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LETTER FROM THE EDITORS

To our readers:

It's difficult to believe but with this issue the *Learning Assistance Review* has been published for eight years. We want to thank you for being faithful readers all these years and supporting the growth and development of the journal. We also want to let you know that this will be our last journal as co-editors. While our interests are taking us to other endeavors, we are thrilled to let you know that Jeanne Higbee of General College, University of Minnesota will be the new editor. She has extensive experience in publishing and learning assistance and will bring editorial and program expertise to this position. We feel confident in leaving the journal in her hands.

This fall's issue will hopefully find you midway between the semester's hectic beginning and the end of semester deadlines, with time to read and reflect on topics relevant to your teaching and learning center programs.

We begin with an article, which one of our reviewers noted, "includes some the best contemporary thinking that connects the writer to the writing." Ellen Lavelle, in "Writing Approaches of College Students: A Relational Perspective," presents a model of college student writing that identifies two core approaches to writing, the deep approach, involving proactive strategies that assist the writer to make meaning, and the surface approach, involving strategies reflective of the writer's stance as a passive recipient of knowledge. She argues that the surface writer can learn the deep writing approach and offers instructional recommendations for faculty.

The effect of paired tutoring and mentoring on the academic achievement of probationary first year students is discussed in our second article, Jennifer Bruce and Jack Trammell's "Impact of Paired Tutoring and Mentoring." They conducted a study to determine whether students provided tutoring and mentoring by the same person performed better academically than students provided with tutoring and mentoring by different persons. Their results indicated a positive effect of the paired assistance on academic achievement and may well offer ideas for your intervention programs and services.

Our third article, "Health Checklist for Supplemental Instruction Programs," is a unique look at evaluating Supplemental Instruction (SI) programs. The author, Dennis Congos, has formatted the article not as a narrative, but as a checklist, in the hopes of pioneering a new model for SI evaluation and to

effectively and efficiently communicate the information. We are interested in hearing your response to the article, both its form and content.

Many of us have been involved in book discussion groups and marveled at the enjoyment and learning gained from the experience. Maria Valeri-Gold and Nanette Evans Commander explore "Using Book Clubs with At-Risk College Students" in *Join the Conversation*. Their article explains the process and highlights the goals and accomplishments of using this model in the developmental writing classroom.

Our book review this fall is of *The Myth of Laziness* by Mel Levine. Colin Irvine, clearly enthralled by Levine's thesis that "all people yearn to be productive," and no one is simply lazy or incapable, traces the book's key points explaining how hidden neurological dysfunctions can lead to "output failure." Irvine points out that Levine's message is particularly apt for writing instructors who, once they understand how physiological and neurological factors may impact on clear and coherent writing, can help students learn strategies to circumvent such difficulties and be more productive.

We wish you all well.

Martha Casazza
National-Louis University
122 South Michigan Avenue
Chicago, IL 60603
mcasazza@nl.edu

Nancy Bornstein
Alverno College
3400 South 43 Street
Milwaukee, WI 53234
nancy.bornstein@alverno.edu

WRITING APPROACHES OF COLLEGE STUDENTS: A RELATIONAL PERSPECTIVE

By Ellen Lavelle, Southern Illinois University at Edwardsville

Abstract

A writing process model, writing approaches of college students, is advanced based on a wide range of research conducted both here and abroad. The basic paradigm reflects two core approaches to writing as descriptive of the ways in which college students think about writing and negotiate writing tasks. The deep approach to writing involves a conception of oneself as an agent in making meaning and proactive strategies such as complex revision. The surface approach is linked to a more passive strategy marked by reproduction or reorganization of information. The writing approach model is comprehensive because it explains the strategies that writers engage in relation to writing- related beliefs, writing environments, and written products. Recommendations for instruction include comprehensive reevaluation of instructional climates to include consideration of the syllabus, assignments, feedback, instructional support, and assessments. Implications also focus on teaching revision as a conceptual process.

Historically, writing has long served as a tool of learning and of evaluation in higher education. Indeed, the integrative nature of writing as a synthesis and elaboration of thinking, combined with the rigor and complexity of the process make writing an ideal tactic for promoting college learning (Biggs, 1988). In investigating the relationship between writing and thinking, cognitive models have offered a variety of perspectives: problem solving (Hayes & Flower, 1980), schema (McCutchen, 1986), and cognitive developmental (Bereiter, 1980). Although these models have provided insights in terms of delineating writing processes, their reliance on the traditional cognitive paradigm has served as a limitation in that writing processes have been viewed as independent from the writer, as well as from the written product.

The writing approach perspective (Biggs, 1988, Hounsell, 1997, Lavelle, 1993, 1997; Lavelle & Guarino, 2003) is comprehensive in addressing the intentions and beliefs of writers, as well as the strategies or plans to accomplish a task

that affects writing outcomes. The basic assumption is that writing strategies serve as negotiating links between the intentions and beliefs of the writer and the written outcome: Beliefs->Strategies->Outcomes. Thus, the instructional mandate includes interventions geared toward both beliefs and processes.

The writing approach model (Biggs, 1988, Hounsell, 1997, Lavelle, 1993, 1997; Lavelle & Guarino, 2003) is rooted in college learning research, specifically in the area of individual differences or learning styles (cf. Biggs, 1987, Entwistle, 1988; Entwistle & Ramsden, 1982; Marton, 1988; Marton & Saljo, 1976; Pask, 1988; Schmeck, 1983, 1988). The basic assumption is that learners' beliefs affect their choice of study strategies which, in turn, affects the learning outcome. That is, learners who see themselves as agents of their own learning are more likely to employ meaningful, proactive strategies and to fully engage the task. On the other hand, learners who see themselves as passive recipients of knowledge are less likely to be fully involved, relying on safe strategies such as memorizing or just giving back what they think the teacher wants. The core distinction is between deep learners who display a "meaningful" orientation, are more personally involved, and see the task as a whole, and surface learners who view the task as a demand, see the parts as unrelated, and rely on memorization or reproduction strategies. Biggs (1988) has noted:

> The affective orientation of students with a deep style starts with an intrinsic interest in the task and the expectation of enjoyment in carrying it out. Consequently, they adopt strategies that are likely to help satisfy their curiosity by searching for meanings inherent in the task. Students adopting a surface style are instrumentally or pragmatically motivated...A task, such as an essay, is seen as a demand to be met, a necessary imposition if a longer term goal is to be achieved. This set of assumptions is frequently accompanied by worries about the time the task is taking. The general strategy to which this orientation gives rise is to focus on what are seen to be essentials; usually factual data and the ways they are represented symbolically; to reproduce them as accurately as possible. (p. 186)

The deep and surface constructs have been related to academic tasks such as reading (Marton & Saljo, 1976), studying (Schmeck, 1983), and academic writing (Biggs, 1988; Biggs, Lai, Tang, & Lavelle, 1999; Lavelle, 1993, 1997). The deep and surface continuum represents a core or basic dichotomy with multiple interrelated dimensions as key components (cf. Biggs, 1991).

A major issue in the deep and surface paradigm involves the assumption that deep and surface constructs are fairly consistent learning styles as opposed to learning "approaches" which represent a more modifiable and flexible dimension. From an instructional perspective, it is more useful to consider the approach to learning or writing as a particular cluster of strategies and motives which is largely affected by the instructional climate or intervention (Biggs, et al., 1999; Marton, Hounsell, & Entwistle, 1997). For example, the strategies that a student uses under conditions of assessment may vary greatly from those used when the writing task is more reflective such as in journaling. Similarly, various writing tasks such as a term paper versus a brief narrative piece may require different strategic approaches. In particular, writers' approaches to academic writing tasks have been supported as largely modifiable given well-designed interventions (Biggs, et al., 1999). Appendix A reflects the motives and strategies associated with the deep and surface writing approaches as articulated in the writing approach literature (cf. Biggs, 1988, Hounsell, 1997, Lavelle, 1993, 1997; Lavelle & Guarino, 2003).

Writers' Beliefs

Beliefs and intentions comprise the most intimate domain of writing and learning and are perhaps the most powerful dimension. Beliefs about oneself, writing, and one's relation to writing affect writing intentions (e.g., to make meaning or self-discovery, please the teacher, or just get it over with) which influence writing strategies (Lavelle, 1993, 1997; Lavelle & Guarino, 2003). Hounsell's (1997) research on students' beliefs as related to writing outcomes represents the phenomenological research tradition in querying students about their experience of writing; whereas, Ryan (1984) and Silva and Nicholls (1993) combine qualitative and quantitative methods in examining the same phenomena.

