

RECORD, Volume 24, No. 3*

New York Annual Meeting
October 18–21, 1998

Session 350F Education and Examination Redesign

Track: General
Key word: Actuarial Profession, Education

Moderator: CECIL D. BYKERK
Panelists: JEFFREY A. BECKLEY
ROBERT L. BROWN
MARTA L. HOLMBERG†
ANN M. KATCHER
Recorder: CECIL D. BYKERK

Summary: The actuarial profession continues to face new challenges and opportunities in traditional areas of practice and new and emerging areas. Anticipating such developments, the SOA Board of Governors unanimously approved proceeding with the redesign of the education and examination system at its Oct. 27, 1996, meeting.

Since that approval, conversion rules have been announced, and working groups for each course in the new system have established learning objectives and defined the syllabus material needed to support the basic and advanced courses that will be required for candidates to attain the ASA and FSA designations.

A task force charged with refining the guidelines and parameters for the professional development component of the education requirements has been hard at work. Planning is also under way to identify needed professional development programs and ensure they will be available by the time the new education system takes effect in the year 2000. This interactive session is largely devoted to questions and answers on issues concerning design and syllabus elements such as:

- *Conversion rules*
- *The professional development requirement and programs to satisfy that requirement*
- *How candidates can attain highly specialized education relevant to the focus of their practice*

*Copyright © 1999, Society of Actuaries

†Ms. Holmberg, not a member of the sponsoring organization, is Education Executive with the SOA in Schaumburg, IL.

Mr. Cecil D. Bykerk: I'm the chairman of the Board Task Force on Education that has been working on this project for about four and a half years. I am joined by three speakers. Dr. Robert L. Brown, who is on the faculty of the University of Waterloo, has been involved with this effort since the inception. Jeffrey A. Beckley, who has a consulting firm in Indianapolis, has been involved with the redesign effort almost from the beginning and, before that, was very involved with the efforts of the Education and Examination (E&E) Committee. Anne M. Katcher, who is with Equitable, was on the Board of Governors from 1994 to 1997). She served this past year on the Task Force on Professional Development that developed the structure and general guidelines for the professional development (PD) component in the new education system, and she's going to discuss that. Dr. Marta L. Holmberg, who works with the E&E process in the SOA office, has been a great support to all of us as we've tried to work through this effort.

Dr. Robert L. Brown: I'm going to do a very quick review of the first six courses, which are the basic courses. Jeff will provide a bit more detail for the modeling seminar, Course 7, and the practice specialty exams, Course 8, both of which are advanced courses. Anne will then provide you with the details on PD.

The early exams, courses 1–4, are the mathematical content exams. They take you through the modeling process. To complete your associateship, you also must write Course 5 on "Applications of Basic Actuarial Principles," and Course 6 on "Finance and Investments." In some sense, Course 5 replicates the totality of Courses 200 and 210, and Course 6 is similar to the combination of 220 and 230.

For candidates majoring in mathematics, Course 1 will be the first exam that we would expect the candidate to write. It combines topics that are now on Courses 100 and 110, in particular, calculus and probability, but it does so in a context of the assessment of risk. One of the concerns we had about the existing syllabus material was that it was possible for candidates to write as many as four exams, yet not know what it is that an actuary does. I want to emphasize that risk assessment is a *context* for the mathematical subjects in Course 1. It is not tested at a level that requires a candidate to go somewhere and take an undergraduate program in risk assessment and management of risk.

The questions that the candidates will see will require working knowledge of calculus and probability, but in the context of what an actuary does. For example, we might set the question in the context of risk assessment of a workers compensation case, a public liability, or a mine that has to be shut down so pollution controls can be installed. The solution to the question will call for the use of calculus and probability. Very few, if any, of the questions will be pure assessment of risk or management of risk questions.

