSFER

The problem of transfer of knowledge and skills has been on education’s research agenda throughout the century. For a historical overview, see Cox (1997), Singley and Anderson (1989), and Mayer and Wittrock (1996).

Some of the literature describes various types of transfer. For example, Brown and Campione (1984) differentiate between near transfer and far transfer, Gagné (1970) discusses vertical and lateral transfer, and Salomon and Perkins (1987) differentiate between low- and high-road transfer. In most cases, one of the labels refers to the learner being able to transfer knowledge acquired in one domain to a second similar domain,

and the second label refers to the learner's ability to relate that knowledge to a very different domain.

There is an extensive body of literature on how difficult it is to transfer knowledge and the challenges involved in facilitating it (Brown & Campione, 1984; Campione, Brown, Ferrara, Jones, & Steinberg, 1985; Crisafi & Brown, 1986; Ennis, 1989; Gick & Holyoak, 1983; Holyoak, Junn, & Billman, 1984; Holyoak & Koh, 1987; King-Johnson, 1992; and Perkins & Salomon, 1989). Specifically, in the context of reading and learning strategies, research suggests "students do not automatically or immediately transfer strategies in a flexible manner" (Simpson, Stahl & Francis, 2004).

The literature also suggests that one of the major blocks to successful transfer is the failure to spontaneously recognize transfer potential (Brown & Campione, 1984; Gick & Holyoak, 1980, 1983). Therefore, for students to overcome this block and be able to transfer a general problem solving strategy to a specific domain, they must recognize the relevance between previous examples, general schemata, and the current problem. How to best facilitate this recognition continues to be the subject of numerous studies (Brown & Campione, 1984; Crisafi & Brown, 1986; Gholson, Dattel, Morgan, & Eymard, 1989; Gick & Holyoak, 1980, 1983; Phye, 1989).

TEN INSTRUCTIONAL SUGGESTIONS BASED ON RESEARCH

Although there is much about strategy transfer that we do not know, based on what we do know, we offer these ten instructional suggestions to facilitate strategy transfer in college level developmental reading courses:

1. Provide explicit, authentic instruction. Model essential reading processes, and provide guided practice in authentic texts. Initially, the learning experience must be similar to the situations to which one wants transfer to occur.
2. Provide purposeful learning activities and experiences that allow learners to start immediately on meaningful tasks.
3. Structure instruction so that initial activities are easily grasped by learners and a spiral of increasingly difficult/complex activities provides multiple opportunities for learning and practice.
4. Eliminate oversimplified and unauthentic instructional materials. Use a text that incorporates authentic college material.

5. Teach students when and why to use a particular strategy, not just how to do the task.
6. Design instructional activities that encourage learners to go beyond the specific example/information given. Give examples of when they will be able to apply what they are learning, and ask them to predict other possible applications.
7. Help learners see knowledge as highly interconnected rather than compartmentalized.
8. Provide multiple opportunities for students to practice new strategies with time for additional instruction.
9. Prompt and support students as they plan, monitor, reflect on, and evaluate their performance.
10. Allow learners to discover things for themselves while providing guidance, help, and encouragement all along the way.

EXAMPLES OF CLASSROOM ACTIVITIES

Content groupings. Group students according to the content courses they are taking. During class, have them work in their content course textbook with others in their group and discuss specifically how to use a strategy or how to solve a reading/learning problem specific to that discipline using the strategies presented in class.

Ungraded in-class writings. At the first class, have students complete an in-class writing describing how they have approached textbook reading assignments in the past. Keep this paper in your file. Repeat the assignment at the midpoint of the semester and give students a chance to compare their responses. Students can examine each other's responses and make suggestions about additional strategies to incorporate.

Examine a variety of content texts. (See Appendix A.) Bring in textbooks or sample chapters from several disciplines. Have students work in small groups and examine the various chapters using the jig-saw collaborative learning strategy. Assign students a group with a number and letter designation such as 1A, 1B, 1C, 1D, 2A, 2B, 2C, 2D. Students first meet in their number group (all the 1's together, all the 2's, etc.) to examine the sample texts using the guidelines in Part I. Then, have them switch to their letter group (all the A's together, all the B's, etc.) to share what they discussed in their first group.

Compare and contrast using authentic text. Find two short articles that present two sides of an issue relevant to the students. (USA Today

is a good source.) Have students read and annotate the two articles; then represent the similarities and differences using a Venn Diagram. If possible, divide the students into small groups and have all groups work at the same time on the board or large newsprint. It works best if students can see all of the diagrams at once instead of individually on overheads.

Planning examination preparation. (See Appendix B.) To help students realize the amount of preparation necessary for college-level exams, at least one week before an exam have them plan what learning strategies they will use and how they will fit these strategies into their schedule.

First, have a general class discussion about *how* to prepare for the content exam, what strategies will work and why. Then, have them look at their time leading up to the exam and specifically plan what they will do and when.

Exam preparation analysis. (See Appendix C.) During the first class after an exam, have students record specifically what they did to prepare and, in light of the exam experience, evaluate their preparation and identify any changes they think they should make for the next exam. Collect and keep these papers.

