

# RESEARCH

IN  
DEVELOPMENTAL  
EDUCATION



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Barbara J. Calderwood, Coeditors*

*Published by Appalachian State University*

*Volume 22, Issue 1, 2008*

## **Affective Assessment for Developmental Students, Part 1**

**By D. Patrick Saxon, Patti Levine-Brown, and Hunter R. Boylan**

Accurate assessment, effective academic advising, and appropriate placement are critical components of successful developmental education programs (Boylan, 2002; McCabe, 2000; Morante, 1989). Assessment is necessary in order to determine what student skills need to be developed. Advising is necessary to ensure that students know what assessment results mean and why they need to be placed in specific courses.

Unfortunately, practically all assessment done in U.S. colleges and universities is cognitive. Cognitive assessment measures how much students may know about a particular subject at the time of testing. The results are usually reported as raw scores or percentiles indicating where students' skills fall along a continuum of all those on whom the cognitive assessment instrument has been normed. Although the information from such instruments is generally valid, reliable, and effective for placement, it does not address all of the factors that might contribute to student success. For instance, few efforts are made to assess students' affective characteristics such as motivation, attitudes toward learning, autonomy, or anxiety. According to a recent study by Gerlaugh, Thompson, Boylan, and Davis (2007), although almost all community colleges assess students' cognitive skills, only 7% assess students' affective characteristics.

This lack of assessment information on the affective characteristics of developmental students represents a serious weakness in the assessment, advising, and placement processes of postsecondary institutions. Bloom (1976), for instance, estimates that as much as 25% of student performance is determined by affective characteristics. Nolting (2007) emphasizes that performance in mathematics has almost as much to do with students' attitudes and beliefs as it has to do with their mathematical knowledge. Weinstein, Dierkling, Husman, Roska, and Powderill (1998) argue that successful students must not only possess sound cognitive study strategies but also the affective will to use these strategies.

It is apparent, that the affective characteristics of developmental students represent an important component of success. Nevertheless, those professionals who work with developmental students seldom measure these characteristics and rarely use them in the advising and placement process. There are probably several reasons for this. When the student assessment movement began in postsecondary education, many of the paper and pencil instruments used to assess students' cognitive skills required responses to hundreds of questions, which obviously consumed a great deal of time. Assessment tools were also quite costly. It may have been that college and university administrators at that time were reluctant to increase the expenses involved in assessment. Furthermore, it seems apparent that during the student assessment movement of the late 1970s and early 1980s, the role of affective characteristics in student learning was not understood as well as it is today. Many of the available affective assessment instruments were not as reliable and valid as cognitive assessment instruments and, consequently, policy makers were probably reluctant to use them. It is likely that as a result of these factors, the measurement of students' affective characteristics did not figure prominently in the early assessment movement.

Today, however, many of these factors are no longer as prohibitive as they once were. The use of computer adaptive testing technology has reduced the amount of time required for students to complete cognitive assessment (Smittle, 1991). Computerized versions of

many affective assessment instruments are now available. As a result, they can be added to the existing assessment battery with less time and cost investment. Educators now have a better understanding of the role of affective characteristics in student success as a result of the work of Sedlacek (2004), Casazza and Silverman (1996), and Kuh, Kinzie, Schuh, and Whitt (2005). More recent, more valid, and more reliable affective instruments are also currently available. It is therefore recommended that affective assessment be added to the range of measures used in evaluating students for participation in college (Sedlacek, 2004).

Institutional decision makers as well as developmental educators, however, have not kept pace with developments in affective assessment. They are frequently unaware of the variety of affective assessment instruments currently available. They have not put much thought into how these instruments might be used in the assessment process. As a result, the dominant form of assessment on college and university campuses is still cognitive (Gerlaugh, Thompson, Boylan, & Davis, 2007).

As a service to developmental educators who may wish to gather more affective information through their assessment procedures, this and the next issue of *Research in Developmental Education* offer information on a number of affective instruments currently available for assessment purposes. This issue will focus on instruments that are designed to assess student learning strategies, attitudes, and study skills. The next issue will examine instruments that measure critical thinking and reasoning, learning approaches and readiness, and the risks and needs of adult learners. Both issues will offer a description of the instrument and publication information. Limited information is also provided about the costs of the instruments listed. It should be noted that many of the instruments have multiple means of delivery (i.e., paper and pencil and computer software), and they offer varying price structures according to the delivery method and usage quantity. Furthermore, price information is subject to change without notice. The noted prices are offered simply as a ballpark guideline for considering the financial cost of using a particular instrument.

