

**Indiana University
Purdue University
Indianapolis**



**Testing Center Annual Report
1998**

Measurement and Evaluation Services for Students, Faculty, Administrators, and Researchers

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Section I: Introduction and Executive Summary

Organization, Mission, Vision, Values, and Goals

The Testing Center is a component of the Office of the Vice Chancellor for Planning and Institutional Improvement (PAII). The mission of PAII is to integrate the functions of institutional planning, implementation, and evaluation in ways that will continuously improve IUPUI. Figure 1 below shows the organizational structure and mission areas of the Testing Center.

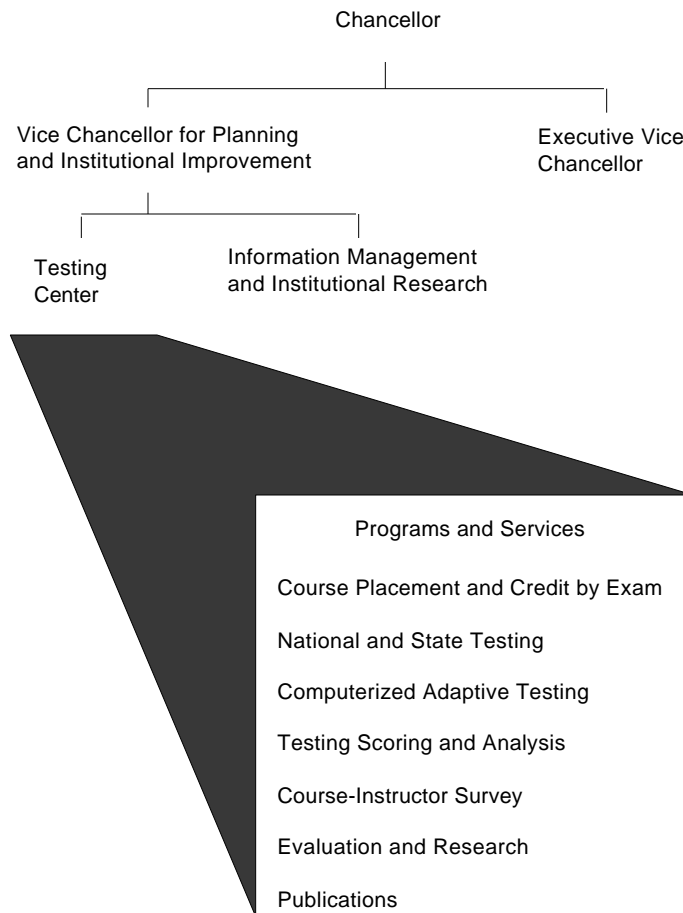


Figure 1. Organization and Mission Areas of the Testing Center

The Testing Center's mission is to provide assessment and evaluation support through the collection and processing of test data, creation of assessment instruments, and the lending of measurement expertise to constituencies throughout the campus community. Our vision is to provide integrated assessment and evaluation information in ways that will continuously improve IUPUI.

All Testing Center activities incorporate the following values:

- Work meets the needs of the sponsoring academic unit or individual.
- Results are thoroughly analyzed and explained.
- Work is timely, accurate, and reliable.
- Information is readily available to those who need it, secure from those who do not.

Our staff is committed to the following work ideals:

- Professionalism
- Responsiveness
- Thoroughness
- Accessibility
- Friendliness
- Sensitivity to data confidentiality issues

The IUPUI Testing Center's goals are manifested through its seven programs which are aligned with the Testing Center's operational objectives, the goals of the Division of Planning and Institutional Improvement, and the aspirations and goals of IUPUI (see bold letters

and numerals for links with IUPUI aspirations and goals. The Center's goals include:

1. Working with academic units to facilitate initial student assessment for appropriate course placements and credits by examination (**L, 4**).

2. Providing a service and location where students can take independent studies exams as well as state and nationally-administered tests (**L, 1**).

3. Developing state-of-the-art assessment technology in support of tracking student achievement (**REX, 8; ABP, 3**).

4. Providing imaging and optical scanning to improve assessment practices on campus and facilitate the work of enrollment management units (**C/C, 3; L, 5**).

5. Providing course instructor surveys to assess student perceptions of faculty instruction (**L, 7**).

6. Providing general consultation on testing and assessment in support of improvement efforts and faculty generated research (**L, 5; REX, 1**).

7. Disseminating the results of applied research conducted at the Testing Center (**L, 4; REX, 8**)

We continually strive to make each program more complete, up-to-date, and responsive to the diverse needs of the University community.

Testing Center Advisory Committee

The Testing Center Advisory Committee consists of representatives from the departments of English (Dr. Susanmarie Harrington), Mathematics

(Dr. Jeffrey Watt), the School of Education (Ms. Mary Wolting), the Enrollment Center (Ms. Jennifer Pease), and the Undergraduate Education Center (Dr. Barbara Metzner). Its purpose is to help guide Testing Center policies and procedures, and to act as a vehicle for disseminating information throughout the IUPUI campus. The committee formally met once during 1998, but also convened on an ad hoc basis as part of a review by the Assessment Committee of University College and in conjunction with a review through a committee organized by the School of Science. The Assessment Committee of University College re-confirmed the need and desirability of the current placement testing procedures. The ad hoc committee convened by the School of Science recommended wording changes to the student reports generated by the web-based placement tests along with some changes to the cutoffs used in the math test. Regarding the cutoff changes, the perception was that very high ability students (about $\frac{1}{100}$ of one percent of those tested) were being underplaced. The cutoff changes on the math test were implemented in October and are discussed more fully in the section below on placement testing. The wording change recommendations were sent to the Academic Policy and Procedures Committee (APPC) for further consideration. In that forum, the wording recommendations were modified and approved. These wording changes will be implemented at the beginning of the spring term 1999.

Overview

This past year was one of innovation, especially with the placement tests. Our biggest breakthrough came with the development and testing of Project Essay Grade (PEG), a collaborative effort with Dr.

Ellis Page of Duke University. This computer software was designed to grade prose based on stable statistical models. The software used here is not "intelligent" in the sense of evaluating content, but rather emulates the behavior of raters. "PEG is not aimed so much at AI [Artificial Intelligence], ... as at 'IA'--'Intelligent Assistance.' PEG won't replace the English teacher, but will serve as a useful, time-saving check on quality in writing" (Page, 1996, p. 2).

In the Spring of 1998, we ran a study that was based on data from six raters who evaluated the work of 1293 students. These data served as a statistical model for future predictions. A separate sample of 602 students was used to evaluate PEG performance. Results showed that agreement among the raters averaged $\bar{r} = .61$ (this compares favorably with other tests of PEG on national samples) while the average correlation between the computer ratings and those of the human raters was $\bar{r} = .72$. In other words, PEG was more reliable than trained human raters in evaluating placement exams. This year we were also able to evaluate PEG with regard to the predictive validity of the test scores. Again, the correlation of PEG scores was significantly higher with course grades than the ratings given by human judges. The preliminary results of this study were given as a paper at the American Educational Research Association meetings (Shermis, Mzumara, Olson, & Harrington, 1998) and are currently being summarized in a manuscript for publication. We think that there are a number of applications of PEG technology for the improvement of writing, above and beyond its potential for placement testing assessment. Those interested in PEG can visit the PEG web site at <http://134.68.49.185/pegdemo/>.

While the Testing Center has had web-based tests available for some time, we spent a good part of 1998 developing the infrastructure that would permit easier evaluation of authentic work using the same web technology. For example, the Development Office has invested a good deal of effort in making it easier for raters to enter their scores. Moreover, the transition between the various tests is nearly seamless. Finally, it is now easier for administrators to both register prospective examinees and generate their report summaries once the assessment has been given. We hope to apply the same advances to a new area of development—electronic portfolios. We discuss our participation in the campus-wide development work of electronic portfolio at the end of this document when describing future directions.

