



SOCIETY OF ACTUARIES

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## E&amp;E CORNER

# Improved E&E system helps new FSAs hit the ground running

by Roy Goldman

All of us have vivid memories of taking the actuarial examinations. In addition, many of you have served on one of the examination committees. But, how many of you are aware of how much the education and examination system has changed through the years? I have served in the E&E system since becoming a Fellow in 1980 and have found it to be a dynamic organization, which is always looking for ways to improve.

The examination side of E&E is big business. About 10% of the current Fellows volunteer time in one of the education or examination committees or in proctoring an examination. Volunteers and staff create, administer, and grade 55,000 exam papers for 65 different examinations. We run eight intensive seminars in applied statistics and risk theory and four Fellowship Admission Courses, and we oversee the Research Papers option.

Although much effort is directed toward examinations, the focus of the E&E Committee is on the first "E": education. Recent changes are aimed at developing an FSA who not only has a well-rounded basic education but also has the intellectual skills required by business today and in the 21st century.

## Testing cognitive skills

The most significant change is the move away from questions testing only memorization. More questions, especially on the higher level examinations, now ask candidates to "discuss," "compare," "recommend," "evaluate," or "analyze." Candidates earn points only if they answer the question as it is asked. Candidates are expected to give a complete discussion, make a recommendation and justify it, or analyze all sides of a given issue. In fact, the grading outlines are reviewed as carefully as the questions themselves. They are reviewed at several E&E levels, including the general officer level.

## Training

To help Fellows who may have little experience writing and grading questions, we train the examination officers who, in turn, lead training sessions for all their item writers. We now train item writers before asking them to write questions. Training requires an additional one to three days for the officers, but it should pay huge dividends by making volunteers effective more quickly and improving consistency across the various tracks.

## Case studies

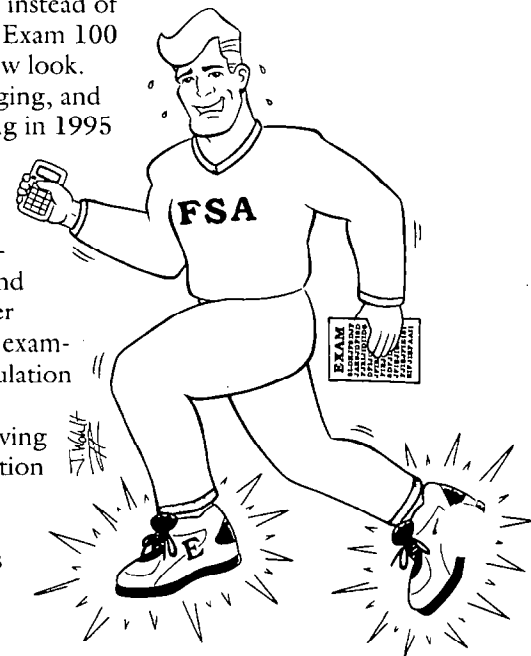
To facilitate asking more thought-provoking questions, many examination committees are developing case studies or realistic case situations that serve as the basis of several questions. The first effort was a 20-point question on the pension plan of a mining company whose production will increase rapidly over the next few years and then slowly decrease until the mine is depleted and permanently shut down in about 20 years. Candidates were asked to recommend a funding approach and an accounting approach, address tradeoffs between meeting cash flow and earnings goals, and discuss any other related issues.

As another example, the Individual Health Committee developed a seven-page case study of an insurance company. The case study was sent to candidates in advance and was available for use during the exam to answer a series of questions on individual health and long-term care. The candidates' responses were expected to be related back to the insurer in the case study. Simply recalling a list of facts in the study note was not enough to pass the exam.

## Other examination changes

Other examination committees have supplied candidates with formulas or a copy of a complex law to allow a focus on testing concepts instead of just memory. Even Exam 100 is getting a fresh new look. The SATs are changing, and so are we. Beginning in 1995 or 1996, Exam 100 will consist of 45 questions on the concepts underlying the calculus and linear algebra, rather than a 60-question examination testing calculation techniques.

We will be removing the guessing correction to encourage all candidates to make educated inferences about the correct answer. And the



most famous bastion of actuarial exams, the triple-true-false (TTF) question, is being replaced by simple true-false questions. It is not true that TTF questions are constructed so that two of the statements were easy, and one was ambiguous; it just seemed that way to candidates. A student who answers a TTF question incorrectly may not know anything about any of the statements or may know everything about two out of three. We think it is important to find out what students know about each statement on the examination.

### Syllabus updates

The other major educational focus has been on the syllabus itself. The Flexible Education System has given us the freedom to expand the course offerings and to innovate.

Four Fellowship tracks now exist: Individual Life and Annuity, Group Benefits, Pension, and Finance. The number of core examinations has been raised from three to four. Two of the core examinations deal with investment-related topics: Course 220 – Introduction to Asset Management and Corporate Finance and Course 230 – Principles of Asset/Liability Management.

Over the past three years, nine new investment or finance courses have been added to the syllabus. In addition to Courses 220 and 230, they are:

Course 385	Financial Management
Course 480	Advanced Asset/Liability Management
Course 482	Advanced Financial Management and Taxation – Canada
Course 483	Advanced Financial Management and Taxation – United States
Course 485	Advanced Portfolio Management
Course 580	Corporate Finance
Course 585	Applied Corporate Finance
Course 590	Corporate Strategy and Solvency Management

Candidates now may choose from among the 300-level Fellowship courses to satisfy their Associateship elective requirements. The 300-level courses include the two enrolled actuary exams, as well as the basic courses in each track.

Committees update the syllabus continuously, and we believe new Fellows can be productive on their first day in almost any job within their specialty. We rely on the Sections and the practice education committees to help us produce up-to-date study materials.

All the members who participate in the education or examination process give tremendous effort. Society members are involved in every step of the education and examination process, more so than any other professional group I am aware of.

During the last two years, we have begun to research the testing literature and have begun to learn from other professional bodies and consultants how other examination systems are administered. We now employ Professional Examination Services to work with us in setting course objectives, constructing examination blueprints, and improving the consistency and quality of our examination procedures. For E&E officers, it is a constant learning experience, which is what makes it exciting enough for me to stay in the system for 14 years.

**Roy Goldman is general chairperson of the SOA Education and Examination Committee and senior vice president, chief actuary, and CFO of The Group Department of The Prudential Insurance Company of America.**

## FAC nears 1,000th graduate

At the end of the September 1993 Fellowship Admission Course, 999 participants had successfully completed the FAC, which began in 1990. This means 14% of the Society's Fellows have attained their Fellowship through the course.

To keep pace with the rising number of Fellowship candidates, the FAC Management Committee has continued training new facilitators. Joining an already distinguished list of faculty are Murray Becker, president of Becker and Rooney, Inc., Teaneck, New Jersey; Bob Beuerlein, senior vice president, Franklin Life Insurance Company, Springfield, Illinois; Yuan Chang, vice president, Metropolitan Life Insurance Co., New York, and Dale Yamamoto, Hewitt Associates, Lincolnshire, Illinois.

Several more facilitator training sessions will be conducted May 12-13 in Minneapolis and May 16-17 in Columbus, Ohio. New facilitators are asked to lead a case study discussion before a "pilot test group" of recent Fellows. If you are a recent Fellow and would like to participate in one of these sessions, please call Martha Mazariegos at 708/706-3596.

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