### **Instruments to Assess Student Learning Strategies, Attitudes, and Study Skills**

#### ***Achievement Motivation Profile (AMP)***

Authors: Friedland, J., Mandel, H., and Marcus, S.

Publisher: Western Psychological Services

12031 Wilshire Boulevard, Los Angeles, CA 90025-1251

Telephone: 800-648-8857

portal.wpspublish.com

Price: \$150 for 25 unit kit. Paper and pencil, computer-scored format

The AMP is a self-report 140-item inventory designed to evaluate underachieving or unmotivated students. The instrument is normed on 1700 high school and college students. It is designed to identify the personal factors that affect student academic performance and to offer recommendations for counseling the student and improving academic achievement. Scale scores are offered in four domains: motivation for achievement, interpersonal strengths, inner resources, and work habits.

**BarOn Emotional Quotient Inventory (EQ-i)**

Authors: Bar-On, R., and Handley, R.  
 Publisher: Multi-Health Systems  
 P.O. Box 950, North Tonawanda, NY 14120-0950  
 Telephone: 800-456-3003  
 www.mhs.com  
 Price: \$37 for 10 unit kit. Paper and pencil or software format

The EQ-i is a self-report 133-item inventory that measures the emotional, personal, social, and survival aspects of intelligence. The instrument has been tested on more than 100,000 individuals worldwide. The company claims it to be the first scientifically developed and validated measure of emotional intelligence, which is a key predictor of life success. Scores are offered for composite scales: intrapersonal, interpersonal relationship, stress management, adaptability, and general mood.

**Beginning College Survey of Student Engagement (BCSSE)**

Authors: National Survey of Student Engagement  
 Publisher: National Survey of Student Engagement,  
 Center for Postsecondary Research, Indiana University Bloomington  
 1900 East 10th Street, Eigenmann Hall Suite 419, Bloomington, IN 47406-7512  
 Telephone: 812-856-5824  
 bcsse.iub.edu  
 Price: \$300 participation fee and \$3.00 per survey with quantity discounts available.

The BCSSE is designed to measure entering students' academic and cocurricular experiences and the value students place on participating in educationally purposeful college activities. The results can assist with the design and delivery of orientation programs, student services, and efforts to improve learning during the 1<sup>st</sup> year of college. When used with the *National Survey of Student Engagement*, it can help evaluate the impact of programs and services on an undergraduate class. It can be administered in a paper and pencil or Web-based format.

**College Student Expectations Questionnaire (CSXQ)**

Authors: CSEQ Research Program  
 Publisher: CSEQ Research Program,  
 Center for Postsecondary Research, Indiana University Bloomington  
 1900 East 10th Street, Eigenmann Hall Suite 419, Bloomington, IN 47406-7512  
 Telephone: 812-856-5825  
 www.iub.edu/~cseq  
 Price: \$200 participation fee and \$2.00 per survey with quantity discounts available.

The CSXQ is designed to assess new student goals and motivations. It provides information on student expectations about interaction with faculty, involvement with peers from diverse backgrounds, use of campus learning resources, satisfaction with college, and the nature of college learning environments. The results may be used for institutional research, evaluation, and assessment of the student experience; enrollment management, student recruitment, and retention initiatives; faculty development, advising, and academic support services; 1<sup>st</sup> year experience programs; and orientation, residence life, and student activities. It takes about 15 minutes to administer and is available in pencil and paper or online format.

**College Student Needs Assessment Survey (CSNAS)**

Author: ACT  
 Publisher: ACT  
 ESS Customer Services  
 P.O. Box 1008, Iowa City, IA 52243-1008  
 Telephone: 800-294-7027  
 www.act.org/ess/fouryear.html  
 Price: \$18.20 for 25 unit kit. Paper and pencil, computer scored format

The CSNAS is a self-report untimed instrument which helps to identify the perceived personal and educational needs of students. It evaluates high school environment influences and individual student assistance needs. This information can assist in program improvement and institutional planning.

**Developmental Advising Inventory (DAI)**

Authors: Dickson, G. L., McMahon, T. R., and Thayer, J. D.  
 Publisher: Developmental Advising Inventories, Inc.  
 P.O. Box 1946, Paradise, CA 95967  
 Telephone: 530-872-0511  
 www.daiassess.com  
 Price: \$2.00 per unit with a 50 unit minimum purchase. Campus Plans are available at a reduced cost.