One area that has been slow to take off has been that of image scanning. Last year, the Testing Center, with the financial backing of an Enrollment Management Consortium, purchased an Opscan 5000i and initiated an image scanning service. This new service was designed to allow customers to optically translate written information into ASCII databases. Moreover, clients are able to store paper-based documents in electronic form and retrieve the information according to a number of classifying strategies. During the course of the year, we hit upon several setbacks. First, NCS, the servicing vendor, was late in getting the operational software installed. Second, once installed, the software wasn't as efficient as advertised. Third, the retrieval software worked erratically over our network. Fourth, the costs of converting documents were sometimes more expensive than initially estimated. Finally, the units from Enrollment Management Consortium suffered fiscal cutbacks that caused them to re-evaluate the cost-

effectiveness of imaging. While the technical issues on the system have been resolved, the fiscal constraints are still present. In the meantime, the Testing Center is looking at other government or non-profit clients and ways to deliver this promising technology. We are optimistic that this will yet be a worthwhile investment.

We hope you enjoy taking a look at our annual report. A number of individuals have invested a significant amount of time to make this document interesting and readable. If you have suggestions or comments, please do not hesitate to contact us. E-mail regarding this document should be directed to: MShermis@IUPUI.Edu.

References

Page, E. B. (1996, April). Grading essays by computer: Why the controversy? Paper presented at the annual meeting of the National Council on Measurement in Education, New York, NY.

Shermis, M. D., Mzumara, H. R., Harrington, S., & Olson, J. (1998, April). On-line Grading of Student Essays: PEG Goes on the World Wide Web. Paper presented at the annual meetings of the American Educational Research Association, San Diego, CA.

Section II: Reports From Program Areas

Placement Testing

Improvements in the IUPUI Placement Testing Program

This section describes the changes made in placement testing procedures for the IUPUI placement testing program, including test development, administration, scoring, and reporting processes. The placement tests were developed for the purpose of matching students with instruction appropriate to their academic preparation in English, mathematics, and reading. In response to technological advances and changes in student enrollment processes, ongoing incremental improvements in test administration procedures and customer service have been implemented. Although the general test flow pattern has remained relatively unchanged in comparison to that of 1997, there was a noticeable increase in the total number of students tested in 1998.¹ The Microcomputer Testing Facility (MTF) staff experienced a constantly busy flow of students taking the respective placement tests, particularly during the months between March and August, with an average of approximately 200 students per week. Figure 2 shows the monthly counts of students tested in 1998.

In addition to an increase in test flow, important changes were made in the following areas: personnel or new staff hires, work-study staff training, hardware and software upgrades, and new furniture acquisition to facilitate the quality, efficiency, and economy of placement testing services. More specifically, one of the major changes

¹ The total numbers of students who sat for the respective IUPUI placement tests in 1998 are as follows: **English: 6617** (an increase of about 10.5% over last year's count); **Mathematics: 7155** (up by about 4.9% from last year's count); **Reading: 6461** (7.1% up from the 1997 estimate); and **Foreign Languages: 112** (down by 10.4% in comparison with last year's count).

in placement testing included a conversion to web-based placement testing, a revision of cutoff scores for the computerized adaptive mathematics placement test (MA305), improvements in the test directions for the computerized reading placement test (RD100) and English placement test (EN100).

Obviously, the conversion to online (web-based) testing has provided the major advantages of convenience to students as well as the opportunity for the Testing Center to address most of the performance and security issues regarding Internet-based testing. Also, web-based testing enhances version control by the development staff, as the tests run on both Microsoft Internet Explorer and Netscape browsers, and are not platform dependent.

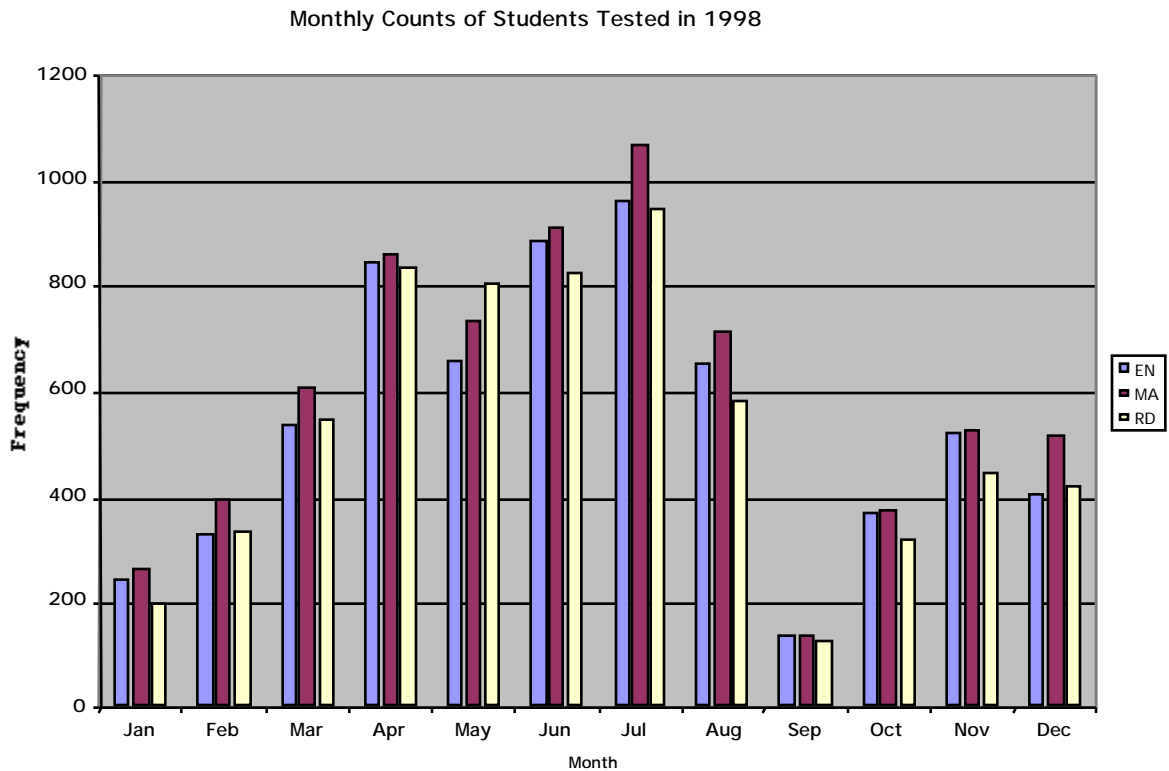


Figure 2. Monthly Counts of Students Tested in 1998 for English, Mathematics, and Reading.

Other significant improvements pertain to the relative improvement in predictive validity of the computerized adaptive test (CAT) in mathematics, transfer of placement test scheduling responsibilities from the Testing Center to the Enrollment Center and the Office of Orientation Services, revision of the placement testing brochure to reflect changes in placement test scheduling responsibilities, and the continuation of beta testing of the revamped IUTS application. A brief description of the aforementioned changes is presented in turn.

Computerized Reading Placement Test. Following the conversion of the reading placement test into a web environment², modification of the test directions and interface were performed to improve both clarity and presentation of the instructions; thereby improving the test administration process. As discussed later in this report, the exit surveys show a significant improvement in student perception of the clarity of test directions for the reading exam.

Although the current IUPUI computerized reading test is now web-active, the content of the reading test remains unchanged. The computerized reading test consists of four parts namely, comprehension, reading rate, and three types of vocabulary tests (Word Attack, Words in Context, and Words in Isolation). This test has been evaluated on several psychometric dimensions, and has been demonstrated to have good reliability and validity (Shermis, Wolting, & Banta, 1996). The Testing Center has yet to complete the development of the computerized adaptive version of the reading test, as this work is still underway and should be completed later this year. Also, the Testing Center recently volunteered to participate in the pilot study of the computerized

² Tests given to external clients have been web-based for over two

Nelson-Denny reading tests (Form G and H) to be conducted by the Riverside Publishing Company beginning spring of 1999.