In examining college students' conceptions of the essay, Hounsell (1997) identified three main conceptions that hinged on students' beliefs about data, organization, and the role of interpretation. The *essay as argument* conception was cited as the most explicit and sophisticated in that it represented a concern for the essay as an integrated whole with a distinctive perspective supported by evidence. The *essay as viewpoint* conception differed from the argument conception in that the role of data is not explicitly considered as impacting on the thesis. From the viewpoint perspective, interrelations between data and a perhaps well-organized format may not be clear. The *arrangement* conception is defined as an ordered presentation of facts and ideas. The process is basically reproductive and superficial.

Similarly, Ryan (1984) identified four different conceptions of prose coherence from college students' written responses to a coherence probe. Two of these conceptions, *informativeness* and *grouping*, failed to address the quality of the relationship among various parts of the paper, similar to Hounsell's (1997) arrangement conception. The remaining two, *sequencing* and *unity*, did provide such a basis with sequencing implying ordering of parts within a framework and unity stressing integrated elaboration of a single idea (similar to Hounsell's argument conception). Sequencing and unity beliefs were

associated with relativistic conceptions of knowledge and superior essay performance in terms of coherence. Both sequencing and unity imply an understanding of composition as a hierarchical ordering of information with unity emphasizing integration as critical to a deep, active process.

Silva and Nicholls (1993) linked college writers' goals and beliefs to commitment and perceived ability. In particular, the *poetic* dimension included personal meaning and self-expression with the *growth* conception related to intellectual development and deep writing. The third scale, *method,* described students who followed the rules and the *surface* orientation described concern for correctness of form, a more superficial or surface style. Poetic and growth scale scores were related to commitment to writing and confidence in one's own ability.

The deep writing orientation rests on beliefs about oneself as an agent in making meaning (an arguer vs. an organizer), complex beliefs about the interrelation of data and structure, and concern for the essay as an integrated whole aimed at personal meaning. In contrast, surface conceptions include emphasis on ordering or listing data and little personal involvement in an effort to "tell something" (see Appendix A). In an article entitled *The Uninvolved=Poor Writers,* Moxley (1987) drew similar conclusions; the "uninvolved" perceived their role as following orders as opposed to the more mature conception involving writing as a personal learning process.

The link between writing beliefs and writing outcomes has been articulated, but how it is that beliefs interface with strategies as a behavioral component remains less clear. The writing approach model serves to elucidate the relationship as based on both qualitative (cf. Hounsell, 1997) and psychometric research studies (cf. Lavelle, 1993; Lavelle & Guarino, 2003).

Linking Beliefs and Strategies

Biggs' writing approach model (1988) extends his theory of learning approaches (Biggs, 1987) to writing. Here the assumption was that students' beliefs about college learning affected learning processes or strategies. Lavelle operationalized and extended the writing approach model in constructing the *Inventory of Processes in College Composition* (Lavelle, 1993, Lavelle & Guarino, 2003) which identified five distinct factors based on a psychometric analysis of writers' beliefs, strategies, and level of focus (Appendix B). The first factor *elaborative*, is marked by a search for personal meaning, self-investment, and viewing writing as highly personal and symbolic. The elaborative approach reflects a high level of focus going beyond the specifications of the assignment, including visualization and analogy, generating new ideas, and using transitions or cues to incorporate audience. *Low self-efficacy*, the second factor, describes a highly fearful approach to

writing based on doubting ability and thinking about writing as a painful task. Writers scoring high on this scale are virtually without a strategy, and they find writing a painful task. College writing performance has frequently been associated with self-efficacy (Meier, Mc Carthy, & Schmeck, 1984; Zimmerman & Bandura, 1994) and self-esteem (Daly & Wilson, 1983).

Reflective revision, the third factor, describes a deep writing approach based on a sophisticated understanding of the revision process as a remaking or rebuilding of one's thinking. Reflective revision strategies include taking charge in writing to make meaning using the revision process itself as a core tool. The focus is global as students scoring high on this scale seek to rework meaning with both subordinate and superordinate ideas. The fourth factor, *spontaneous impulsive*, profiles an impulsive and unplanned approach similar to Biggs and Collis' surface restrictive dimension (1982). This approach involves overestimating skills perhaps out of a fear of dealing with what might be limitations hiding behind the writing. The related strategy is free writing alone, and revision is seen as "just touching things up" indicating a local level of focus. The *procedural* approach represents a method-oriented style based on adherence to rules and a minimal amount of involvement similar to Bereiters' communicative (1980) or Biggs and Collis' surface elaborative (1982), "where can I put this information that I just came across?" If you are unsure of yourself, the rules keep you afloat or as Stafford says in *Writing the Australian Crawl* (1978),

> But swimmers know that if they relax on the water it will prove to be miraculously buoyant: and writers know that a succession of little strokes on the material nearest them--without any prejudgements about the specific gravity of the topic or reasonableness of their expectations--will result in creative progress. (p.23)

Reflective revision and elaborative approaches represent the deep dimensions, with procedural, spontaneous-impulsive, and low self-efficacy representing a more superficial, surface approach (Appendix C). In particular, reflective revision represents a deep thinking, analytic component while elaboration reflects the more personal and affective dimension of writing, with both approaches displaying a primarily high or alternating level of focus as indicated by concern for audience, theme, and intention.

Technically, the term "writing style" implies consistency and stability, as though writing were a dimension of personality. However, instruction is about change and modifiability, and the idea of writing approach, rather than style, represents a more flexible dimension, one subject to instructional climates. Here, emphasis is on the "instructional milieu" as linked to promoting deep, meaningful writing. Elements such as the task, context of writing, and how the writing is situated within the course interact with learners' beliefs to affect

writing outcomes. From a research perspective, Biggs et al. (1999) argue for flexibility in the interpretation; the factors may be interpreted as either individual difference or situational variables.

Psychometric research (Lavelle, 1993: Lavelle & Guarino, 2003) serves to define the specific writing approaches as well as to link writing approaches to various writing outcomes and related performance variables. In particular, reflective revision scale scores are strongly predictive of grades in freshman composition (Lavelle) and elaborative scale scores are linked to the quality and complexity of narrative writing (Lavelle & Zurecher, 2001). Similar effects have been found for secondary students (Lavelle, Smith, & O'Ryan, 2002) extending support for the relationship of the approaches that students take in writing to the quality of the written product.

Writing Outcomes

A variety of rubrics has been devised to assess writing with varying levels of success (cf. Crehan, 1997). A major limitation from an instructional perspective, however, lies in the fact that rubrics are generally not based on learning theory. Rather, they are devised from the attributes of a "good" essay, thus being insensitive toward development in writing.

Based on constructivist principles, Biggs and Collis (1982) related the quality of learning to the structural complexity of the written product along a continuum based on five levels of writing performance. The Structure of Learning Outcomes (SOLO) taxonomy was designed to reflect narrative writing on a continuum from less to more cognitively complex forms as reflected in the deep and surface model of student approaches to learning (cf. Biggs, 1987; Entwistle, 1988; Entwistle & Ramsden, 1982; Marton, 1988; Marton & Saljo, 1976; Pask, 1988; Schmeck, 1983). The lowest level, *prestructural* writing, was often incoherent based on fleeting words or impressions, and it was considered to be egocentric, in the Piagetian sense. *Unistructural* writing involves sequencing and usually has a beginning, middle, and end but is concrete. *Multistructural* writing is basically linear but is embellished, often with clichés. Clearly, multistructural writing involving listing and embellishing of ideas is common among writers even at the graduate level. The conventions of writing are used but not integrated to achieve maximum effect. *Relational*, level four, writing is the efficient use of basic writing skills to produce a calculated effect but is limited to the chosen context, a kind of "pulp fiction." The technical components have been mastered and unity and purpose achieved, but the narrative remains firmly within the experience of the writer. In expository writing, writers might focus on organization, elaboration, and summation achieving a cohesive product but fall short in terms of integration or true coherence. Finally, *extended abstract* writing includes metaphoric skill to carry meaning beyond the chosen context

and the creative application of conventions to convey multiple meanings. In extended abstract writing, the words clearly become the servant of the message. In expository writing, thesis is pervasive even at the sentence and word levels. The SOLO taxonomy has been applied to expository writing as well as to narrative tasks (Biggs & Collis, Lavelle, 1997).

More recently, Lavelle designed a two-tier rubric based on the deep and surface taxonomy and used it to assess the quality of undergraduate writing as reflected in student portfolios (Lavelle, 2003). Here, deep writing outcomes were defined as having a hierarchical structure, a high level of integration, audience concern, layers of meaning, and a degree of "transparency" as linked to the author's intentions. Surface writing was more linear and generally involved listing of bits and pieces of information with no apparent author involvement and no hierarchical structure. Writing assessment based on the deep and surface rubric correlated with that assessed by a traditional, wholistic rubric although neither evaluation was linked to general academic performance.