The DAI is a 135-item assessment instrument based on student development theory. It allows measurement of students' personal development during a specified time frame. It can be administered to collect needs information or baseline data or, by using pre- and posttest, to document the impact of particular student development programs. It is designed for use with college students and young adults between the ages of 18 and 35. Scale scores are offered in nine dimensions: intellectual, life planning, social, physical, emotional, sexual, cultural, spiritual, and political. The assessment may be self-scored for individual evaluation or computer-scan scored to provide larger scale student profile data.

**Learning and Study Strategies Inventory (LASSI)\***

Authors: Weinstein, C. E., Schulte, A. C., and Palmer, D. R.  
 Publisher: H & H Publishing  
 1231 Kapp Drive, Clearwater, FL 33765  
 Telephone: 800-366-4079  
 www.hhpublishing.com/\_assessments/LASSI  
 Price: \$3.50 per unit; quantity discounts are available.

The LASSI is a 10-scale, 80-item study skills assessment designed to diagnose relative student strengths and weaknesses. It provides standardized scores and national norms for scales falling under the descriptions of skill, will, and self-regulation of strategic learning. It may be used to identify student educational intervention areas, counseling needs, or as a pre-post achievement measure following student participation in a particular intervention. It is available in paper and pencil or in a Web-administered format.

\*This instrument measures a combination of student cognitive and noncognitive characteristics.

**Math Study Skills Evaluation (MSSE)**

Author: Nolting, P.  
 Publisher: Academic Success Press, Incorporated  
 6023 26th Street West, PMB 132, Bradenton, FL 34207  
 Telephone: 888-822-6657  
 www.academicssuccess.com  
 Price: \$29.95 for text associated with test. Test is available free online.

The MSSE is a 35-item computerized survey designed to prescribe learning strategies. It is a complementary assessment constructed to employ the research-based learning principles described in *Winning at Math*. The objective is to locate specific learning problems. Five subtest areas are examined: study effectiveness, memory and learning, reading and homework, classroom learning, and test-taking and anxiety. It is based on research showing that noncognitive variables in some cases may be better predictors of math success than cognitive skills.

**Mathematics Self-Efficacy Scale (MATHS)**

Authors: Betz, N., and Hackett, G.  
 Publisher: Mind Garden, Incorporated  
 855 Oak Grove Avenue, Suite 215, Menlo Park, CA 94025  
 Telephone: 650-322-6300  
 mindgarden.com/products/math.htm  
 Price: \$30.00 manual; \$.80 each with quantity discounts

The MATHS is designed to measure beliefs about one's ability to perform various mathematics tasks. Respondents indicate the degree of confidence they have in their ability to perform particular mathematics problems. It is based on three areas of math-related self-efficacy expectations: math problems, everyday math tasks, and mathematics-related college coursework. It is administered in paper and pencil format.

### ***Motivated Strategies for Learning Questionnaire (MSLQ)***

Authors: Pintrich, P., Smith, D., Garcia, T., and McKeachie, W.  
Publisher: The University of Michigan  
610 East University Avenue, Room 1323, Ann Arbor MI 48109-1259  
Telephone: 734-647-0626  
Price: \$20.00 for one copy which can be reproduced to meet specific needs.

The MSLQ is a 15-scale, 81-item Likert-scaled instrument designed to assess the application of learning strategies and the motivation of college students. It was normed with a sample of 380 students in 14 subjects and five disciplines mainly at public 4-year higher education institutions in the Midwest. The scales are intrinsic motivation, extrinsic motivation, task evaluation, control of learning beliefs, self-efficacy, test anxiety, rehearsal strategies, elaboration strategies, organization strategies, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking. Research has suggested that the motivational factors are the items that best correlate with student success (GPAs). The MSLQ shows reasonable predictive validity to the course performance of students. It is designed to be administered in 20 to 30 minutes.

### ***Noncognitive Questionnaire (NCQ)***

Authors: Sedlacek, W., and Tracey, T.  
Publisher: Jossey-Bass  
989 Market Street, San Francisco, CA 94103-171  
Telephone: 415-433-1740  
www.josseybass.com  
Price: Published in *Beyond the Big Test: Noncognitive Assessment in Higher Education*, \$45.00.

