DOCUMENT RESUME

ED 451 234 TM 032 462

AUTHOR Bastick, Tony
TITLE A Technique for Measuring Effective Teaching of Professional Courses.
PUB DATE 1999-05-00
NOTE 8p.; Paper presented at the Annual Meeting of the Western Psychological Association (79th, Irvine, CA, April 29-May 2, 1999). For a related paper from the same author, see TM 032 457.
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Ability; *College Faculty; College Students; Competence; *Evaluation Methods; Foreign Countries; Higher Education; Professional Development; *Self Evaluation (Individuals); *Student Evaluation of Teacher Performance; Teacher Attitudes
IDENTIFIERS Jamaica

ABSTRACT

This paper presents the results of research into a technique for the measurement of effective teaching that avoids the problems inherent in student evaluations of teacher effectiveness. The method takes as little as 5 minutes to administer and so can be used in-course by the teacher to track his or her teaching effectiveness. It results in a single number that can be used at the end of a course as an administrative decision point measure. The initial research with 3 classes of teacher training students (n=12, n=12, and n=23) was done in an Australian university and is now being replicated in other universities. The measure operationally defines the three basic abilities of the Three Ability Framework (3AF): technical skills, professional competence, and professional attitudes. The 3AF method assesses the degree of alignment between the changes the students expect in these three abilities and the changes toward which the teacher is working. Correlations between the scores of academic attainment, degree of teacher/student alignment, and course satisfaction indicated that when the students and their teacher were working towards the same proportion and amount of these three abilities, the students had higher academic attainment and greater course satisfaction. The four steps of the application of the method are outlined. (Contains 1 table and 28 references.) (SLD)

A Technique for Measuring Effective Teaching of Professional Courses

Author:
Tony Bastick

A Technique for Measuring Effective Teaching of Professional Courses

Tony Bastick
University of the West Indies

Introduction

The traditional method of measuring teacher effectivness is by using student opinionnaires. Their formats differ in (a) the questions that are asked, (b)whether they are open ended or forced choice and (c) whether they are anonymous or confidential. Whatever format is chosen puts some limitations on how the results should be used. Unfortunately, the same format must serve purposes as diverse as improving instruction, informing student choice and making tenure and promotion decisions. Accusations referring to popularity contests, grade inflation, techniques that bias results, student/teacher power play, inappropriate statistical analyses, infringement of professional choice, legal inadequacy for institutional decisions, etc. indicate that this traditional method is not fulfilling all of its intended purposes.

This paper presents the results of research into a technique for the measurement of effective teaching that avoids these problems. It takes as little as 5 minutes to administer and so can be used in-course by the teacher to track his or her teaching effectiveness. It results in a single number that can be used at the end of a course as an administration decision point measure of effective teaching.

Effective teaching is here defined as maximising student academic attainment, and teacher and student course satisfaction. The initial research with three classes of teacher training students (n=21,12,23) was done in an Australian University and is now being replicated in other universities. The measurement method operationally defines three basic abilities. For in-course tracking of teaching, the method assesses the degree of alignment between the changes the students expect in these three abilities and the changes the teacher is working towards. For end-of-course measurement of teaching effectiveness the method assesses the alignment of the teacher's intentions with the students' perception.

Correlations between scores of academic attainment (coursework and examinations), degree of teacher/student alignment, and course satisfaction (both student's and teacher's), indicate that when the students and their teacher are working towards the same proportion and amount of these three abilities then those students have a higher academic attainment and greater course satisfaction, and the teacher finds greater enjoyment in teaching those students. A sensitivity analysis of the same data also showed that student/teacher alignment on these three abilities significantly predicted academic achievement ($p<0.001$) and course satisfaction ($p=0.002$).

Widespread problems in the uses of student evaluations of teaching

The use of student opinionnaires for the assessment of faculty teaching is now widespread in the Europe and the USA (Crumbley, 1995; Husbands & Fosh, 1993; Seldin, 1984, 1993; Yunker & Sterner, 1988). Within each institution the results from the same set of forms are used to serve multiple purposes; for feedback to lecturers for improving their teaching, for publication to the student body for course registration decisions, for administrative course evaluation, and for promotion and tenure decisions (Kolevzon, 1981, Avi-Itzhak & Lya, 1986). However, it seems that student evaluations are failing to satisfactorily serve any of these purposes (Greenwald, 1997; Greenwald & Gillmore, 1997; Howard & Maxwell, 1982; Marsh & Dunkin, 1997; Marsh & Roche, 1997, 1998).