Computerized Adaptive Testing (CAT) in Mathematics. Major changes to the computerized adaptive mathematics placement test involved the conversion to the web-based testing environment and the revision of the cutoff scores. Following the initial choice to convert the conventional computerized mathematics placement test into an adaptive procedure, the Testing Center has (to a large extent) achieved its primary objective in terms of increased efficiency and economy - in the use of both students' test administration time and test items. Indeed, the recent conversion to online (web-based) placement testing has had a significantly positive impact in terms of the convenience of test administration and quality of customer service. Also, the implementation of web-based and CAT procedures at the Microcomputer Testing Facility has offered a valuable demonstration of how incoming students can be better served through use of computer technology and advanced measurement techniques such as Item Response Theory (IRT).

Furthermore, the computerized adaptive mathematics placement test has facilitated the improvements in the observed correlation coefficients between the placement test scores and the mathematics outcome measures. The latest placement validity coefficient for the adaptive mathematics test, calculated on the relationship between the placement test results and scores on a common departmental final exam, averaged $\underline{r} = .38$, which makes it a very useful predictor and a significant improvement over last year (whose average \underline{r} was .30).

years.

Effective October 1, 1998, the Department of Mathematical Sciences implemented new cutoff scores that should facilitate the predictive validity of the mathematics placement scores, especially for higher level courses in mathematics. Implementation of the revised cutoff scores also addressed, at least in part, the concern regarding the possible "under-placement" of students in higher level mathematics courses at IUPUI. Note that this item was essentially a follow up to the previous changes started in late 1997 that included a revision of the mathematics item bank and improved reporting of test results (i.e., implementation of the "screener" technology), which, hopefully, facilitate the academic counseling and course placement processes.

The next round of scheduled changes will include: (1) implementation of minitests or testlets; (2) use of "cheat sheets" for trigonometry and calculus-type items; (3) a refinement of the cutoff scores (if warranted), and (4) modification of the three-parameter score conversion curve and/or including the development of a regression equation that incorporates some "screener" variables. Also, work that is planned for later implementation involves the subsequent reporting of subscores for the respective content areas in mathematics, and calibration of new math items to improve the curricular relevance and/or content representativeness of the computerized adaptive mathematics item bank.

Since the switch-over to CAT, the Testing Center staff periodically evaluate the effectiveness of computerized adaptive testing in mathematics. The results of these ongoing efforts are reported in the respective annual placement validity reports, which are available at the Testing Center Web site: <http://assessment.iupui.edu/testing/>. So

far, it seems the current adaptive mathematics test is working well in that the CAT testing procedure is relatively efficient and generally yields higher correlation coefficients with the mathematics outcome measures.

Another item that is worth reporting concerns a recent proposal or recommendation by the Math ad hoc committee (comprising members from the School of Science Dean's office, Department of mathematical sciences, School of Engineering, office of Admissions, Enrollment Center, and University College) requesting the Testing Center to change the wording of the placement test results. Specifically, the math ad hoc committee's proposal suggested that the Testing Center should withhold placement test results from students at the time of testing, but simply advise students to obtain the placement results after meeting with their respective academic counselors or faculty advisors. The Testing Center conducted an informal straw poll among IUTS (Indiana University Test Reporting System) users and addressed this issue. The results were mixed, as responses from the respondents indicated a polarization on both ends of the continuum (in favor and against) implementing the proposed change. Following deliberations on this issue by both the Testing Center Advisory committee and further consideration and voting by the APPC committee members, the final decision was for the Testing Center to retain the current practice of providing immediate feedback of placement test results to students. However, APPC committee members requested the Testing Center to simply emphasize on the students' test reports the notion of counselors' mandate to review and/or perhaps adjust a student's course placement (if warranted). It should be noted, however, that in some cases, students would need departmental approval

if they opt to take a higher level course from that recommended by the placement test results.

English Placement Test. Like math and reading placement tests, the English written exam is now web-active, since its implementation in early July 1998. The content of the exam, however, remains unchanged and as described in last year's annual report or the Testing Center's primary placement testing brochure. The significant changes that were made last year in response to the conversion of the English placement test to the web environment relate to the interface for test administration and the electronic transmission and reporting of the English test results. The test directions for the web-based English placement test were revised accordingly to improve the clarity, accuracy, and presentation of the instructions.

The essay is typically scored by one rater (or, whenever necessary, by at least two raters) from the English Department, and a course placement recommendation is made. Most of the current work involves electronic transmission of the typed essay to the English department for scoring by the raters. Thereafter, the ratings are sent electronically to the Testing Center's development unit, which maintains the database for the English placement test results. At present, the Testing Center uploads the test results to IUTS for access by academic counselors and other authorized staff across the IUPUI campus.

The ongoing concern, at least from a psychometric perspective, is the relatively low validity coefficients for the English placement ratings. While the rating scale used by the department has sufficient variance for a good validity assessment, the fact that the outcome measure is based on grades tends to underestimate the true relationship

between the two variables. The placement validity coefficient for a sample drawn from fall 1997 data averaged in the mid-teens (similar to last year's findings), but still useful for placement purposes. The department is currently investigating alternative measures that might be used as an outcome measure. For instance, the department is evaluating the possibility of using portfolios as an alternative for one writing sample. Most recently, the exploratory findings from the Project Essay Grade (PEG) study at IUPUI (cf. Mzumara, Shermis, & Fogel, 1998; Shermis, Mzumara, Olson, & Harrington, 1998) seems promising as the validity coefficients between PEG ratings and first-year English course grades averaged $r = .25$, which is higher than that for the regular placement test results. Of course, the efficacy or utility of the PEG ratings for predictive validity purposes at IUPUI has yet to be determined.

Meanwhile, the English department's previous approval to allow examinees to type (rather than write) exam responses as a way to accommodate their preferences and writing habits (cf. Harrington, Shermis, & Rollins, 1997) has been a welcome development. Note that following a pilot implementation of computerized input (typing) for the English written exam, a majority (about 99%) of examinees now opt to type their essay responses as opposed to handwriting the essays using the "blue-book" option. At present, the blue book option has been used mainly to accommodate examinees with disabilities (through the office of Adaptive Educational Services) and/or students with inadequate typing skills. Thus, the typed input option in the administration of the English placement test has facilitated the convenience and quality of service to students.

Furniture, Hardware and Software Upgrades at the Testing Center

In mid-1998, the Testing Center purchased some new furniture (computer desks, chairs, and related computer lab accessories) to better accommodate individuals with disabilities. Some of the new furniture was purchased in anticipation of additional business to be garnered by external testing contracts. Furthermore, the Testing Center replaced the older machines in the lab (Compaq Model 461 and Macintosh Centris 610) with about 20 brand new Compaq DeskPro (Pentium II) computers and a Hewlett Packard Laserjet (Model 4000N) printer. This was made possible because of the recent grant funding awarded to the department by the IUPUI central administration office [cf. Mzumara's (1996, December) proposal entitled "Improving the IUPUI Placement Testing Program via Use of Computer Technology"]. With the hardware upgrade, it was possible to implement Web-based placement tests in the MTF. The software upgrades mainly centered on the development of the web-based placement tests including a revamp of the interface and test directions for the administration of the three IUPUI placement exams.

Furthermore, the Testing Center engaged in "beta testing" of a revamped version of the IU Test Reporting System (IUTS) that will accommodate a more flexible approach to the handling of student performance data. Upon completion of the current IUTS project (which, by the way, has been put on hold indefinitely as the University Information Technology Services (UITS) programmers have now focused on resolving the Y2K problem), we eventually hope to offer academic departments the ability to incorporate information from multiple predictors rather than just one test score as they formulate their decision models for academic placement.

Other software upgrades started late last year include the development of the computerized Spanish placement test. This is essentially a feasibility task or proposal to computerize the foreign language placement tests (Spanish, French, and German) in conjunction with the University of Iowa (the publishers of the Foreign Language Assessment Project (FLAP) tests currently in use at IUPUI).

Another software development initiative is also worth describing. During spring of 1998, the Registrar's Office implemented a "barring" system that permits departments to enforce course and placement testing prerequisites. With the prerequisite check procedure now in place, students are not permitted to enroll in courses for which they lack the minimum requirements without some sort of an override from the appropriate academic department(s). The creation of this technology is an outgrowth of compliance problems that began a few years ago when a counselor's signature was no longer required for course registration.