Clearly, surface writing persists at the college level. Even graduate students often ask, "How long does it have to be?," "How many sources do I have to have?" Indeed, a good deal of surface thinking as linear and sequential rather than "thesis supporting" is reflected throughout modern culture. For example, television programs are often comprised of a series of short unrelated scenes; perhaps the only common factor is that they all occur in the same setting. Similarly, college students have grown up in an educational environment that supports this mode. From fill-in-the-blanks, matching, and short answers, to grading college essays based on listing the major points, our system has fostered the acquisition of discrete bits of often unrelated or marginally related information. In a sense, we have taught writing at the expense of composition, or the parts at the expense of the whole. Appendix A represents a taxonomy of deep and surface writing as based on a range of writing approach research.

Writing Environments

How can instructors foster "true" composition, or depth in writing? The answer lies in establishing deep writing environments. Here, emphasis is on all dimensions of instructional communication as teachers design, deliver, and assess student writing performance. Instructors are the "climate-makers" for student writers, and it is important that all aspects of the environment be carefully coordinated to foster a deep, meaningful approach. By understanding the relationship of beliefs and processes, teachers are more able to design effective courses, tasks, and assessments. *Constructive alignment,* basing teaching on what we know about how students learn (write), is critical (Biggs, 1999).The writing approach model makes it possible to design instruction geared toward changing beliefs as well as acquiring strategies.

Constructive alignment (Biggs, 1999) involves careful and comprehensive planning to include the syllabus, assignments, instructional support, and assessments. It is important that instructors provide a consistent and ongoing pattern of deep cues to students to promote rich, meaningful writing along all instructional dimensions. Writing tasks need to be framed in an integrative, meaningful context that lets students know that higher level outcomes are expected (cf. Biggs, 1991). Miscues, such as assigning a certain number of pages, combined with faulty prior learning lead students to produce surface or teacher-pleasing outcomes. Along the same line, teachers can specify deep definitions of the essay rather than imply or infer such conceptions (cf. Stanton, 1984). Too often, teachers' writing expectations are not clearly delineated, especially in the content areas. Professors require X papers over the term, often with little emphasis on expectations or with emphasis on surface criteria.

By encouraging writing that is personally meaningful, and "analogous" to students' lives, instructors can engender deep writing processes. Too often, instruction involves superficially meaningful tasks rather than opportunities that tap the heart or spirit of the individual writer. Students bring both a breadth and depth of information and are often forced to placate, translate, or even fabricate to meet what they perceive as an often sterile academic environment. Highly meaningful or "hot" writing is critical whether it be overt, such as an emotional defense of a controversial topic, or a simple narrative using metaphor to describe a phenomenon of personal interest—a more inferential, covert approach.

The syllabus sets the tone for instruction and is a major tool in promoting constructive alignment (cf. Biggs, 1999). It is important that the syllabus be carefully designed to integrate objectives, tasks, and evaluations as geared toward promoting deep writing. Too often syllabi are segmented, reflecting detached assignments or isolated objectives. Often syllabi lock students into a certain number of assignments, due dates, and complex system of points to be earned. It is as though passing the class becomes a game based on gaining points rather than on making meaning. Writing becomes a chore and an organized display of information geared toward just meeting the goal. Students are not empowered as makers of meaning but rather are forced to look for loopholes.

Feedback should be timely, succinct, and ongoing. Written feedback represents a dynamic transaction based on students' interpretation of comments and directing that interpretation toward revision. Student perspectives shift depending on the stage of the revision (Billings, 1998). It is important that instructors provide prompt written and oral feedback designed to promote conceptual change at a number of levels. This might include comments that encourage analysis, creativity, and perspective taking as well as feedback

designed to move students toward hierarchical structure. Too often students rely on simple sentences and listing and organizing strategies because the educational system has largely rewarded this type of performance. The assumption that mastery of the details will automatically lead to a rich, meaningful outcome is seriously flawed. Students need to be encouraged to make global meaning based on personal relevance and to fully engage in meaningful writing as well as develop micro skills (grammar, punctuation, and sentence structure).

In particular, instructors should model deep writing processes as well as comprehensive revision strategies for students. Here, using the computer in class can serve to promote students' understanding of processes. Instructors can demonstrate alternating the level of focus, revising for voice or audience, and revision at multiple levels. While much research has been devoted to using technology to improve writing, focusing on the effects of the computer as an in-class modeling tool has not received attention.

Assessment should focus on meaning and structure as reflected in integrated rubrics rather than relying on rubrics that address discrete dimensions or focus on the surface skills involved in writing. Similarly, grades should be based on a simple scale; a scale with thirteen levels (A+, A, A-) is too sensitive to accurately reflect the quality of writing performance.

Active and comprehensive revision is a defining element in deep writing. Deep writing rests on a willingness to fully engage the writing task to include active, comprehensive revision as an ongoing strategy rather than as a final stage. Comprehensive revision should be taught as an primary component of the writing process, one fully entwined with writing itself, rather than as a discrete or additional strategy. Here, instructors need to address the meaning and purpose of revision as a critical component, as well as teach related skills and strategies associated with that process.

Conclusions

Unfortunately, our educational system too often fosters a limited, superficial, and repetitive type of writing performance. Even in composition courses, teachers often emphasize the acquisition of skills, such as grammar or syntax, at the expense of meaning. Writing approach theory begins to explain how it is that writing climates interact with critical beliefs, such as writers' conceptions of themselves as authors, to affect the situation of writing. The *Inventory of Processes in College Composition* (Lavelle, 1993) makes it possible to diagnose individual writing approaches as well as to design more individualized and effective, process-based instruction.

Ellen Lavelle, Ph.D., is an Associate Professor in the Department of Educational Leadership at Southern Illinois University at Edwardsville in Edwardsville, Illinois.

References

Bereiter, C. (1980). Development in writing. In L. W. Gregg & E. R. Steinberg (Eds.), *Cognitive processes in writing* (pp. 73-93). Hillsdale, NJ: Lawrence Erlbaum.

Biggs, J. B. (1987). *Student styles to learning and studying.* Melbourne: Council of Educational Research.

Biggs, J. B. (1988). Approaches to learning and essay writing. In R. R. Schmeck (Ed.), *Learning strategies and learning styles* (pp. 185-228). New York: Plenum.

Biggs, J. B. (1991). Enhancing learning in the context of school. In R. Mulcahy, R. Short, & J. Andrews (Eds.), *Enhancing learning and thinking* (pp. 35-52). New York: Praeger.

Biggs, J. B. (1999). *Teaching for quality learning at university.* Philadelphia: Open University Press.

Biggs, J. B., & Collis, K. (1982). The psychological structure of creative writing. *Australian Journal of Education, 26,* 59-70.

Biggs, J. B., Lai, P., Tang C., & Lavelle, E. (1999). Teaching writing to ESL graduate students: A model and illustration. *British Journal of Educational Psychology, 69,* 293-306.

Billings, S. J. (1998, April). *The story of shifting perspectives: How instructors and students construct and use instructors' comments on drafts and final versions.* Paper presented at the annual meeting of the National Council of Teachers of English Conference, Chicago, IL. (ERIC Document Reproduction Service No. ED422589)

Crehan, K. (1997, October). *A discussion of analytic scoring for writing performance assessments.* Paper presented at the annual meeting of the Arizona Educational Research Association, Phoenix, AZ. (ERIC Document Reproduction Service No. ED 414 336)

Daly, J. A., & Wilson, D. A. (1983). Writing apprehension, self-esteem and personality. *Research in the Teaching of English, 17,* 327-342.

Entwistle, N. (1988). Motivational factors in students' approaches to learning. In R. R. Schmeck (Ed.), *Learning strategies and learning styles* (pp. 21-51). New York: Plenum.

Entwistle, N., & Ramsden, P. (1982). Understanding student learning. London: Social Science Research Council. (ERIC Document Reproduction Service No. ED 244 959)

Hayes, J., & Flower, L. (1980). Identifying the organization of writing processes. In L. W. Gregg and E. R. Steinberg (Eds.), *Cognitive processes in writing* (pp. 3-30). Hillsdale, NJ: Lawrence Erlbaum.

Hounsell, D. (1997). Learning and essay-writing. In F. Marton, D. Hounsell, & N. Entwistle, (Eds.), *The experience of learning* (pp. 106-125). Edinburgh: Scottish Academic Press.

Lavelle, E. (1993). Development and validation of an inventory to assess processes in college composition. *British Journal of Educational Psychology, 63,* 489-499.

Lavelle, E. (1997). Writing styles and the narrative essay. *British Journal of Educational Psychology, 67,* 475-482.

Lavelle, E. (2003). The quality of university writing: A preliminary analysis of undergraduate portfolios. *Quality in Higher Education, 9,* 313-332.