There are widespread doubts about the validity of these forms; if they really do assess the quality of teaching, and whether students are qualified assessors (Chacko, 1983; Dowell & Neal, 1982; Powell, 1977; Snyder & Clair, 1976; Vasta & Sarmiento, 1979; Worthington & Wong, 1979). A major problem is the influence that their use for faculty employment decisions is having on the conduct of university teaching and course assessment. "The higher education rhetoric is almost universal in stating that the primary purpose of faculty evaluation is to help faculty improve their performance. However, an examination of the systems used indicates that the primary purpose is almost always to make personnel decisions. That is, to make decisions for retention, promotion, tenure, and salary increases." (Cashin, 1996). Students rating reflects the philosophy of customer service satisfaction - how much the lecturer met their requirements of being able to pass the course without an inconvenient workload and tedious attendance. This invites negative evaluations from students in the lower attainment and attendance range of the class. The most expedient career solution is to teach entertainingly at lower standards and use the time saved for career building research (Greenwald, 1996; Greenwald & Gillmore, 1966; DuCette & Kenney, 1982; Goldberg & Callahan, 1991; Kemp & Kuman, 1990). This common solution has reversed the first intention of student evaluation which was to improve the quality of teaching (Rebell, 1990). Student ratings also extend to course enjoyment and this can attract negative evaluations at all levels of student ability if the lecturer presents information at odds with their current values (Dershowitz, 1994; Stone, 1995).

The Three Ability Framework (3AF)

A complete alternative to postmortem student opinionnaires and their attendant problems is the Three Ability Framework (3AF) and its attendant advantages to the institution, faculty and students. The 3AF form has only 6 necessary ratings that take less than 5 minutes to complete. The form can be used many times by the lecturer during the course for in-course tracking of teaching quality. At the end of the course it can be used by the administration to give a single decision point number representing the quality of teaching. Previous research has identified teaching and assessment problems on professional courses with staff/student miss-matched expectations of three abilities. These three abilities are technical skills, professional competence and professional attitudes (Bastick, 1995). The 3AF uses the matching of staff/ student expectations on these three abilities as the bases of teaching effectiveness.

The 3AF form asks for two ratings of each of these abilities; ratings of how it is now on the course and ratings of how the student would want it to be. This is shown in figure 1. The form takes longer to complete when additional information is requested.

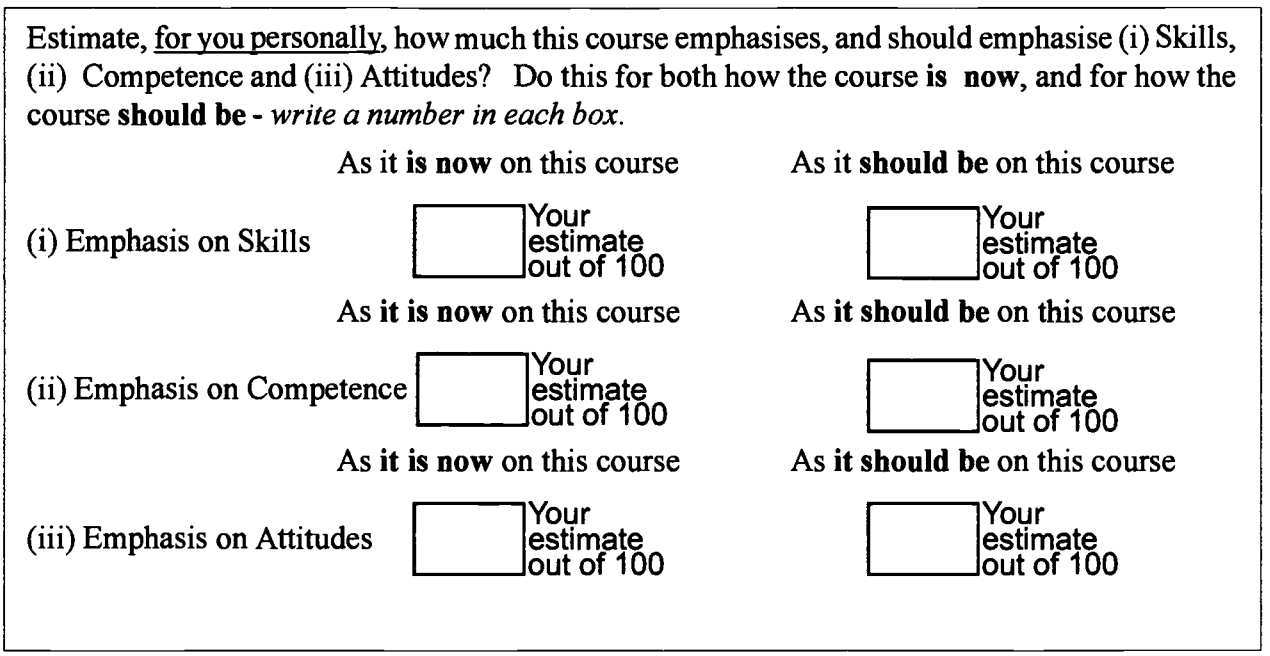

Figure 1: 3AF form asking for two ratings of each of the three abilities

Technical Skills refer to the traditional speed and accuracy of reproducing facts and processes and is assessed by timed accuracy of reproduction. Professional competence refers to the ability to use the skills in a novel situation or extend these skills in a novel way. The assessment is by justification of the appropriateness of what is done. Professional attitudes refers to values that are appropriate to the subject. They are assessed by demonstration in practical situations.