Validity Study of the IUPUI Placement Test Scores

The annual validity study of the IUPUI placement test scores in English, reading, and mathematics was conducted and the final report was completed and distributed campus-wide in early November 1998. Significant improvements in the latest annual placement validity report included presentation of an executive summary, revised graphs that show the probability of success for a student who achieves a given placement test score, and inclusion of the preliminary results for the Project Essay Grade (PEG) study in written English. The interested reader should consult Mzumara, Shermis, and Fogel (1998) for the latest placement validity report. The report can also be viewed at <http://assessment.iupui.edu/testing/reports/>.

Frontline Meetings and Training of Work-study Employees

Two joint/frontline meetings were conducted in March and October 1998 to address procedural and customer service issues among staff from the offices of admission, enrollment center, orientation services, University College, and Testing Center. The topics addressed at these joint meetings included the following: (a) review of admission, enrollment, placement testing, and orientation processes; (b) customer service; (c) use of FoxPro application in placement test scheduling; (d) use of IUTS in reporting of placement test results; (e) use of admissions screens in placement test scheduling and reporting of placement test results; (f) concerns regards administration of placement tests in the Microcomputer Testing Facility (e.g., noise, computer glitches and other interruptions in test administration, accuracy of test results posted in IUTS); (g) administration of placement testing exit surveys; (h) communication; and (i) other miscellaneous procedural issues. The joint meetings have been productive particularly in ensuring that the frontline staff is in sync regarding individual and collective efforts to improve the efficiency and quality of services to students.

At departmental level, on-the-job training and formal training sessions have continued to be provided to the work-study students in order to facilitate professionalism, thoroughness, and efficiency among the Microcomputer Testing Center (MTF) staff. A variety of topics (e.g., new placement testing procedures, test registration or scheduling of students for testing, customer service, generation of placement test reports, test security, confidentiality of information, Testing Center emergency procedures, teamwork, work ethics, etc.) are usually covered

during formal training sessions conducted about twice per month. The topics are selected on the basis of the needs of the Testing Center proctors and receptionists and/or on the basis of a placement testing exit survey conducted at the conclusion of placement test administration. The MTF survey was designed to solicit information such as expertise and disposition of the test proctors, examinees' perceptions of the testing situation, examinees computing background, and so on. In addition to providing some suggestions for training topics, information from the MTF exit survey is used internally to monitor proctor behavior, and seek potential technical innovations that might improve the examinees' test experience.

Furthermore, the regular group meetings of work-study employees have continued to offer the work-study staff an opportunity to present and discuss their concerns and/or suggestions for the improvement of placement testing operations at the Testing Center.

MTF Satisfaction Survey

The placement testing exit survey was designed to solicit information about students' computing background, their perceptions of the testing experience, expertise and disposition of the proctors, and some demographic characteristics. The information obtained from the survey is used internally to monitor proctor behavior, suggest training topics, and specify possible technical innovations and recommendations that might improve the efficiency and effectiveness of the placement testing operations. The survey also provides valuable information for external communication purposes with other service units by demonstrating how the placement testing operations fit in with other IUPUI enrollment activities.

A summary of the survey results for the data collected in 1998 is as follows. The results reported here are based on a total of 946 respondents (53% male and 47% female students) who took the web-based placement tests between October and December 1998. Note that the current sample excludes students who took the exit survey prior to implementation of the Web-based placement test in mid-June, 1998. Because of logistical problems, unfortunately, the placement test exit survey was not administered during the transition period (from mid-June to mid-October, 1998).

The overall exit survey results collected from respondents who took the web-based placement tests suggest an improvement in the students' disposition towards the Testing Center's web-based placement testing program. For instance, 920 out of 964 respondents (or 95.4%) reported that they found it very easy or alright to use computers in taking the placement tests. Only 38 students (4%) found the computer interface for the web-based placement tests to be confusing to use, and the remaining 0.6% (or 6 out of 964) involved missing cases. Note, however, that the login interface for the Web-based placement tests has since been simplified and is now very convenient for students to use, as examinees have to login only once to take the respective placement tests and exit survey. The repetitive or redundant login procedure for placement test administration has been eliminated. The current survey results also indicate that approximately 94.8% of the respondents found the behavior of the MTF staff to be courteous or very courteous. This is in contrast to last year's result of 88%. Only 3 out of 964 (0.3%) students reported that the MTF staff were somewhat impatient or rude. Forty-five students (4.8%) reported that the behavior for MTF staff and

management was alright. Also, a majority (95.2% or 918 out of 964) of the respondents (up from 85% in 1997) reported that the MTF staff had sufficient or quite extensive knowledge of computers. In contrast, 1.2% of the respondents (i.e., down from 5% in 1997) found the MTF staff to have inadequate computer knowledge, and the remaining 3.6% involved missing responses. Perhaps the unfavorable results are somewhat influenced by the presence of new work-study students training on-the-job in the Microcomputer Testing Facility. Note that the unfavorable situations are normally addressed and corrected through formal work-study training sessions and/or regular meetings.

Figure 3 shows students' responses regarding the clarity of test directions. Overall, approximately 99% of the respondents reported that the directions for the English, and reading exams, respectively, were quite understandable or overly simple. Approximately 91.1% (or 829 out of 910 students) reported similarly for the mathematics placement exam. Most recently, however, the math test directions were revised to improve clarity and succinctness. Perhaps the periodic addition of ongoing research directions to the existing mathematics instructions may have contributed to the slightly lower percentage rate observed for the mathematics exam. Nonetheless, a very significant majority of the students reported that the three placement exams had very clear test directions.

A somewhat surprising finding was that approximately 40% of the students found the mathematics exam to be too demanding, whereas about 56% felt that the math test was an accurate measure of knowledge. In contrast, only 25% of the respondents felt that the reading exam was too demanding; and 72% reported that the reading placement test was an

accurate measure of knowledge. For the English placement exam, 12% of the students perceived the test to be too demanding. In contrast, 86% of the respondents said the English placement exam was a valuable learning experience, and the remaining 2.4% of the students felt that the exam was a waste of their time. Figure 4 shows a summary of the students' perception regarding the accuracy of the IUPUI placement tests in assessing knowledge in the respective content areas.

Figure 3. Student Perception of Placement Test Directions
Quality of Test Directions