Lavelle, E., & Guarino, A. J. (2003). A multidimensional approach to understanding college writing processes. *Educational Psychology, 23,* 295-305.

Lavelle, E., Smith, J., & O'Ryan, L. (2002). The writing approaches of secondary students. *British Journal of Educational Psychology, 72,* 399-418.

Lavelle, E., & Zuercher, N. (2001). Writing approaches of university students. *Higher Education, 40,* 373-391.

Marton, F. (1988). Describing and improving learning. In R. R. Schmeck (Ed.), *Learning strategies and learning styles* (pp. 53-82). New York: Plenum.

Marton, F., Hounsell, D., & Entwistle, N. (1997). *The experience of learning.* Edinburgh: Scottish Academic Press.

Marton, F., & Saljo, R. (1976). On qualitative differences in learning: Outcome and process. *British Journal of Educational Psychology, 46,* 115-127.

Mc Cutchen, D. (1986). Domain knowledge and linguistic knowledge in development of writing ability. *Journal of Memory and Language, 25,* 431-444.

Meier, S., McCarthy, P., & Schmeck, R. (1984). Validity of self-efficacy as a predictor of writing performance. *Cognitive Therapy and Research, 8,* 107-120.

Moxley, J. M. (1987). The uninvolved = poor writers. *College Teaching, 35,* 16-18.

Pask, G. (1988). Learning strategies, teaching strategies and conceptual or learning style. In R. R. Schmeck (Ed.), *Learning strategies and learning styles* (pp. 83-100). New York, Plenum.

Ryan, M. (1984). Conceptions of prose coherence: Individual differences in epistemological standards. *Journal of Educational Psychology, 76,* 1226-1238.

Schmeck, R. R. (1983). Learning styles of college students. In R. Dillon & R. R. Schmeck (Eds.), *Individual differences in cognition* (pp. 233-279). New York: Academic Press.

Schmeck, R. R. (1988). *Learning Strategies and learning styles.* New York: Plenum.

Silva, T., & Nicholls, J. (1993). College students as writing theorists: Goals and beliefs about the causes of success. *Contemporary Educational Psychology, 18,* 281-293.

Stafford, W. (1978). *Writing the Australian crawl.* Ann Arbor, MI:

The University of Michigan Press.
Stanton, H. E. (1984). Improving the quality of written work. *Improving College and University Teaching, 32,* 138-139.
Zimmerman, B. J., & Bandura, A.

(1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal, 31,* 845-862.

Appendix A

Characteristics of Deep and Surface Writing

Deep Writing	Surface Writing
Metacognitive, reflective	Redundant, reproductive
High or alternating level of focus	Focus at the local level
Hierarchical organization	Linear, sequential structure
Engagement, self-referencing	Detachment
Actively making meaning (agentic)	Passive ordering of data
Audience concern	Less audience concern
Thinks about essay as an integrated whole	Sees essay as an organized display
Thesis-driven	Data-driven
Revision	Editing
Transforming, going beyond assignment	Telling within the given context
Autonomous	Rule-bound
Teacher independent	Teacher dependent
Feelings of satisfaction, coherence, and connectedness	

Appendix B

Approaches to Writing

Approach	Motive	Strategy
Elaborative	To self-express	Visualization, audience, voice
Low Self-Efficacy	To acquire skills, avoid pain	Study grammar, collaborate, find encouragement
Reflective Revision	To make meaning	Revision, reshaping, drafting
Spontaneous-Impulsive	To get done	Last minute, no planning or revision, just like talking
Procedural	Please the teacher	Observe rules, organize, manage writing

Appendix C

Inventory of Processes in College Composition: Sample Statements

FACTOR I Elaborative

1. Writing makes me feel good.
2. I tend to give a lot of description and detail.
3. I put a lot of myself in writing.
4. I use written assignments as learning experiences.

FACTOR II Low Self-Efficacy

1. I cannot write a term paper.
2. Writing an essay or paper is always a slow process.
3. Having my writing evaluated scares me.
4. I need special encouragement to do my best writing.
5. My writing rarely expresses what I really think.

FACTOR III Reflective Revision

1. I re-examine and restate my thoughts in revision.
2. There are many ways to write a written assignment.
3. The reason for writing an essay really matters to me.
4. My first draft is never my finished product.
5. Revision is the process of finding the shape of my writing.

FACTOR IV Spontaneous-Impulsive

1. My writing 'just happens' with little planning or preparation.
2. I often do written assignments at the last minute and still get a good grade.
3. I never think about how I go about writing.
4. Often my first draft is my finished product.
5. I plan, write and revise all the same time.

FACTOR V Procedural

1. When writing an essay, I stick to the rules.
2. I keep my theme or topic clearly in mind as I write.
3. I can usually find one main sentence that tells the theme of my essay.
4. The teacher is the most important audience.
5. My intention in writing papers or essays is just to answer the question.

IMPACT OF PAIRED TUTORING AND MENTORING

By Jennifer E. Bruce and Jack Trammell, Randolph-Macon College

Abstract

The effect of paired tutoring and mentoring on academic achievement of college freshmen in a probationary or early warning program is investigated in an experimental study conducted at a small, private liberal arts college. A significant treatment effect reveals that students who are provided with mentoring and tutoring services by the same person show greater academic gains as measured by compliance and academic achievement than do students provided with mentoring and tutoring services by different persons.

Introduction

The effectiveness of tutoring and mentoring on the academic achievement of first year college students has been documented in a number of recent studies (Boylan, Bonham, & Bliss, 1994; Goodlad, 1998; Metcalf, 1996; Raybow, Chin, & Fahimian, 1999). For first year students who experience academic difficulty and are enrolled in an early warning or probationary program, tutoring and mentoring support becomes even more crucial (Obler, 1977; Oestereicher, 1987; Wallace & Abel, 1997). Many freshmen on probation, considered "at-risk" for persisting to graduation, fail to meet with tutors as frequently as advised or required by academic support programs (Bruce & Trammell, 2003; Hodges, 1997; Tipper, 1999). Although successful students who are self-directed typically access and use academic resources effectively, students who are at-risk academically often do not recognize or acknowledge the need for doing so (Hodges & White, 2001; Young & Ley, 2000, 2001). This lack of self-direction and willingness to take advantage of academic resources may translate into noncompliance with academic support programs (Friedlander, 1980; Tipper, 1999).

Compliance, defined here as the willingness to seek out and participate in required academic support activities while on probation, is related to the concept of metacognition and student willingness to take personal responsibility for one's own learning (Devlin, 2002; Young & Ley, 2002). In the case of student athletes, willingness to accept help is related to patterns of autonomy, a need to maintain a self-image of a "winner" (Simons & Van Rheenan, 2000) and a strict interpretation of success or failure (Hodges, Dochen, & Joy, 2001). For at-risk students, compliance is often associated not only with improving attitudes and behavior, but also with simultaneous improvement of cognitive skills (Bender, 2001).

For freshmen in an early warning or probationary program, motivation often appears to be a key factor in compliance (Friedlander, 1980; Nonis, Wright, & Philhours, 2001). Those students who are motivated to be compliant are much more likely to improve their grades and thus move out of academic jeopardy. A related issue is self-perception. Many at-risk students have inaccurate and inflated perceptions about their academic progress (Hodges & White, 2001). Although many of the above studies have successfully identified factors related to probationary students' achievement, little research has focused on strategies for connecting students to mentoring and tutoring services. It appears that it would be helpful to evaluate the effect of combining the role of tutor with that of mentor to determine if compliance increases when services are delivered by one provider (i.e., as opposed to two separate individuals) and whether there would be an increase in academic achievement.

In addition to providing personal support for struggling first year students, another important goal of early intervention is to improve retention (Boylan, Bonham, Claxton, & Bliss, 1992). Many colleges and universities require freshmen experiencing early academic difficulties to participate in early warning or probationary programs. The process for determining the onset of the intervention program varies. Frequently, a midterm warning issued to students triggers intervention in the form of a support program. Other schools utilize first year experience classes to intervene. The typical first year experience class is designed to assist students in adjusting to college and maximizing their potential in coursework. Required meetings with mentors, who are trained to provide appropriate interventions and referrals to support personnel, are a component of most intervention program or classes. Most support programs also include tutoring as needed because tutoring has been found to have a positive impact on final course grades, course completion rates, student attitudes toward instruction, and persistence to graduation (Boylan, Bonham, Bliss, & Saxon, 1995). A breakdown often occurs, however, when students do not seek tutoring assistance despite the recommendations or requirements of the mentor (Bruce & Trammell, 2003) or due to a lack of self-perceived need (Lan, 1998; Ley & Young, 1998). Students may take advantage of tutoring services in varying degrees depending in part on their motivation, perceived need, and ability to self-direct.