The NCQ measures 8 noncognitive variables found to be related to college success, particularly for minority students. The instrument consists of 18 Likert-scaled items and three open-ended questions. The measured variables are positive self-concept, realistic self-appraisal, successful handling of the system (formerly identified as “understands and deals with racism”), preference for long-term over short-term goals, availability of a strong support person, successful leadership experience, demonstrated community involvement, and knowledge acquired in a field. Research results showed reliability and construct validity for the NCQ. For whites, the dimensions of self-concept, preference for long-term over short-term goals, and realistic self-appraisal were the most strongly related to GPA. The NCQ was shown to significantly enhance the prediction of grades for whites. For blacks, the variables related to GPA were self-concept and realistic self-appraisal and the instrument was shown to enhance the predictability of both grades and enrollment status. The results from the NCQ may be useful for admissions entry standards; anticipating successful GPA, persistence, and graduation results; and advising and counseling intervention.

### ***Perceptions, Expectations, Emotions, and Knowledge about College (PEEK)***

Authors: Weinstein, C., Palmer, D., and Hanson, G.  
Publisher: H&H Publishing Company  
1231 Kapp Drive, Clearwater, FL 33765-2116  
Telephone: 800-366-4079  
www.hhpublishing.com  
Price: \$1.75 per test with quantity discounts available.

The PEEK is a 30-item Likert-scaled instrument which assesses student's expectations about college. It is designed to measure three dimensions. Personal items measure expectations about emotional reactions to college. These include the extent of preparedness for college-level work, the degree to which college fits their future goals, and the extent to which the student takes personal responsibility for their learning. Social items measure expectations about college social pressures; instructor interaction; the make-up of college populations; and relationships between family, peers, and friends. Academic items measure the expectations about course difficulty, the nature of learning, instructor roles and responsibilities, and the nature of college instruction. Proposed uses of the PEEK are to increase student awareness of college expectations, to assist with advising and counseling intervention, and to assist with the development of college acclimation courses.

### ***Study Behavior Inventory v.2.0 (SBI)***

Authors: Kerstiens, G., Bliss, L., and Marvin, R.  
Publisher: Andragogy Associates  
3434 West 227th Place, Torrance, CA 90505  
Telephone: 310-326-5819  
www.sbi4windows.com  
Price: \$32.50 for pencil and paper. Institutional site licenses are available for a computerized version.

The SBI is a 46-item self-report survey designed to assess the study behaviors of college students in three areas. Short term study behavior is defined as preparation for daily tasks such as completing readings and reviewing class notes. Long term study behaviors are defined as completing long range academic tasks such as projects, papers, and preparing for final exams. Academic confidence is defined as affective variables that influence self-perception, self-esteem, locus of control, and field dependence or independence. Reports highlight performance in the following areas: time management, study reading, general study habits, listening and note taking, writing, test anxiety, test taking, and faculty relations. The student is also offered referrals to appropriate campus services. Research on the instrument indicates high levels of internal consistency reliability for the instrument and scores on each of the three factors. It can be administered in 15 minutes via computer or is available in a paper and pencil format.

### ***Student Adaptation to College Questionnaire (SACQ)***

Authors: Baker, R. W., and Siryk, B.  
Publisher: PsychePress  
3101 North Federal Highway, Suite 301, Fort Lauderdale, FL 33306  
Telephone: 954-565-8373  
www.psychpress.com.au  
Price: \$225.50 for 25 units and a test manual.

The SACQ is a 67-item self-report survey designed to determine how well a student is handling college demands. It examines four areas: academic adjustment, personal-emotional adjustment, social adjustment, and attachment to the institution. It is normed on a sample of about 1,300 college freshmen stratified by 1<sup>st</sup> or 2<sup>nd</sup> semester of college attendance. It provides guidelines for intervention and may encourage students to seek help. Results showed that 90% of students with low SACQ scores accept the offer of a posttest interview. The test is paper and pencil format with a computer scoring option. It can be administered in 15 to 20 minutes.

### ***Survey of Student Assessment of Study Behaviors (SSASB)***

Author: Paterra, M. E.  
Publisher: The Cambridge Stratford Study Skills Institute  
8560 Main Street, Williamsville, NY 14221  
Telephone: 800-747-5614  
www.cambridgestratford.com  
Price: \$3.00 each.