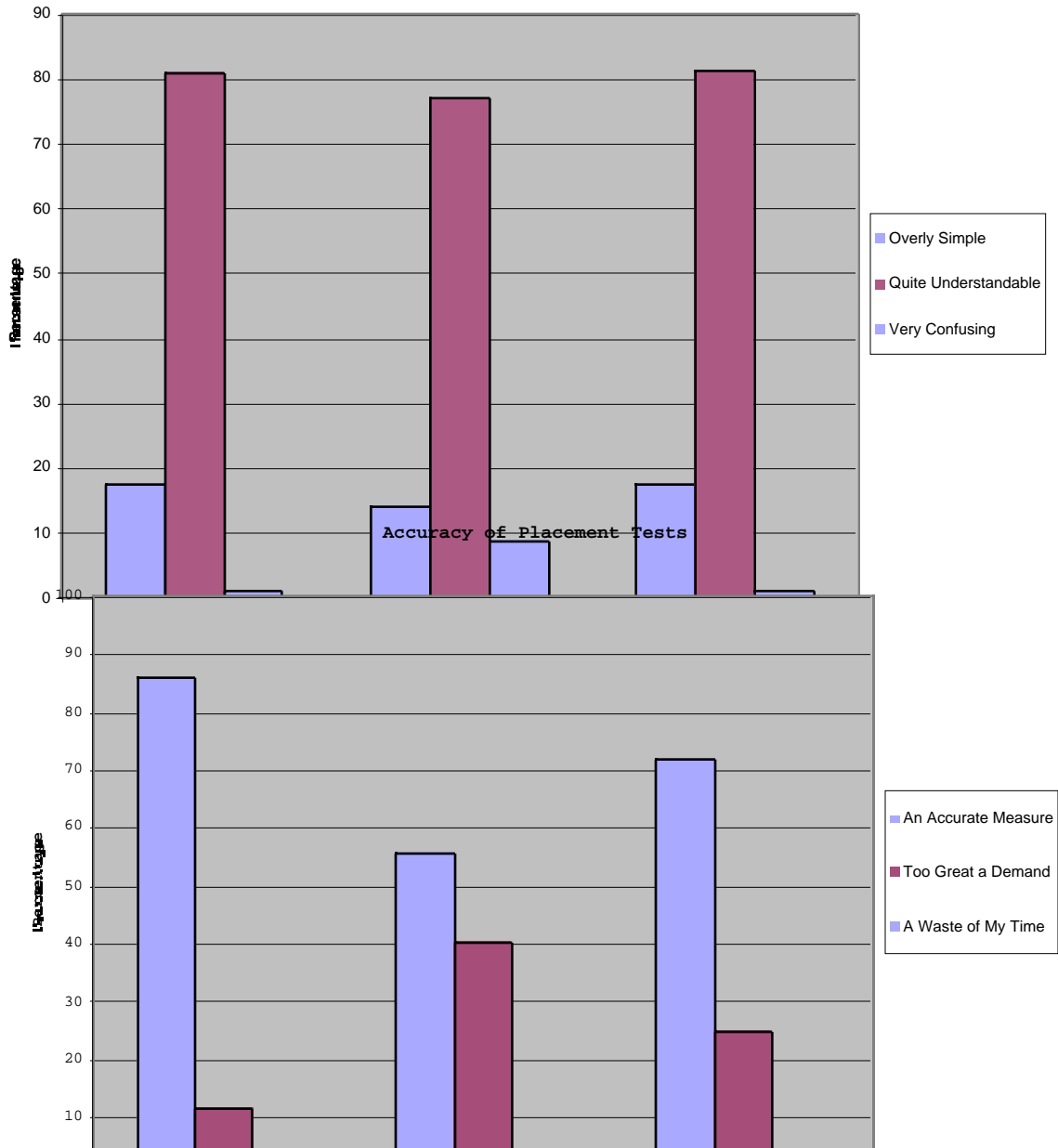


Figure 4. Student Perception of the Accuracy of Placement Tests

Regarding students' experience in using computers, the present survey results suggest that about 1.4% of the respondents had no computer experience at all. In contrast, approximately 50% of the respondents (up from 31% for 1997 data) reported having a great deal of computer-related experience. Despite the difference in response rates, these particular findings indicate a marked improvement from the survey results of the past two years. The present exit survey findings, however, also suggest that there seems to be no remarkable change in the demographic characteristics of the student population from year to year. Thus, it is not surprising that a vast majority of students (96%) reported feeling quite at ease in taking the computerized placement tests. Although a majority of students (81.7%) reported having adequate or a great deal of knowledge of computers, there is only a small proportion of students (4%) who reported feeling very confused with computerized testing. The ongoing development and implementation of improved sets of computerized instructions (i.e., the recently improved test directions for English, reading, and adaptive mathematics, and the information kiosk soon to be implemented at MTF) should make the students' testing experience to be very pleasant, less confusing, and user-friendly. In addition, thorough training of our test proctors in test administration procedures as well as proctors' vigilance or alertness during test administration sessions, helps to minimize or eliminate unnecessary examinee confusion.

The Testing Center is in a continuous process of improving the efficiency and effectiveness of the placement testing operations, partly through the implementation of computerized adaptive and Web-based

testing procedures. The placement testing exit survey, therefore, provides valuable information that facilitates this improvement process and accomplishment of the goals and mission of the Testing Center.

Student Phone Survey

In addition to the placement testing exit survey, the Testing Center administered a phone survey to students who called to register for placement tests. Note that the Testing Center ceased to administer the phone survey from March 15, 1998 onwards, that is, from the date when the Testing Center transferred placement test scheduling responsibilities to the office of orientation services/enrollment center. Nonetheless, the Testing Center placement testing staff plan to work with the current placement test scheduling staff to resume administration of the phone survey. Resumption of the phone survey was one of the recommendations made at the October 1998 joint frontline meeting, which was attended by staff from the Enrollment Center, office of orientation services, office of admissions, University College, and Testing Center.

The phone survey was designed to obtain specific information pertaining to (a) how easy it was for students to call the Testing Center for test registration purposes, (b) what (if any) problems were encountered by students in calling the testing Center, (c) how long it took the receptionist to register the student, (d), the reason for a lengthy phone conversation (if applicable), (e) number of students requesting rescheduling, and (f) students' reasons for rescheduling the placement test(s) (if applicable). We hope the enrollment center/office of orientation services will soon begin to track the

results from the phone survey and report the findings in subsequent annual departmental reports.

Note that the move to transfer the placement test scheduling responsibilities from the Testing Center to the enrollment center and office orientation services has addressed (hopefully) the previous concerns regarding student problems with contacting the Testing Center for test reservations. The good news is that the Enrollment Center and office of orientation services provide relatively more resources (e.g., increased numbers of receptionists, telephone lines, proactive calls to students, etc.) that certainly facilitate quality improvements in the placement test scheduling process. As the Testing Center received cooperation from the management staff in enrollment/orientation offices, upgraded the existing FoxPro scheduling application before its adoption, and provided appropriate training and leadership to the enrollment center/orientation staff, the transition of placement test scheduling responsibilities (for the most part) went on relatively well.

Scanning

Overview

In July of 1998 the Testing Center merged the two scanning operations (Optical and Image) into one department. Prior to this merger, the image scanning operation underwent quite a few changes, from re-staffing to new software used in the processing of images. Both Pam Tennant and David M. Ryan were sent to NCS headquarters in Minneapolis, MN for formal training on the ACCRA software and both were trained here on-site on the OTG software Application Extender. We had several on-site visits from NCS consultants, who addressed various issues such as

network, software and hardware. The Student Evaluation of Teaching (SET) continued to grow and mature, whereas LXR test grading remained about the same as last year. Although Scanning Forms Design continued, we have not had as many requests as we had hoped. Scanning Services also acquired a new storage space in the basement of the Union building, as well as some new furniture. Scanning Services continues to act as consultant (in scanning, data analysis of SET and test scoring) to various departments on Campus including Allied Health, Department of Pediatrics and the School of Dentistry.

Image Scanning

In February of 1998 Eva Nowacki resigned as Production Assistant for the Image Scanning Operations. David M. Ryan, who had previously served as a proctor in the MTF, was brought in to replace her. David's role was to focus on the operational flow and Pam Tennant's role was redefined to assist David and to work on the redesign of current forms.

One of the first challenges for this new group was to redesign the add/drop forms for the Registrar so that they would be image scanner-ready. The non-scanner ready forms were rather tedious and costly to process. The cost of scanning a document is normally \$0.15; however the ACCRA software was not able to read the non-scanner ready forms that resulted in a \$25.00/hour fee for data-entry. In conjunction with National Computer Systems (NCS) and the Registrar's office, Pam was able to redesign the current add/drop form into a scanner ready document.

In addition to the costs of conversion, there was also the issue of instability of the ACCRA system. For example, the Enrollment Management Consortium clients were often unable to retrieve their images. In order to address the stability issues, several adjustments

were made to the 5000i scanner. Custom programs were written so that the scanner could scan various thickness of paper at the same time. There was also a contrast console added that allowed the scanning operator to make adjustments to the contrast levels, thereby enabling crisper and clearer images.

The Testing Center acquired additional space in the Union basement for document storage. This space required modifications to ensure document security (approximately \$1300), but was available by early spring.

Early in March of 1998, we had the first of several on-site visits from one of the NCS consultants' team. The purpose of this first visit was to make an assessment of the implementation problems and come up with a total solution that would transform the operation into one that would run smoothly. Over a four-month period, NCS was able to successfully address the outstanding technical issues and get the system fully operational. However, even with the changes in place, the system was still very cumbersome. In re-evaluating the situation, NCS recommended a change to a new processing format called Application Extender. Over a three-month period, current documents were converted to this new format with a resulting improvement in efficiency.