The purpose of the present study was to investigate the effect of paired tutoring and mentoring on the compliance of freshmen in an intervention program and whether increased compliance would lead to improved academic achievement.

Method

Participants

This study was conducted at a small, private liberal arts college in Ashland, Virginia, during the 2002-2003 academic year. The school enrollment for that year was just over 1100. Of the 377 incoming freshmen enrolled, 77 (20.4%) were placed in an early warning program ("Deans' Probation") after receiving two or more unsatisfactory (Ds or Fs) midterm grades. Twenty-four students in the warning program were selected from the pool of 77 by selecting every third student from an alphabetical list. These 24 students were then rank ordered by Verbal SAT scores and paired to create two roughly equivalent groups. The two groups were designated at random to be either experimental or control subjects. Both experimental and control groups included three subgroups of four students and one mentor or mentor-tutor each.

The students in the three experimental subgroups met at least one hour weekly for six weeks with a trained mentor-tutor, and no referrals to additional tutors were made. Instead, the mentor-tutor added tutoring time to the weekly mentoring session for the subjects where a D or F was given at midterm. Students in the three control subgroups met at least one hour weekly with a mentor who made referrals to additional tutors for each subject where a D or F was assigned at midterm. The mean verbal SAT score for students in the experimental group was 486 compared to 509 for the control group subjects. Each subgroup included 4 athletes, and neither group contained students with self-disclosed disabilities. The ratio of men to women in the experimental group was 5/5 and for the control group was 8/2. Though a small number of students with self-disclosed disabilities were in the first year probation program, none of them were randomly selected to be included in either group. The researchers realized that there was a possibility of some students leaving the school because of early academic difficulties and, in fact, only 20 students finished the study, leaving 10 students each in the control and experimental groups.

Design and Procedure

The study followed a pre-test (mid-term unsatisfactory grades), intervention (probation program), and post-test (final semester grades) model with an experimental and control group. The independent variable was the method of delivering tutoring services (paired or separate). The control group received tutoring within the traditional format for the college's early warning program. They met weekly with an assigned mentor, and the mentor referred the student to the appropriate tutors. The student agreed in a written contract to seek tutoring a specified number of times, and the student was then monitored by the academic center to document tutoring and mentoring sessions completed.

The experimental group received mentoring and tutoring simultaneously during the required weekly mentoring meetings, with one student serving as both mentor and tutor ("mentor-tutor").

Because it has been shown that tutoring programs featuring a tutor-training component make a more significant contribution to students' success than do programs that utilize untrained tutors (Boylan et al., 1992), all mentors and mentor-tutors in the present study received roughly equivalent training in mentoring and tutoring strategies in programs fully accredited by the College Reading and Learning Association (CRLA). Tutors received training only in the tutoring program accredited by the CRLA. Therefore, the mentor-tutors were fully trained to function as both mentors and tutors while tutors were trained only in tutoring techniques. The three mentor-tutors and the three tutors each had at least one prior year of experience tutoring in the college academic center. Skills and tutoring experience of staff in the experimental and control groups were as balanced as possible.

Levels of Compliance Defined

For the purposes of this study, definitions of the various levels of compliance were defined before the groups were formed. Compliance was divided into three categories. Noncompliance was defined as participating in no tutoring or meeting less than half the required times with a mentor or mentor-tutor. Partial compliance was defined as attending between 50% and 89% of separate mentoring and tutoring or combined mentoring-tutoring meetings. Compliance was defined as attending at least 90% of total required meetings.

Results

Of the 24 freshmen assigned at random to either the experimental or control groups, four students separated from the college for various reasons, giving medical or personal reasons for withdrawing. Although the loss of subjects was substantial, the loss was equal in both groups and reflects more on the general population of at-risk students than it detracts from the internal validity of the study. As stated above, loss of subjects was built in as an assumption and, consequently, the analyses reported below are based on a total of 20 subjects, 10 in the experimental group and 10 in the control group. There were no reasons to suspect that the separations were related to the treatments, nor were any statistically significant differences found with respect to Verbal SAT scores, athletic participation, or gender.

Analysis of the data revealed that compliance with the probationary program resulted in an increase in achievement, as measured by grade point average (GPA), at the end of the semester. This was true across both groups. Students who were noncompliant ($n = 8$) had an average GPA of 1.10 while those who

were compliant ($n = 3$) had an average GPA of 2.25. Students who were partially compliant ($n = 9$) had an average GPA of 1.44.

When measuring compliance, there was a slight mean difference between groups. On a sliding scale of 0 for noncompliant, 1 for partially compliant, and 2 for compliant, students in the experimental group averaged .8, or close to the value for partially compliant, while control group students averaged .7, slightly less compliant. The difference was not statistically significant. When combing "partially compliant" and "compliant," however (and treating both as having received at least *some* services), 70% of the experimental group was at least partially compliant (as opposed to 50% in the control group). Given the connection between compliance and end of the term GPA, this is an important finding.

A *t*-test for end-of-term GPA revealed that GPAs within the groups did not vary significantly; however, there was a numeric difference between group means that was worth noting. Mean GPA for the experimental group was 1.58, while mean GPA was 1.27 for the control group, or a .31 difference (roughly a third of a letter grade). While not significant statistically (probably due to sample size), this is encouraging anecdotal evidence that the experimental treatment at the minimum was not interfering with academic progress, and may in fact have had a significant positive effect within the context of a larger sample size. Likewise, gender differences (male GPA = 1.38; female GPA = 1.51) and athlete/non-athlete differences (athlete GPA = 1.16; non-athlete = 1.60) were present but not statistically significant. It may also be noted that GPA rises with level of compliance (see Figure 1).

Figure 1. Graph demonstrating that GPA rises with level of compliance.
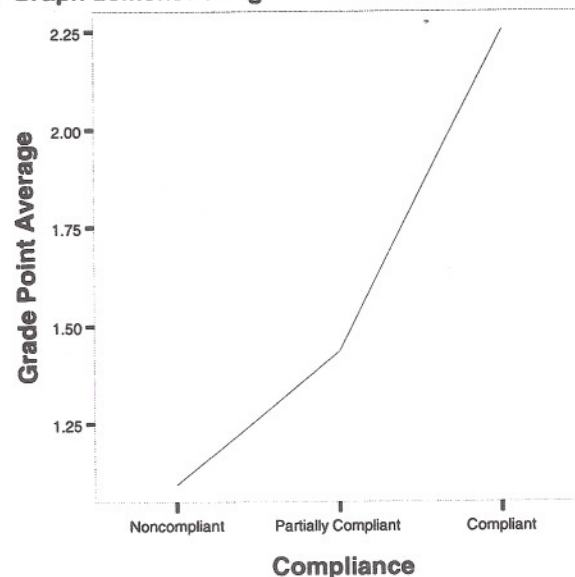
More importantly, the *t*-test revealed that the experimental group did have a significant difference in terms of DP Boost (p< .05). DP Boost is a raw figure totaled from each unsatisfactory grade that went up (+1), stayed the same (0), or went down (-1). For example, a student with one unsatisfactory grade up and one the same would have a DP Boost of positive 1. Students in the experimental group averaged 1.5 units of Boost while those in the control group actually declined (-20). Although this test examined only classes with deficiencies (and GPA at end of term looked at all classes), it revealed a truer picture of the treatment impact and again gave strong evidence that paired tutoring and mentoring is more effective than split services.

A regression model for paired tutoring and mentoring that looked for DP Boost and included compliance, level of English class (freshmen can take supported, regular, or advanced English), experimental or non-experimental group, Verbal SAT score, gender, number of classes, and athlete status as predictor variables resulted in a reasonably high R^2 of .667. Within that model, experimental or non-experimental group was significant (.007) when controlling for all other variables.

Discussion

Despite the statistical significance associated with the treatment effects in this study (primarily as it relates to DP Boost and compliance), it is also fair to balance the magnitude of the effect against the relatively small number of subjects. Caution should be taken in generalizing from the study to larger populations, and one may argue against claiming educational significance for these results.

However, even granting a reasonable caution due to an effect based on a small number of subjects, there are some aspects of the results that cannot reasonably be attributed to a chance occurrence. The results in DP Boost in particular suggest a real treatment effect in this specific environment.

One factor that cannot be easily quantified is the human element of tutoring and mentoring. In every tutoring and mentoring program, some shifts may need to be made in the pairings when personalities clash or circumstances suggest a better match with someone else. No such shifts occurred in this study although the possibility was not ignored.

Overall, the data suggest that within the limitations described, combining mentoring and tutoring services in one person has the potential to increase compliance among at-risk freshmen with a concomitant increase in academic achievement as measured by end of semester grades.