From the difference in each pair of ratings it is possible to calculate the each student's expectation for change in that ability. The lecturer completes the same ratings at the same time, and from the lecturer's form it is possible to also calculate, in the same way, the lecturer's expectations for change in each of the three abilities. Previous research has shown that when the students' expectations are the same as the lecturer's, that is both students and lecturer are working towards the same degree of change (indicator of effectiveness), then students get high grades and both the lecturer and the students enjoy the course (criteria of effectiveness). The correlations between the in-course indicators and the post-course criteria are significant at $p<=0.002$, with $n=56$ (Bastick, 1995).

Measuring effectiveness of teaching (ET)

The 3AF involves more than using the form and calculating the results. There are four steps in the application of the method

1. Pre-course peer justification of ratings

In the design stage, before the course starts, the lecturer needs to use his/her professional expertise to decide on what should be the emphasis on the course for each of the three abilities. A rationale should justify this decision, and it needs to be peer agreed. The lecturer can then build his/her expectations of the three abilities into the teaching and the design of course assignments that give students the opportunities to demonstrate the required level of each ability.

2. Explain and justify three abilities to students

Near the beginning of the course the lecturer needs to make sure the students understand the three abilities and how they will be taught and assessed through the content of the course.

3. Monitor 'as-is' and 'should-be' for students and lecturer

The 3AF form is completed by students and the lecturer when the lecturer is ready to monitor the course, or the administration is ready to assess the teaching.

4. Calculating the effectiveness of teaching

This is done in the following two stages (a) and (b).
a) Calculate expected change for each student and lecturer:
Change=('should-be'-'as-is')/'as-is'
b) Calculate alignment:
Alignment=|Lecturer change-Student change|
Zero is the perfect score

The ET score can be calculated for each student or for any group of students. Hence, the effectiveness of teaching can be monitored for any group of interest - older students, students taking special electives, minority groups, gender balance, etc. Adjustments can be made to in-course teaching as necessary.

Safeguards from variation in students' set expectations

The variation in students expectations can be calculated and used as a safeguard to protect the lecturer from inappropriate student expectations. It will be realized that all course evaluations depend on matching student expectations to the expectations of the course. Some aspects of the course can be presented in different ways to match different student expectations. For example, so called 'learning styles' can be matched by adopting different 'teaching styles'. However, some aspects of the course cannot be changed to match student expectations, e.g. the content or the peer agreed emphases of the three abilities. If student's expectations of these unchangeables cannot be altered to accept them, then teaching ratings will go down through no fault of the lecturer. Traditional opinionnaires penalize the lecturer because they make no allowance for large variations in unchangeable student expectations. However, the 3AF allows the lecturer to show evidence that the original peer agreed emphases may not be appropriate for some groups on the course. This evidence can be used to either change the course expectations or change the student selection criteria.

Institutional commitment to staff development

The full Framework includes the commitment of the institution to develop faculty's ability to use their subject specialism as a vehicle for explaining, teaching and assessing the three abilities. Institutional staff development support includes promoting academic freedom and professional responsibility, assisting faculty in making expectations explicit, in designing assessment opportunities for the three abilities and developing the ability of faculty to teach the three abilities using the content of their subject areas. There is a saying in business that 'what gets rewarded gets done'. Quality teaching and quality learning are rewarded by the 3AF.

References.

Avi-Itzhak, T., & Lya K. (1986). An investigation into the relationship between university faculty attitudes toward student rating and organizational and background factors. *Educational Research Quarterly, 10* . 31-38

Bastick, T. (1995a, July). *3AF: The three-ability framework for assessment in tertiary education.* Paper presented at The 8th International Conference on Assessing Quality in Higher Education, Finland.

Cashin, W. E. (1996). *Developing an effective faculty evaluation system.* Idea Paper No. 33, Manhattan: Kansas State University, Center For Faculty Evaluation and Development.

Chacko, T. I. (1983). Student ratings of instruction: A function of grading standards. *Educational Research Quarterly, 8*(2), 19-25.

Crumbley, L. (1995). On the dysfunctional atmosphere of higher education: games professors play. *Accounting Perspectives, 1.*

Dershowitz, A. (1994). *Contrary to popular opinion.* New York: Berkley Books

Dowell, D. A., & Neal, J. A. (1982). A selective view of the validity of student ratings of teaching. *Journal of Higher Education, 53*, 51-62.