At the same time the Testing Center decided to purchase another server to act as the Primary Domain Controller (PDC), and this greatly helped to improve the reliability and security of the network. NCS returned to the Testing Center in late June to install and train the Scanning Services staff on using the Application Extender Software.

In early August, the Registrar's office informed the Scanning Office that they suffered budget cuts and could no longer use the

imaging service. A few weeks later we received word from the remaining members of the Enrollment Management Consortium that they were also terminating their use of image scanning due to the high cost. In total we had scanned and processed some 96,000 documents for the Registrar's office alone. Figure 5 shows a breakdown of jobs performed for the various service areas in the Enrollment Management Consortium.

The Testing Center also began discussions with Ivy Tech in regards to scanning and archiving their documents. In due course, the Testing Center will submit an RFP to Ivy Tech on document image outsourcing. Also, the Scanning office is currently engaged in market development efforts to secure new clients for image scanning services.

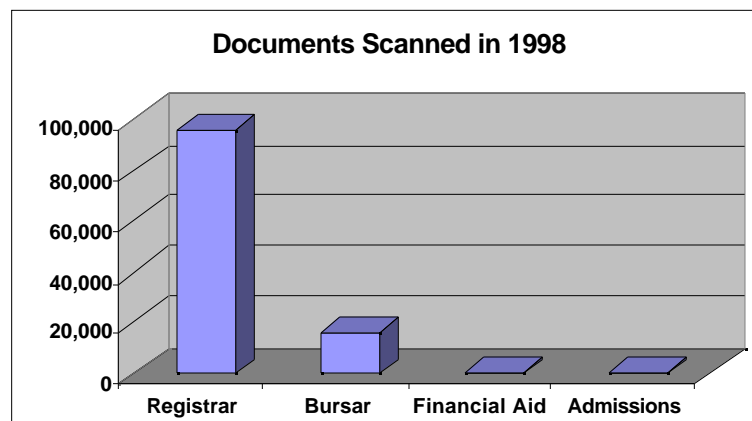


Figure 5. The Number of Forms Processed Through the Image Scanner by Enrollment Management Consortium Member.

A total of 113,338 documents were scanned and processed in 1998. The yearly income from Image Scanning was \$23,900.80. In 1998, scanning services performed several jobs for various departments including Indiana Teen Institute, Sigma Theta Tau, Star Alliances (I-Star), Riley Hospital Community Education, UEC and University Library. These jobs brought in income of \$1,840.20.

Course Evaluation

In the second year for the SET program Scanning Services printed 66,614 evaluation forms with an annual income of approximately \$5,668.10. Instead of using NCS as our print vendor, this year we had all of our SET forms printed by OffSet Printing House, which reduced our printing expenses. As of December 24th only about half of the Fall 1998 SET forms had been returned for scanning. As of December 31, 1998, we had scanned about 29,698 documents, bringing in an income of \$4,454.17 to the Testing Center.

Scan Forms Design

Scanning Services redesigned the form used by the School of Engineering and Technology for their student Evaluations this year. We also designed a Ballot form for the School of Engineering and Technology for which we printed 12,000 documents. Forms Design generated about \$3,200 in 1998. Scanning Services also created a survey for Riley Hospital Adolescent Medicine.

External Testing

External Testing refers to the assessment activities conducted by the Testing Center that are not part of placement testing. Most of the activities (e.g., administering the institutional Scholastic Achievement Test or the Miller Analogies Test) are performed as a greater service to the University community, though some are conducted to facilitate the enrollment management process. More information about external testing

including scheduled test dates can be found at the IUPUI Testing Center web site at <http://assessment.iupui.edu/testing/external.html/>.

Strong Interest Inventory Testing

In 1995, the Consulting Psychologists Press computerized the Strong Interest Inventory, a vocational interest measure used by the School of Business, and the paper-and-pencil version of the Myers-Briggs Type Inventory (MBTI). IN 1997, the IUPUI Testing Center became a beta test site for the web version for CPP. Our web link is <http://admin.cpp-db.com/C/iupuitc/>. Using this link enables students to take the test at any computer connected to the internet. The results are then released immediately after the student has verified the payment of the testing fee. We tested 585 students for the Strong in 1998, and 561 students took the MBTI.

Independent Studies Testing

In 1994, we computerized the administration of the Independent Studies tests and began administering the tests in the MTF lab. We have continued to give the Independent Studies exams from IU as well as from other institutions in the MTF lab. We gave approximately 850 of these exams over the past year. This operation brought in approximately \$10,920 in soft money last year.

In the summer of 1998, we moved the Independent Studies testing to computerized administration by the web. In late 1998, we implemented the exit survey using a web-based interface. This quick survey queries students about the manner in which they were greeted, the checking of identification, and how quickly they were tested after arriving at the MTF. This information is used both to provide feedback to our work-

study proctors and to our clients in the Division of Continuing Studies. For 1998, out of a sample of 348 responses, 301 students (86.5%) felt that they had been greeted in a friendly manner (see Figure 6). Three hundred thirteen students (90%) reported they were able to start their test within five minutes of arriving at the Microcomputer Testing Facility. Forty-eight percent of the students were in the 20-24 age group, followed by 18% reporting ages between 25 and 29. Sixty-six percent of these students were female and 87.9% Caucasian.

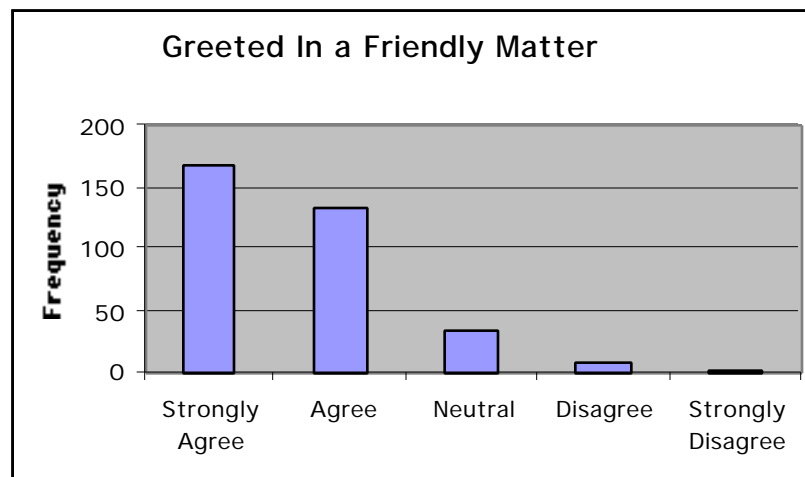


Figure 6. Upon arriving at the Microcomputer Testing Facility, I was greeted in a friendly matter.

National and State Testing

In addition to our internal testing operation, we also administered state and national tests for the benefit of students and staff. Over 5,532 students took exams under this program, which serves the needs of the students and professional individuals. Tests administered and number of students tested under this program include the following:

SAT: 81

LSAT: 440

ACT: 304
ACT-PEP: 334 times
Praxis (PPST, NTE, Core Battery): 2,456
AMP: 1,063
CLEP: 99
MAT: 10
DANTES: 104
ABO: 25
ASI: 164
ACE: 120
ABO: 25
MPRE: 305
Heriot-Watt: 8
Warwick: 4

Development

Development refers to two components of Testing Center activity. One component focuses on test development and is staffed by a graduate student research assistant. The second component centers on the development of computer-based tests, supplemental multimedia, and data collection mechanisms. This section is staffed by one FTE programmer and several work-study students. Both components are linked to the IUPUI goals of learning and collaboration.

Test Development

Efforts to improve upon test and data collection procedures were supported through a number of studies conducted in the Testing Center this year. During the year of 1998, the Testing Center continued to evolve our tests from a platform dependent application to a World Wide Web (WWW) application. This year has been crucial in the debugging and transforming the old tests to a new paradigm. These tests can now

accommodate a variety of computers, with minimum requirements regarding internet connectivity and web browsers. Full requirements and testing information can be viewed at <http://testing.tc.iupui.edu/onlinetesting/>.