Pairing services, when qualified mentor-tutors are available, makes sense on

many levels. It saves money, streamlines resources, and gets help to students more quickly and more directly. The results of this study suggest that there are also sound pedagogical reasons for doing it.

The very characteristics of students likely to end up on probation (less motivated, less organized, less likely to seek help, etc.) are addressed by the combined mentor-tutor model. This provides partial evidence that keeping and retaining at-risk students usually means intervening as directly as possible and should be further investigated.

Jennifer Bruce, Ph.D., is the Director of Instruction, Higgins Academic Center at Randolph-Macon College in Ashland, Virginia.

Jack Trammel, is the Director of Disability Support Services, Higgins Academic Center at Randolph-Macon College in Ashland, Virginia.

References

Bender, D. (2001). Effects of study skills programs on the academic behavior of college students. *Journal of College Reading and Learning, 31*, 209-216.

Boylan, H. R., Bonham, B. S., & Bliss, L. (1994). Characteristic components of developmental programs. *Research in Developmental Education, 14* (1), 1-4.

Boylan, H., Bonham, B., Bliss, L., & Saxon, D. (1995). What we know about tutoring: Findings from the National Study of Developmental Education. *Research in Developmental Education, 12* (3), 1-4.

Boylan, H., Bonham, B., Claxton, C., & Bliss, L. (1992, November). *The state of the art in developmental education*. Paper presented at the First National Conference on Research in Developmental Education, Charlotte, NC.

Bruce, J., & Trammell, J. (2003). *Deans' Probation Report*. Ashland, VA: Randolph-Macon College, Higgins Academic Center.

Devlin, M. (2002). Taking responsibility for learning isn't everything: A case for developing tertiary students' conceptions of learning. *Teaching in Higher Education, 7* (2), 125-138.

Friedlander, J. (1980). Are college support programs and services reaching high-risk students? *Journal of College Student Personnel, 21*, 23-28.

Goodlad, S. (Ed.). (1998). *Mentoring and tutoring by students*. London: Kogan Page.

Hodges, R. (1997). The effect of self-monitoring strategies and verbal prompts on high-risk students' attendance in tutoring and Supplemental Instruction and their academic achievement. *Dissertation Abstracts International, 59* (02A), 0429.

Hodges, R., Dochen, C., & Joy, D. (2001). Increasing students' success: When Supplemental Instruction becomes mandatory. *Journal of College Reading & Learning, 33*, 143-156.

Hodges, R., & White, W. (2001). Encouraging high-risk student participation in tutoring and Supplemental Instruction. *Journal of Developmental Education, 24* (3), 1-10.

Lan, W. (1998). Teaching self-monitoring skills in statistics. In D.H. Schunk & B.J. Zimmerman (Eds.), *Self-regulated learning: From teaching to self-reflective practice* (pp. 86-105). New York: Guilford.

Ley, K., & Young, D. (1998). Self-regulation behaviors in underprepared (developmental) and regular admission college students. *Contemporary Educational Psychology, 23*, 43-64.

Metcalf, K. J. (1996). The impact of the training format on tutors' attitudes, beliefs, values and practices in college level tutoring. *Dissertation Abstracts International, 57* (09), 3780A.

Nonis, S., Wright, D., & Philhours, M. (2001). Moderating effects of achievement motive and situational optimism on the relationship between ability and performance perceptions among college students. Retrieved January 29, 2003, from http://www.sbaer.uca.edu/Research/2001/SMA/01sma126.html.

Obler, M. (1977). Combining of traditional counseling, instruction, and mentoring functions with academically deficient college freshmen. *Journal of Educational Research, 70*(3), 142-147.

Oestereicher, M. (1987). Effectiveness of peer mentor-tutors for disadvantaged students at Brooklyn College: Preliminary analyses. *Linkages: Perspectives from Special Programs, 5*(1), 27-33.

Raybow, J., Chin, T., & Fahimian, N. (1999). *Tutoring Matters*. Philadelphia: Temple University Press.

Simmons, H., & Van Rheenen, D. (2000). Noncognitive predictors of student athletes' academic performance. *Journal of College Reading and Learning, 30*, 167-181.

Tipper, M. (1999). Real men don't do writing centers. *The Writing Center Journal, 19*(2), 33-40.

Wallace, D., & Abel, R. (1997, November). Clearing a path for success: Deconstructing Borders in higher education through undergraduate mentoring. Paper presented at The meeting of the Association for the Study of Higher Education, Albuquerque, NM.

Young, D. B., & Ley, K. (2000). Developmental students don't know that they don't know: Part I: Self regulation. *Journal of College Reading and Learning, 31*, 54-59.

Young, D. B., & Ley, K. (2001). Developmental students don't know that they don't know: Part

II: Bridging the gap. *Journal of College Reading and Learning, 31*, 171-178.

Young, D. B., & Ley, K. (2002). Brief report: Self-advocacy of developmental college students. *Journal of College Reading and Learning, 33*, 21-31.

HEALTH CHECKLIST FOR SUPPLEMENTAL INSTRUCTION PROGRAMS

By Dennis H. Congos, University of Central Florida

Abstract

After a Supplemental Instruction (SI) program is up and running, it is useful to have a health check-up periodically to see how vigorous the program is. What diminishes the impact of any SI program on student academic performance is the shaving of activities from the original model.

This article presents a health checklist based on the elements of a fully functioning SI program and is derived from several sources: SI Supervisor's Training Manual from University of Missouri at Kansas City, the experience of a certified SI trainer and consultant with 18 years experience managing SI programs, and research on SI programs. A considerable number of problems and solutions for SI programs were also assembled from SI supervisors at a workshop at the 35th Annual Conference of the College Reading and Learning Association (Congos, 2002).

Background on the Supplemental Instruction (SI) Program

Supplemental Instruction (SI) began in 1973 at the University of Missouri at Kansas City (UMKC) in the medical school as an academic assistance and retention program (Blanc, DeBuhr, & Martin, 1983). After a rigorous review process in 1981, the SI Program became one of the few postsecondary programs to be designated by the U.S. Department of Education as an Exemplary Educational Program, that is, it was actually proven to increase retention and academic performance (University of Missouri at Kansas City [UMKC], 1997). SI was so successful in achieving its aims that the federal government's National Diffusion Network (NDN), the national dissemination agency for the U.S. Department of Education, provided federal funds for dissemination of SI until the NDN was discontinued by the U.S. government (UMKC, 1997). Specifically, the following three findings were validated by the U.S. Department of Education (UMKC, 1997).

1. Students who participate in SI earn higher final course grade averages than students who do not participate. This remains true even when differences in ethnicity and prior academic achievement are considered.

2. Students who participate in SI succeed at a higher rate (i.e., have lower withdrawal rates and receive lower percentages of D and F final course grades) than those who do not participate.

3. Students participating in SI persist and re-enroll and graduate at higher rates than students who do not participate.

SI is a proactive, non-remedial, academic assistance program that focuses on historically-difficult courses and not on high-risk students. An historically-difficult course is one in which one third or more of those enrolled typically earn grades of D, F, or withdraw. The emphasis in SI is on helping students acquire and refine the college level learning skills indispensable to mastering college level course content. SI sessions are led by peers, called SI leaders, specially trained to help students refine how to learn the course content, understand course content, and become independent learners. Typically, SI sessions focus on the acquisition or adaptation of the skills needed for efficient and effective learning of the course's subject matter. Attendance is normally voluntary with attendees determining what is covered by their questions and requests. SI leaders are trained to get students to collaborate to build answers to questions or solutions to problems using lectures and textbooks as a baseline for needed information. After information is determined by the SI participants to be complete and accurate, a study skill for learning and remembering this material is woven into the session. In this manner, SI participants use course content to refine and master the skills essential for learning that course content.

SI leaders are expected to work 10 hours per week for which they receive an hourly wage that ranges from \$5.50 to \$12.00 per hour depending on the institution. The 10 hours are broken down as follows: 3 hours in class lecture, 3 hours leading SI sessions, 2 hours in training (1 hour in a weekly staff training meeting and 2 one-half hour feedback meetings with an SI mentor or supervisor who has observed an SI session), 1 hour preparation time, and 1 hour to meet with the instructor of the SI course (if the faculty member waives this meeting, the SI leader is expected to offer an additional SI session).

The Checklist

Each element of a fully functioning, thus healthy SI program, is presented in a list format. Under each element, there is an opportunity to do some analysis if that element is missing. For each missing element, the evaluator can begin to formulate plans to incorporate that element in their SI program in the future.