The SSASB is a four-page survey designed to help students understand their study behaviors. It consists of a pre- and posttest to measure meaningful instruction and progress. Posttest administration is recommended after instruction is complete and with a 30 to 45 day grace period following instruction. It examines six areas: positive attitudes, good comprehension, useful work habits, high performance writing, efficient learning tools, and effective test taking. It is available in a paper and pencil format.

### ***Test Anxiety Inventory (TAI)***

Author: Spielberger, C. D.  
Publisher: Mind Garden Incorporated  
855 Oak Grove Road, Suite 215, Menlo Park, CA 94025  
Telephone: 650-322-6300  
www.mindgarden.com  
Price: \$.80 each with quantity discounts. Web administration is available.

The TAI is a 20-item self-report psychometric scale designed to measure individual differences in test anxiety. Respondents report the frequency with which they experience symptoms of anxiety before, during, and after tests. Two subscales assess worry (cognitive concerns about the consequences of failure) and emotionality (reaction of the nervous system evoked by evaluative stress). The content is useful for research and in treatments for test anxiety. This instrument is available in paper and pencil format or can be Web administered.

### **Transition to College Inventory (TCI)**

Authors: Calliote, J., Pickering, J. W., Zerwas, S. C., and Macera, A. C.  
Publisher: Old Dominion University  
University Assessment, Norfolk, VA 23529  
www.odu.edu/ao/upir/assessment/tci/tci\_home.htm  
Price: \$3.00 scoring per survey with quantity discounts.

The TCI is a self-report measure of attitudes, personality, and behaviors designed to predict college academic performance and retention. Nine areas are factor analyzed: college involvement, influences on college choice, student role commitment, athletic orientation, personal and academic concerns, self-confidence, institutional commitment, socializing orientation, and independent activity focus. It can be used for understanding a college's entering class of students as well as for identifying students that are at-risk for academic difficulty in their 1<sup>st</sup> semester. The instrument, revised in 2003 using data from 5684 students, yields an advising profile that may be used to tailor interventions to remediate specific areas according to students needs. Results of a 2005 pilot test (n=2734) have revealed more accurate identification of at-risk students at 4-year colleges. It is administered in paper and pencil format.

### **Conclusion**

The instruments described in this issue measure different dimensions of students' affective characteristics. The authors of this article do not recommend one instrument over another. Instead, we have suggested that advisors and faculty determine which dimensions are most important for their purposes and which instrument might do the best job of measuring these dimensions. Once an appropriate instrument is identified, advisors will need to be trained in its application. They will need an understanding of what the instrument measures and how this information might best be used in student advising.

It is likely that adding affective measurement to the assessment process will result in extending the amount of time required for assessment. Unless a public domain instrument is selected, gathering affective information on students may also result in an increase in the costs of assessment. The addition of any new instrument to an assessment process will also require that some effort be made to validate its use.

There are many uses for data on student affective characteristics. At a minimum, it might help determine which students are likely to succeed in a college-level course if they have barely missed the cut score for placement in a particular subject on a cognitive assessment instrument. Certain affective measurements may indicate that these students are likely to succeed in a college-level course if they are provided with tutoring, Supplemental Instruction, or other support services. At a maximum, affective information might be used to develop sophisticated individualized learning prescriptions incorporating a variety of courses and services and based on a combination of students' cognitive and affective characteristics.

Regardless of how it is used, the assessment, advising, and placement process for developmental students can only be improved through the addition of more data on students' affective characteristics.

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### **Acknowledgement**

*D. Patrick Saxon is Assistant Director of the National Center for Developmental Education, Patti Levine-Brown is Professor of Communications and Faculty Codirector of the Quality Enhancement Plan at Florida Community College, and Hunter R. Boylan is Director of the National Center for Developmental Education.*

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*Research in Developmental Education* is published four times per academic year.  
www.ncde.appstate.edu

*Coeditors:* D. Patrick Saxon and Barbara Calderwood  
*Managing Editor:* Barbara Calderwood

Manuscripts, news items, and abstracts are accepted by the Editor, *RIDE*, National Center for Developmental Education, ASU Box 32098, Appalachian State University, Boone, NC 28608.

Subscriptions are \$15.00 per year. North Carolina residents add \$1.05 sales tax; subscribers in foreign countries add \$4.00 per year shipping and pay by bank draft. Send subscriptions to: Managing Editor, *RIDE*, at the same address or call (828) 262-2876.

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