Computerized Adaptive Testing (CAT) in Mathematics

The Computerized Math Test underwent several changes from its last iteration. Projects are underway to convert this test from a Macintosh Server application to the industry standard, a Microsoft Windows NT Server application. This includes having the program rewritten to use Server Query Language (SQL) as its native language in addition to Microsoft C++ and Visual Basic. These changes will eventually speed up the application to allow more simultaneous student access as well as implement more server intensive applications such as: increased security, testlet technology, item exposure controls and "On the Fly" customizations for the area high schools and other regional IU & IUPUI campuses.

Reading Test

The Testing Center has recently switched the Reading Test over to Microsoft Access in preparation for the eventual switch to the much more capable SQL Server environment and adaptive testing for this assessment instrument. While fast enough for its current state, the new adaptive nature of this test, which was researched during the 1997/98 year, will require faster processing and better software. By making the switch to a database environment, we have ensured the software can take advantage of future network upgrades.

English Essay Exam

In 1997, a study was conducted to monitor the differences in scores of those students writing this test by hand and those who typed this in on a WWW form. Based on the study's results, we moved from a paper-based to typed version of this test. In doing so, we were able to transmit essays in real time to the English instructors who grade the exam and thus reduce turn around time from about two weeks to about two days. In the past, hard copies of essays were required to be held for five years time before being destroyed. Now these are held in memory of an SQL compliant Server and alleviating the former storage demands of the old essays.

Project Essay Grading

Project Essay Grade or PEG is a computerized grading package developed by Dr. Ellis Page of Duke University to evaluate essay writing. The development team has worked with Dr. Page and his team in designing a system that will enable IUPUI and TruJudge, Inc. to deliver and rate essays at a rate of about 6 essays a second. This technology has been tested with the IUPUI English Placement exam as well as being a core component of Write 2000, an writing improvement program geared for high school students. More information on this subject can be found at <http://assessment.iupui.edu/pegdemo/>.

Pike Project

The Pike Project is an expansion of our testing mission into several area high schools, career centers and Ivy Tech. In addition we have utilized our technologies in other distant locations such as Texas and Connecticut. As a direct result of our web placement testing

program, we can offer our placement testing anywhere that has an internet connection and proper supervision. At the moment these tests are offered by the Testing Center to six area high schools with other sites planned in the future.

HTML Programming

The Testing Center maintains web pages for the dissemination of test times and locations, Scanning Office hours and charges, requests for IUTS access, and requests for re-testing. The Testing Center maintains all instructions for testing via Web Interface and uses RealVideo for multimedia instruction and a RealServer for multimedia delivery. In addition, Testing Center reports, bulletins, and general information memoranda are located on the web. The Testing Center Web Server can be reached at <http://www.assessment.iupui.edu/testing/>.

General Support

The computer development team is tasked with responding immediately to problems that might arise from any one of the operational areas of the Testing Center. In addition to providing general software support, the team addresses hardware and communications problems as well. This team is also responsible for any technical support for our colleagues at area high schools on web based testing as well as general Internet support that may interfere with student placement and testing.

Although a small staff, the Development team is responsible for designing and developing a wide variety of web applications. The Development team works in areas as diverse as HTML, XML, CGI Design, Active Server Page design, database construction and design, and multimedia design and delivery. The staff is knowledgeable in several

programming languages including Visual Basic, SQL, C and C++. More information about IUPUI programming development can be found at <http://assessment.iupui.edu/develop/>.

Future Directions

In this section of the report we are granted some leeway to speculate on development activities for the future. We've already alluded to one of those activities in the form of the electronic portfolio. In its current incarnation, the IUPUI Electronic Portfolio is a multi-faceted system designed for students or faculty to create repositories of purposefully selected educational or professional information for later review and evaluation. The material contained in electronic portfolios usually consists of documents, but could include multi-media items such as music, graphics, photos, and video. The portfolio system is composed of four parts:

- (1) An input system. There are two ways to deposit materials into one's personal electronic portfolio. The first mechanism uses IUPUI's Oncourse interface. Oncourse is a technology used in support of distance education. It permits faculty to easily distribute information to students, can be used as an electronic forum for discussion, or document review among other things. Because the interface is intimately tied to coursework, portfolio documents that are course-related can easily be collected using this format. The interface is simple to the extent that anyone who has "opened" a file in a word-processing environment should be very comfortable uploading portfolio items. The second mechanism is a direct account deposit using a standard web interface. Documents collected

from extra-curricular activities would normally be serviced with this interface.

- (2) A classification system. All documents introduced into the portfolio are classified. In some instances, the classification may come from information embedded by the course instructor. In other cases, students may perform the classification task. The taxonomies underlying the classification schemes may vary from school to school, but most units will want classification systems to address the following elements: year/semester in which the document was created, how it relates to the principles of undergraduate learning, at what stage of development the document was created (formative/final), in what environment the document was created (class, service, practicum, extra-curricular), and other requirements that a school might stipulate. Figure 2 shows how one document might be classified.
- (3) An assessment system. Linked to the portfolio would be assessments of particular documents, classes of documents, or the portfolio itself. For example, a department may wish to provide an overall assessment of the portfolio as part of an annual review for graduating seniors. They might develop rubrics for evaluating the portfolio and link the portfolio to a database that contained the evaluation information. The same mechanism could conceivably be available for individual documents or documents tied together by cohort groups (e.g., taken only during the first 56 hours of college-level work).
- (4) An indicator system. Another linkage to the portfolio consists of individual indicators that might illustrate academic progress. One would be able to ascertain, for

example, how many hours the student has taken for college-level credit, what the current GPA is, scores on placement tests, how many requirements have been fulfilled, etc. The indicator system would provide a counselor or interested other information about the degree and success to which a student has made progress at the institution.

- (5) A reporting system. The reporting system would consist of templates that would extract portfolio information (i.e., documents, classifications, ratings, and indicators) in a format desired by the reviewing party. For instance, the portfolio specified by, say, Social Work will probably contain material that will be in common with University College, but will also have unique items as well. Each unit that sponsors the electronic portfolio option will have the capability of creating a template. In addition templates would be supported for students who want to show their portfolios to prospective employers or post-graduate institutions.

We anticipate reporting more on our work with schools and departments next year on this new and exciting development.

We are presently engaged in a study to expand the rating system for the Project Essay Grade (PEG) reported on earlier in this document. While the PEG scores are very informative about where a student stands with his or her writing, it does not provide much in the way of formative feedback—that is, what areas of student work can be improved? Our current study asks raters to evaluate five different dimensions of writing—content, creativity, style, mechanics, and organization. The ratings on these dimensions of work should form the basis for student reflection on what next steps can be taken to revise the current document for the best possible communication.

Section III: Teaching, Research, and Service

In this final section, we list some of the external activities that speak to our contributions beyond the student service mission of the Testing Center.

Teaching:

Mark Shermis designed and taught two courses for the Department of Psychology: Clinical Rehabilitation Psychology Assessment I (Psych I664) and Clinical Rehabilitation Psychology Assessment II (Psych I669).

Doctoral Committees:

Mary Ann Scott (University of Texas at Austin), member (Shermis)
Terry Barker (Indiana University), member (Mzumara)

Research/Scholarship:

Articles/Chapters/Books Published:

Printz, B., Shermis, M. D., & Webb, P. M. (in press). Stress buffering factors related to adolescent coping: A path analysis. Adolescence.

Shermis, M. D., & Lombard, D. (1998). A comparison of survey data collected by self-completed mail questionnaire and electronic mail. Journal of Business and Psychology, 14(1), 111-123

Shermis, M. D., Webb, P. M., & Mzumara, H. R. (in press). An assessment of the concurrent validity and reliability of the Merkle Style Preference Inventory (MSPI). Journal of Career Assessment.

(under review)

Harrington, S., Shermis, M. D., & Rollins, A. (1997). The influence of word processing on English placement test results. Manuscript submitted to the Journal of Writing Research.

Shermis, M. D. (1998). Using computerized adaptive testing for college mathematics. Manuscript submitted to the Mathematical Educational Research Journal.

Shermis, M. D., Mzumara, H. R., Olson, J., & Harrington, S. (1998). On-line grading of student essays: PEG goes on the World Wide Web. Manuscript submitted to the Journal of Educational Measurement.