The format for this article, a checklist, was chosen for three purposes: to pioneer a new model for SI evaluation, to most effectively communicate this information, and to provide utility beyond a simple reading of another article on SI. The checklist can help SI coordinators and supervisors perform an evaluation of their programs. It can also help diagnose problems and identify areas for improvement when anticipated results do not appear on end-of-semester data. The healthier the SI program, the more likely it is to perform as it is designed to do: improve student academic performance and increase retention. Conversely, as the health of an SI program declines, SI programs are correspondingly less and less likely to deliver the widely published benefits. The results of this checkup will provide information on which to base refinements in order to most efficiently attain the benefits of an SI program: better grades for students, increased retention, and greater amounts of retained revenue from lower attrition (Congos, 2001-2002).

SI supervisors are encouraged to complete this health survey and show the results to supervisors and university administrators. Unless programs are supplied with sufficient resources to operate as they are designed to do, no one can reasonably expect them to achieve the results they are designed to achieve. For example, if limited resources limit or prevent proper training and supervision of SI leaders, but the institution is concerned with poor academic outcomes, solid reasons for the academic malady can be presented to administrators.

Health Checklist for Supplemental Instruction Programs

Directions: Rate each item according to the scale below. The total score at the end will give you a score to determine the health of the SI program.

3 Did	2 Did Somewhat	1 Did not do
For every "Did not do" please include the reason it was not done.		

#1 How Healthy is Your SI Leader Pre-semester Training?

Without the proper training in what SI is, how it works, session leadership skills, and how to weave skills for learning into sessions, student SI leaders are not likely to provide the help students need to improve grades. (Rate each item according to the scale.)

☐ 1. Provided a clear agenda.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 2. Provided each SI leader trainee with a UMKC SI leader training manual or equivalent.

If not, what are the reasons? _____
What can you do about this next time? _____

- [ ] 3. Arranged for a welcome by a college administrator (the higher the position the better).
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 4. Overviewed the SI program and its goals.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 5. Communicated the expectations of an SI leader position.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 6. Covered the details of how SI works.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 7. Had SI leaders sign a contract of commitment to the SI program.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 8. Covered information on how to incorporate study skills information into SI sessions:

Learning Styles	Time Management	Test Preparation
Self-testing	Test taking	Note organization
Textbook skills	Concentration	Memory

  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 9. Covered the proper use of the SI sessions' sign-in sheet.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 10. Went over the details in the SI leader job description.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 11. Had SI leaders sign a confidentiality agreement regarding the handling of grades and personal information.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 12. Explained the system for tracking who attends SI sessions and how

often.
If not, what are the reasons? _____
What can you do about this next time? _____

- [ ] 13. Provided sample test results report form and covered the procedure for reporting test score differences to SI classes between SI and non-SI attendees.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 14. Provided snacks for breaks.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 15. Covered institutional policies and procedures for student employees.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 16. Covered the use of how-to, hands-on modeling of effective study skills in SI sessions with notecards and/or the Cornell System.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 17. Covered the procedures for getting chalk, markers, erasers, and so forth as needed.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 18. Circulated a model of a notebook containing organized copies of learning skills handouts.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 19. Circulated a model of a notebook containing organized SI leader training handouts.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 20. Circulated and discussed samples of SI promotional handouts that encourage attendance.
  If not, what are the reasons? _____
  What can you do about this next time? _____

- [ ] 21. Reviewed how to present study skills handouts properly in SI sessions rather than simply handing them out.

If not, what are the reasons? _____
What can you do about this next time? _____

☐ 22. Covered procedures for recording attendance in SI sessions
(arrangements for late arrivals, early exiters, noisy attendees, etc.).
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 23. Arranged for a sample lecture for use in SI leader role-playing (from
an instructor or the SI supervisor).
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 24. Modeled sample SI sessions – good and bad – live or on tape – and
discussed what was observed.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 25. Provided opportunities for SI leader trainees to role play SI sessions
in front of other SI leader trainees.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 26. Explained how the SI program is evaluated – attendance, grades,
surveys (student and faculty).
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 27. Made as many activities in SI training as "hands-on" or "active" as
possible.
If not, what are the reasons? _____
What can you do about this next time? _____

#2 How Healthy is Your SI Faculty Training?

Since SI is an adjunct to regularly taught classes, it is vital to have the
instructor's support and consent to have SI attached to particular classes.
Instructors should understand what SI is, how it works, what their role is, how
they may contribute to SI's success, how SI is administered, and what are the
expected results. Instructors who believe in the effectiveness of SI will
encourage their students to attend sessions. (Rate each item according to the
scale.)

☐ 28. Provided reading material for faculty on what SI is, SI research, past
faculty comments, listing of their roles in SI, and so forth.

☐ 29. Made sure that each faculty member agreed to have an SI component
attached to the class.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 30. Explained to faculty what an SI program is.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 31. Described how SI works and some of the results of regular SI
attendance.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 32. Explained to each faculty member exactly what is an SI faculty
member's limited but crucial role.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 33. Invited the faculty member to supply desk copies of texts,
workbooks, study guides, and a syllabus for SI leaders to use.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 34. Explained how important it is for the faculty member to introduce SI
to the class and make announcements each week.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 35. Communicated that SI is for all students and not just for students
having academic difficulty.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 36. The faculty member agreed to provide test scores to the SI
supervisor as soon as possible after grading each test.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 37. The faculty member agreed to report the difference between SI and
non-SI attendees or allow this to be done for each test.
If not, what are the reasons? _____

What can you do about this next time? _____

☐ 38. The faculty member agreed to encourage students at least once per week. to attend SI sessions.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 39. The faculty member provided a copy of each test to the SI leader for the purpose of a post-test review to refine study skills.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 40. The faculty member allowed class time for a 15 minute end-of-semester survey, if necessary.
If not, what are the reasons? _____
What can you do about this next time? _____

#3 How Healthy are Your SI Leader Weekly Training and Staff Meetings?

Weekly training meetings are important for developing SI leader skills. They are also an excellent opportunity for new SI leaders to bring up problems and receive feedback from veteran SI leaders and the supervisor. These sessions can be used to bring in information on learning styles, personality styles, cognitive development, college level learning skills, and proper referral techniques to campus resources. It is also a good way to help SI leaders monitor themselves to avoid activities such as relecturing, doing the work for students, and not modeling effective study skills. (Rate each item according to the scale.)

☐ 41. Discussed proper referral to campus services and resources and follow-up techniques.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 42. Administered a personality inventory (e.g., Myers-Briggs), presented developmental theories, learning theories, and the relationship of these to learning and leadership styles.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 43. Practiced the use of collaborative learning techniques.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 44. Modeled and practiced how to facilitate icebreakers, redirecting questions to the group, and keeping students interacting.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 45. Discussed modeling vs. telling and the effect of each on learning.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 46. Covered the different leadership styles and their effect on interaction and participation in SI sessions.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 47. Covered the characteristics of a good relationship with faculty members.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 48. Discussed techniques for marketing and promoting attendance at SI sessions.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 49. Exchanged ideas on various ways to handle difficult students and situations.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 50. Included learning skills and learning styles diagnostic tests and their relationship to SI session activities.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 51. Defined clearly what professional behavior is expected of SI leaders.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 52. Practiced responding to difficult questions or situations in SI sessions (role-playing).
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 53. Created a teamwork orientation – encouraged teamwork to solve problems such as generating alternative solutions for common

problems or situations that occur in SI sessions.
If not, what are the reasons? _____
What can you do about this next time? _____

54. Had each SI leader name one activity they did well in an SI session and one activity they did that did not work well. The group brainstormed improvements for the unproductive activities.
If not, what are the reasons? _____
What can you do about this next time? _____

55. Discussed when are the best times to present specific study skills during the semester.
If not, what are the reasons? _____
What can you do about this next time? _____

56. Brought in a professor to deliver a short lecture where SI leaders took notes and then practiced their leadership technique in front of the group.
If not, what are the reasons? _____
What can you do about this next time? _____

#4 How Healthy is Your SI Session Observation and Feedback?

Regular observation and feedback to SI leaders is a crucial part of an SI program. To maximize their impact on student academic performance, SI leaders need praise when they demonstrate activities consistent with the SI model, and they need feedback and information on activities inconsistent with the SI model. Without this regular feedback, SI leaders tend to slip into the relecturing mode which minimizes the impact of SI on final course grades and retention. (Rate each item according to the scale.)