DuCette, J. & Kenney, J. (1982). Do grading standards affect student evaluations of teaching? Some new evidence on an old question. *Journal of Educational Psychology, 74*, 308-314.

Goldberg, G. & J. Callahan. (1991). Objectivity of students' evaluations of instructors. *Journal of Education for Business, 66,* 377-378.

Greenwald, A. G. (1996). *Applying social psychology to reveal a major (but correctable) flaw in student evaluations of teaching.* University of Washington, Draft Manuscript.

Greenwald, A. G. (1997). Validity concerns & Usefulness of Student Ratings of Instruction. *American Psychologist 52,* 1182-1186.

Greenwald, A.& G. Gillmore. (1996). *No pain, no gain? The importance of measuring course workload in student ratings of instructions.* University of Washington. Manuscript submitted for publication.

Greenwald A. G. & Gillmore, G. M. (1997). Grading leniency is a removable contaminant of student ratings. *American Psychologist 52*, 1209-1217.

Howard, G. S., & Maxwell, S. E. (1982). Do grades contaminate student evaluations of instruction? *Research in Higher Education, 16*, 175-188.

Husbands, C. & Fosh, P. (1993). Student's evaluation of teaching in higher education: Experiences from four European countries and some implication of the practice. *Assessment & Evaluation on Higher Education, 18*, 95-114.

Kemp, B. W. & Kuman, G. S. (1990). Student evaluations: are we using them correctly? *Journal of Education for Business, 65*, 106-11.

Kolevzon, M. S. (1981). Grade inflation in higher education: a comparative study. *Research in Higher Education, 15*, 195-212.

Marsh, H. W. & Dunkin, M. (1997). Students' evaluations of university teaching: A multidimensional perspective. In R. P. Perry & J. C. Smart (Eds.), *Effective Teaching in Higher education: Research and Practice* (pp. 241-320). New York: Agathon.

Marsh, H. W. & Roche, L. A. (1997). Making students' evaluations of teaching effectiveness effective. *American Psychologist, 52*, 1187-1197.

Marsh, H. W. & Roche, L. A. (1998). *Effects of Grading Leniency and Low Workloads on Students' Evaluations of Teaching: Popular Myth, Bias, Validity or Innocent Bystanders?* Manuscript in review.

Powell, R. W. (1977). Grades, learning, and student evaluation of instruction. *Research in Higher Education, 7*, 193-205.

Rebell, M, A. (1990). Legal issues concerning teacher evaluation. In J. Millman, & L. Darling-Hammond, (Eds.), *The new handbook of teacher evaluation.* (pp. 337-355). Beverly Hills: CA. SAGE.

Seldin, P. (1984). Faculty Evaluation: Surveying Policy and Practices. *CHANGE 16*(3), 28-33.

Seldin, P. (1993, July 21). When students rate professors. *The Chronicle of Higher Education.* Opinion.

Stone, J. E. (1995). Inflated grades, inflated enrollment, and inflated budgets: an analysis and call for review at the state level. *Education Policy Analysis Archives, 3,* 11.

Vasta, R., & Sarmiento, R. F. (1979). Liberal grading improves evaluations but not performance. *Journal of Educational Psychology, 71*, 207-211.

Worthington, A. G., & Wong, P. T. P. (1979). Effects of earned and assigned grades on student evaluations of an instructor. *Journal of Educational Psychology, 71*, 764-775.

Yunker, B.J. & Sterner, J (1988). A survey of faculty performance evaluation in accounting. *Accounting Educators' Journal*, 63-74.■

Bastick, T. (1999, May). *A Technique for Measuring Effective Teaching of Professional Courses.* Paper presented at the 1999 Convention of the Western Psychological Association, Irvine, CA.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

TM032462

REPRODUCTION RELEASE

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title:	A Technique for Measuring Effective Teaching of Professional Courses.	
Author(s):	Bastick, Tony	
Corporate Source:	Paper presented at the 1999 Convention of the Western Psychological Association, Irvine, CA.	Publication Date: 1999, May

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1 ↑

☑

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) *and* paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A ↑

☐

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B ↑

☐

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, → please

Signature:	Printed Name/Position/Title: Tony Bastick, Research Coordinator, Dr.	
Organization/Address: University of the West Indies, Department of Educational Studies, Mona Campus, Kingston 7, Jamaica	Telephone: (876)927-2130	FAX: (876)977-0482
	E-Mail Address: tbastick@uwimona.edu.jm	Date: 19th Feb 2001

(over)

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility
4483-A Forbes Boulevard
Lanham, Maryland 20706

Telephone: 301-552-4200
Toll Free: 800-799-3742
FAX: 301-552-4700
e-mail: ericfac@inet.ed.gov
WWW: http://ericfac.piccard.csc.com