Shermis, M. D., Mzumara, H. R., Bublitz, S. T. (1997). Controlling testing and computer anxiety: Test performance under CAT and SAT conditions. Manuscript submitted to Educational and Psychological Measurement.

Unpublished Reports:

Mzumara, H. R., Shermis, M. D., & Fogel, M. (1998, November). Validity of the IUPUI placement test scores for course placement: 1997-1998. Indianapolis, IN: IUPUI Testing Center.

Shermis, M. D., Mzumara, H. R., Kiger, B., & Marsiglio, C. (1998, January). The Testing Center Annual Report 1996. Indianapolis, IN: IUPUI Testing Center.

Papers:

Shermis, M. D., Mzumara, H. R., Olson, J., & Harrington, S. (1998). On-line grading of student essays: PEG goes on the web at IUPUI. Paper presented at the annual meetings of the American Educational Research Association, San Diego, CA.

Mzumara, H. R., Shermis, M. D., Wimer, D. G. (1998, September). Use of examinee's previous math background in computerized adaptive math placement testing. Paper presented at the first annual PACT Conference, Atlanta, GA.

Presentations:

Mzumara, H. R. (1998, November). Web-based placement testing. Presentation for the Best Practices Assessment Fair at the 1998 Assessment Institute, Indianapolis, IN.

Mzumara, H. R. (December, 1998). Web-based placement testing. Presentation given at Ivy Tech State College, Indianapolis, IN.

Shermis, M. D., & Marsiglio, C. (1998, February). Web-based placement testing. Presentation given at North Central High School, Indianapolis, IN.

Shermis, M. D. (1998, April). Placement testing through the world wide web: High-tech developments in the domain of assessment. Presentation given at the annual meetings of the American Educational Research Association, San Diego, CA.

Shermis, M. D. (1998, June). Web-based placement testing. Presentation given at the annual NOCA Conference, Washington, DC.

Shermis, M. D. (1998, August). PEG Goes On-Line. Presentation given to Riverside Publishing, Inc. Board of Directors, Itasca, IL.

Shermis, M. D. (1998, August). Psychology review. Presentation given for the Association for Advancement of the Behavioral Sciences, New York, NY.

Shermis, M. D. (1998, September). Web-based placement testing. Presentation given at the first annual PACT Conference, Atlanta, GA.

Shermis, M. D., & Marsiglio, C. (1998, October). Web-based placement testing. Presentation given at Carmel High School, Carmel, IN.

Shermis, M. D., & Marsiglio, C. (1998, November). Web-based placement testing. Presentation given at Decatur Central High School, Indianapolis, IN.

Hatfield, S., & Shermis, M.D. (1998, November). Using electronic portfolios in assessment. Presentation given at the seventh annual Assessment Institute, Indianapolis, IN.

Shermis, M.D., & Marsiglio, C. (1998, November). Electronic portfolios. Presentation given to the Program Review and Assessment Committee, IUPUI, Indianapolis, IN.

Shermis, M. D., & Marsiglio, C. (1998, November). Web-based placement testing. Presentation given at Roncalli High School, Indianapolis, IN.

Exhibitor:

Mzumara, H. R. (1998, November). Exhibitor/Participant in the Best Practices Instrument Fair at the 1998 Assessment Institute, Indianapolis, IN.

Workshops:

Shermis, M. D. (1998, July) Presentation power: Extending the limits of the written word. Workshop given at the Information Technology Institute (AIR), Indianapolis, IN.

Hatfield, S., & Shermis, M. D. (1998, August). Electronic portfolios. Workshop given to University College faculty, IUPUI, Indianapolis, IN.

Shermis, M.D., & Mzumara, H. R. (1998, November). Web-based applications in assessment. Workshop given at the seventh annual Assessment Institute, Indianapolis, IN.

Grants in Progress:

Shermis, M. D., & Mzumara, H. R. (1997). College Placement Testing Through the World Wide Web: Preparing Students for Post-Secondary Education. Grant submitted under the auspices of the Strategic Directions Charter of Indiana University (\$63,333).

Grants Received:

\$15,000 extension for the testing grant listed above.

Mzumara, H. R. (1996, December). Improving the IUPUI placement testing program through the use of computer technology. Funds granted by the IUPUI Central Administration to upgrade the Testing Center's Microcomputer Testing Facility (\$80,000).

Shermis, M. D., & Mzumara, H. R. (1997, January). Equating placement tests between IUPUI and Ivy Tech State College. Research funds granted under the auspices of the IUPUI/Ivy Tech Office of Coordinated Programs (\$4,000).

Graduate/Undergraduate Students Supported:

Karen Dossinger (M.A. student in psychology)
Jennifer Olson (M.A. student in psychology)
Marc Fogel (M.A. student in psychology)

Consulting Engagements:

Mzumara:

Department of Computer Science and Information Services, IUPUI. Grant writing for a collaborative research proposal to the National Science Foundation (evaluation of the proposed project on the Emergency Communication System.)

Departments of Physics, Mathematical Sciences, and Biology, IUPUI. Grant writing for a collaborative research proposal to the National Science Foundation (evaluation of the project on reform in science and math education)

Enrollment Center and Office of Orientation Services, IUPUI. Consulting for placement test scheduling and use of FoxPro scheduling application.

Department of Engineering and Technology, IUPUI. Consulting for Student Evaluation of Teaching.

Developmental Reading Program, School of Education, IUPUI. Consulting on statistical and data analysis for the Watson-Glaser Critical Thinking Skills study.

Department of Mathematical Sciences, IUPU Indianapolis and Columbus campuses. Generating FOCUS query reports (semester audits and rosters).

Department of English, IUPUI. Generating FOCUS query reports (Daily-counts of students scheduled for placement testing, semester audits and rosters)

Shermis:

Assessment Systems, Inc., Bala Kynwood, PA. Consulting for web-based testing.

Association for Advanced Training in the Behavioral Sciences, Ventura, CA. Consulting for the Psychology National Written Licensing Examination.

Educational Testing Service, Princeton, NJ. Consulting for the CLEP Examinaton in Psychology.

Indiana Commission for Legal Education, Indianapolis, IN. Consulting for continuing legal education and certification.

Tru-judge, Inc., Chapel Hill, NC. Consulting for computerized essay grading.

Proposals/Manuscripts Reviewed:

Journal Reviewer

Journal of Educational Measurement (2 manuscripts)

Conference Reviewer

American Educational Research Association (AERA)
National Council on Measurement in Education (NCME)

Professional Associations:

Mzumara:

Member, American Educational Research Association

Member, American Evaluation Association
Member, American Statistical Association
Member, National Council on Measurement in Education
Member, Midwest Professional Association of College Testing (MPACT)
Personnel

Shermis:

Member, American Educational Research Association
Member, National Council on Measurement in Education
Member, American Psychological Association
Member, American Evaluation Association
Member, Phi Delta Kappa
Member, American Statistical Association

Committees:

National Committees (Shermis)

Chair, American Psychological Association Continuing Education Committee
Secretary, AERA SIG on Measurement Services

University-wide Committees

Mzumara:

Enrollment Center Steering Group/Entry Process Action Team
Testing Center Advisory Committee
Campus-wide Frontline Group, member

Shermis:

Academic Affairs Committee
Academic Policy and Planning Committee
Administrative Council
Enrollment Management Committee
Program Review and Assessment Committee
Testing Center Advisory Committee

Department of Psychology Committees (Shermis)

Methodology Group
Clinical Rehabilitation Group

Training:

Conferences

Mzumara:

American Educational Research Association (San Diego, CA)
National Council on Measurement in Education (San Diego, CA)

Professional Affiliates in College Testing (Atlanta, GA)

Shermis:

American Educational Research Association (San Diego, CA)
National Council on Measurement in Education (San Diego, CA)
NOCA (Washington, DC)
AAHE Assessment Conference (Cincinnati, OH)
American Psychological Association (San Francisco, CA)
Professional Affiliates in College Testing (Atlanta, GA)
Assessment Institute (Indianapolis, IN)