57. Performed regular observations of SI sessions and provided feedback after SI sessions.
If not, what are the reasons? _____
What can you do about this next time? _____

58. Shared and celebrated successes.
If not, what are the reasons? _____
What can you do about this next time? _____

59. Encouraged SI leaders to share successful problem solving behaviors and thinking strategies.
If not, what are the reasons? _____
What can you do about this next time? _____

60. Fostered open communication from SI leaders and demonstrated receptive listening skills.
If not, what are the reasons? _____
What can you do about this next time? _____

61. Provided feedback, not criticism, after SI session observations.
If not, what are the reasons? _____
What can you do about this next time? _____

62. Provided clear, visible, and concise documentation of what each leader does well and how each can deliver better service to SI students if changes are made in leadership style.
If not, what are the reasons? _____
What can you do about this next time? _____

63. Met one-to-one with SI leaders at their request or had such meetings regularly scheduled.
If not, what are the reasons? _____
What can you do about this next time? _____

64. Videotaped SI sessions to promote solidification of leadership techniques that worked well and to modify techniques that would deliver greater benefits if refined.
If not, what are the reasons? _____
What can you do about this next time? _____

65. Set up an online discussion board or chat room for SI leaders (if resources are available).
If not, what are the reasons? _____
What can you do about this next time? _____

66. Acquainted SI leaders with Arendale's (2001) research showing that the involvement of the SI supervisor in training has the most significant impact on student academic performance in SI classes.
If not, what are the reasons? _____
What can you do about this next time? _____

#5 How Healthy Is Your In-class Introduction of SI?

Attendance at sessions increases when a thorough in-class introduction of SI is made to each class with an SI component. Students should hear what SI is, how it works, past results from attending SI sessions, what an SI leader is, what happens in SI sessions, what does not happen in SI sessions, and other benefits of attending SI sessions. (Rate each item according to the scale.)

☐ 67. SI supervisor introduced SI to each class. (For consistency and added legitimacy, this is best done by the SI supervisor).
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 68. Introduced yourself and your position to the class.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 69. Described what SI is and why your institution has it.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 70. Delineated some of the benefits of attending SI sessions based on your institutional research or the research from UMKC (higher GPA, graduation rates, final course grade, etc.).
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 71. Introduced the SI leader for this class and touched on some of the qualifications to become an SI leader.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 72. Announced that SI session locations, times, and the days of the week will be posted for each class period.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 73. Made it clear that SI is open to ALL students and how even "A" students can benefit from attending.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 74. Explained how SI works and what typically happens in SI sessions.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 75. Explained why the SI leader will not relecture or conduct an "I question and you answer" session.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 76. Pointed out the difference between SI and tutoring.
If not, what are the reasons? _____

What can you do about this next time? _____

☐ 77. Explained what the role of the student is in making SI sessions beneficial.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 78. Mentioned some student testimony on the benefits of SI.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 79. Mentioned some faculty testimony on the benefits of SI.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 80. Mentioned that attendance is voluntary and that there is no charge for attending SI sessions.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 81. Allowed for questions and answers at the end.
If not, what are the reasons? _____
What can you do about this next time? _____

#6 How Healthy are Your End-of-Semester Reports?

The support of administrators is important in order to continue and expand SI programs. Unless administrators are aware of the impact of SI on student academic performance and the impact on retention and the resulting retained revenue, they cannot make wise and informed decisions on expenditures for SI. (Rate each item according to the scale.)

☐ 82. Selected or developed a model for processing and analyzing the data that indicates the impact of SI on student academic performance (descriptive or inferential statistics).
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 83. Included data in the analysis from all classes covered by SI such as:
- Total number of students enrolled in each class.
- Total number and percent of students attending SI sessions.
- Total number of contact hours (number of times students attended SI sessions).
- Total number and percent of students attending SI session out of all students in SI classes.

- Final differences between SI and non-SI participants on final course grade average, number and percentage of grades (A, B, C, D, F, W) or group grades (ABC vs. DFW).
- Independent (incoming) variables such as differences in SAT or ACT scores between SI and non-SI attendees to address the self-selection bias.
  If not, what are the reasons? _____
  What can you do about this next time? _____

☐ 84. Totaled the number of SI sessions offered for the semester.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 85. Totaled the number of contact hours by all students for the semester.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 86. Reported the cost/benefit analysis in terms of retained revenue (Congos, 2001-2002).
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 87. Included information from the end-of-semester student SI satisfaction surveys.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 88. Included information from the end-of-semester faculty SI satisfaction surveys.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 89. Translated SI attendance into FTEs (Full Time Enrollments) or contact hours if needed.
If not, what are the reasons? _____
What can you do about this next time? _____

☐ 90. Delivered end-of-semester data to deans, department heads, and SI faculty.
If not, what are the reasons? _____
What can you do about this next time? _____

Scoring Key

Transfer the rating for each item from the survey and place it on the line next to the corresponding number below. Next, total each of the 6 columns to determine the health of each segment of your SI program.

#1 Pre-Semester Training		#2 Faculty Training		#3 Weekly Training/Staff Meetings		#4 Observation & Feedback		#5 In-class Introduction		#6 End-of-semester reports	
Item #	Points	Item #	Points	Item #	Points	Item #	Points	Item #	Points	Item #	Points
1.		28.		41.		57.		67.		82.	
2.		29.		42.		58.		68.		83.	
3.		30.		43.		59.		69.		84.	
4.		31.		44.		60.		70.		85.	
5.		32.		45.		61.		71.		86.	
6.		33.		46.		62.		72.		87.	
7.		34.		47.		63.		73.		88.	
8.		35.		48.		64.		74.		89.	
9.		36.		49.		65.		75.		90.	
10.		37.		50.		66.		76.			
11.		38.		51.				77.			
12.		39.		52.				78.			
13.		40.		53.				79.			
14.				54.				80.			
15.				55.				81.			
16.				56.							
17.											
18.											
19.											
20.											
21.											
22.											
23.											
24.											
25.											
26.											
27.											
Total ☐		**Total** ☐		**Total** ☐		**Total** ☐		**Total** ☐		**Total** ☐	
Max. score = 81		Max. score = 39		Max. score = 48		Max. score = 30		Max. score = 45		Max. score = 27	
A score of less than 61 suggests changes are needed to bring greater benefits to your SI attendees.		A score of less than 27 suggests changes are needed to bring greater benefits to your SI attendees.		A score of less than 36 suggests changes are needed to bring greater benefits to your SI attendees.		A score of less than 22 suggests changes are needed to bring greater benefits to your SI attendees.		A score of less than 31 suggests changes are needed to bring greater benefits to your SI attendees.		A score of less than 20 suggests changes are needed to bring greater benefits to your SI program.	

Conclusion

Supplemental Instruction is no different than many other successful paradigms in that it must be nurtured, monitored, and guided so that the program activities and the behaviors of the SI leaders remain consistent with the guidelines that have proven to be so successful. This health checklist can be a useful tool to determine how well a program is navigating within the "safe waters" of a successful SI program. Other programs such as group tutoring, study groups, and any peer assisted study groups can also benefit from this checklist, possibly with some adaptations. SI supervisors may also find the NADE Self-Evaluation Guides (Clark-Thayer, 1995) helpful.

This checklist is not intended to serve as a rigid standard that each SI program must adhere to or fail. It is best used as a guide to determine how well the SI model is being implemented, especially if desired results are not being achieved in terms of final course grades averages and retention when SI and non-SI attendees are compared. One strength of the SI model is that there is room for some adaptation and innovation while still maintaining its basic integrity and positive outcomes. The hope is that this checklist will help SI supervisors see the strengths of their programs and possibly identify any weaknesses not previously realized. The information from this evaluation should be included in semester reports, annual reports, and building plans for refinement or expansion of existing SI programs.

The Author

The author has trained SI supervisors from 110 two and four-year post-secondary institutions in the United States and England. Since 1985, he has set up and administered SI programs at the University of North Carolina at Charlotte, Central Piedmont Community College, and Valencia Community College. He has consulted on SI in England and the United States since 1990 and continues to research and publish on SI in various educational professional journals.

Dennis H. Congos is a Certified SI Trainer and Consultant at the University of Central Florida in Orlando, FL..

References

Arendale, D. R. (2001). Effect of administrative placement and fidelity of implementation of the model on effectiveness of Supplemental Instruction programs. (Doctoral dissertation, University of Missouri-Kansas City, 2000). *Dissertation Abstracts International*, 62, 93.

Blanc, R.A., DeBuhr, L.E., & Martin, D.C. (1983). Breaking the attrition cycle. *Journal of Higher Education*, 54(1), 80-90.

Clark-Thayer, S. (Ed.). (1995). *NADE Self-evaluation guides: Models for assessing learning assistance/developmental education programs*. H & H Publishing. Clearwater, FL: H & H Publishing.

Congos, D. H. (2001-2002). How SI generates revenue for colleges and universities. *Journal of College Student Retention: Research, Theory, & Practice*, 3 (3), 301-309.

Congos, D. H. (2002). *Ailments, afflictions, and illnesses of SI programs and what to do about them*. Workshop presented at the 35th Annual Conference of the College Reading and Learning Association, Minneapolis, MN.

University of Missouri at Kansas City Center for Academic Development. (1997). *Supplemental Instruction: Peer assisted study sessions* [Pamphlet]. Kansas City, MO: Author