After the students have received their grades, give them the same paper and have them complete the second column in which they again evaluate their preparation after learning their score. Again, collect and keep. Return the papers to the students approximately one week before the second exam in the course in order to remind them of their prior experience and reflection on what worked and what they could improve.

Weekly reflection. When focusing on a specific strategy during the course of the semester, ask students to write a one page reflection paper on how they approached a reading challenge in the past and how they could use the specific strategy to improve their comprehension and/or retention.

Final reflection. (See Appendix D.) To give student one last opportunity to make connections, include a question on the final exam specifically asking students to reflect on what strategies they used in other content courses to help themselves be successful.

CONCLUSION

One thing is certain: We cannot assume that transfer is going to occur. Classroom instructors must be explicit and direct when working with strategies students need to be successful in their content courses. If students do not immediately see the practical applications and benefits of these strategies, it is unlikely they will transfer them to other learning situations in the near or distant future.

As DeCorte (1999) says, "One conclusion that derives from this continuing diversified and controversial nature of the concept of transfer is that there is an obvious need for further inquiry aimed at a better and deeper understanding of the processes underlying transfer and at finding effective research-based and practically applicable ways to facilitate transfer in learners in different educational and training settings" (p. 558).

REFERENCES

- Brown, A.L., & Campione, J.C. (1984). Three faces of transfer: Implications for early competence, individual differences, and instruction. In M.E.Lam, A.L. Brown, & B. Rogoff (Eds.), *Advances in developmental psychology* (Vol 2, pp. 143-192). Hillsdale, NJ: Lawrence Erlbaum.
- Campione, J.C., Brown, A.L., Ferrara, R.A., Jones, R.S., & Steinberg, E. (1985). Breakdowns in flexible use of information: Intelligence-related differences in transfer following equivalent learning performance. *Intelligence*, 9(4), 297-315.
- Cox, D.C. (1997). The rediscovery of the active learner in adaptive contexts: A developmental-historical analysis of transfer of training. *Educational Psychologist*, 32, 41-55.
- Crisafi, M.A., & Brown, A.L. (1986). Analogical transfer in very young children: Combining two separately learned solutions to reach a goal. *Child Development*, 57(4), 953-968.
- DeCorte, E. (1999). On the road to transfer: An introduction. *International Journal of Educational Research*, 31, 555-559.
- Ennis, R.H., (1989). Critical thinking and subject specificity: Clarification and needed research. *Educational Researcher*, 18(3), 4-10.
- Gagné, R.M. (1970). *The conditions of learning* (2nd ed.). New York: Holt, Rinehart & Winston.

- Gholson, B., Dattel, A.R., Morgan, D., & Eymard, L.A. (1989). Problem solving, recall, and mapping relations in isomorphic transfer and nonisomorphic transfer among preschoolers and elementary children. *Child Development*, 60(5), 1172-1187.
- Gick, M.L. & Holyoak, K.J. (1980). Analogical problem solving. *Cognitive Psychology*, 12, 306-355.
- Gick, M.L. & Holyoak, K.J. (1983). Schema induction and analogical transfer. *Cognitive Psychology*, 15, 1-38.
- Holyoak, K.J., Junn, E.N., & Billman, D.O. (1984). Development of analogical problem-solving skill. *Child Development*, 55(6), 2042-2055.
- Holyoak, K.J., & Koh, K. (1987). Surface and structural similarity in analogical transfer. *Memory & Cognition*, 15(4), 332-340.
- King-Johnson, D.A. (1992). Using analogies to form conceptual models to facilitate transfer, *Contemporary Educational Psychology*, 17(1), 1-7.
- Mayer, R.C., & Wittrock, M.C. (1996). Problem-solving transfer. In D.C. Berliner, & R. C. Calfee, (Eds.), *Handbook of educational psychology* (pp. 47-62). New York: Macmillan.
- Perkins, D.N., & Salomon, G. (1989). Are cognitive skills context-bound? *Educational Researcher*, 18(1), 16-25.
- Phye, G.D. (1989). Schemata training and transfer of an intellectual skill. *Journal of Educational Psychology*, 81(3), 347-352.
- Salomon, G., & Perkins, D.N. (1987). Transfer of cognitive skills from programming: When and how? *Journal of Educational Computing Research*, 3 (2), 149-169.
- Simpson, M.L., Stahl, N.A., & Francis, M.A. (2004). Reading and learning strategies: Recommendations for the 21st century. *Journal of Developmental Education*, 28(2), 2-15, 32.
- Singley, M.K., & Anderson, J.R. (1989). *The transfer of cognitive skills*, Cambridge, MA: Harvard University Press.
- Weinstein, C.E., Husman, J., & Dierking, D. (2000). Self-regulation interventions with a focus on learning strategies. In M. Goekaerts, P. Pintrich, & M Zeidner (Eds.). *Handbook of self-regulation* (pp 727-747). San Diego: Academic Press.