Course 2, "Interest Theory, Economics, and Finance," will cover a variety of topics, including microeconomics and macroeconomics. For most candidates, this would require three semester courses at a college or university. For a candidate who's in a business or commerce program, Course 2 might be the first exam he or she would write. The rest of the material in Course 2 is interest theory, pretty much as you know it today. The candidate will be required to know the Kellison material, an introduction to finance, but not a highly sophisticated level of investment and finance. This will definitely be an undergraduate finance course. We hope to both attract and screen candidates using Courses 1 and 2. At the end of those two courses, we should have solid candidates who know what an actuary does and are ready to proceed into the more advanced material.

Courses 3 and 4 cover a lot of material on models and modeling. Course 3 highlights actuarial models and covers topics such as classification of models, survival models, frequency and severity models, loss distributions, and ruin models. The syllabus encompasses a variety of textbooks and different disciplines. We want to emphasize that the new syllabus covers all types of contingencies, not just life contingencies.

The first four exams are cosponsored with the Casualty Actuarial Society (CAS). All actuarial candidates in North America, whether they're going into property/casualty, life, pension, health, or investment practice will be writing the same courses through Course 4. We think this is a very positive development.

Course 4 is the modeling process. After gathering the data and checking the quality of the data, we fit the variables and test the data. Topics covered will be regression and credibility theory, among others. Quite a bit of the material from the CAS Part 4B will find itself onto the new Course 4. That will be the end of the mathematical material, but not the end of the associateship requirements.

Also required for associateship will be Course 5, "Application of Basic Actuarial Principles," which will include topics such as product design, risk classification, product pricing, and reserving. The course will cover not only life insurance and employee benefits, but all economic security programs, including those sponsored by the government and employers, and those left to the individual. We will also be doing casualty coverages and hope to touch on some truly nontraditional areas. For example, we will cover manufacturing applications, but that doesn't mean the manufacture of an insurance product; it means *manufacturing applications*. It could be something wild and different, such as shutting down a mine site or setting up reserves for airlines' frequent flyer points. We'd like to introduce the candidate to the concept that actuarial math has very broad applications.

Completing the associateship requirements is Course 6, the investment and asset management exam. Topics covered will include capital markets, investment vehicles, derivatives, portfolio management, and asset/liability management (ALM). Finance and investment are topics on two of the basic exams, Course 2 and Course 6, and there also will be Course 8 specialties in both of these topics. Yet to be finalized is assignment of the material for these four courses. Jeff will provide you with a bit more information on that.

Mr. Jeffrey A. Beckley: Course 7, the “Applied Modeling Course”, will be an intensive seminar with five main learning objectives covering the context of modeling; the design, selection and setup of models; data analysis and selection; results analysis; and communication of the modeling process. We believe the intensive seminar to be the best format for achieving those objectives. Candidates will have the opportunity to choose between a Course 7 seminar that will be general in nature, covering situations and models that cross practice areas, or one that is practice-area specific.

Prior to taking the seminar the candidate will need to pass a pretest covering approximately 500 pages of advance reading. This pre-reading is not a rehash of material on modeling that they’ve already had in Courses 3 and 4. It will be new material covering the whole modeling process as well as providing guidance to the candidate on the best way to write reports and communicate results. The pretest assures familiarity with the material, not a high level of mastery. It will be an open-book test that we anticipate offering once a month at various locations. The candidate will be required to find an FSA to proctor the exam. If no FSA is available, he or she will need to find someone else who is acceptable to the SOA. The test will cover the pre-readings but not material from Courses 3 and 4. It will probably be composed of both multiple-choice and written-answer questions and last two or three hours. Being an open book exam, it shouldn’t be difficult to administer. A proctor doesn’t have to sit there for the duration of the exam but can start the process and collect the exam at the end of the allotted time.

The seminar will be three and a half days in length. The first day and a half will be common core material. It’s anticipated that this segment will generally be taught by an academic faculty member, using five or six fairly short case studies. Each of the case studies will emphasize a different aspect of modeling or a different learning objective. The case studies will be covered in an interactive rather than a lecture format with candidates working in groups. The candidate will be expected to bring a laptop computer and will need access to word-processing and spreadsheet software.

Next will be a one-day case study presented by a business faculty member who is a practicing actuary. This will define whether a seminar is practice-area specific or not. The business instructor will present a large case study, and candidates will be given a project to complete, which includes a report on the project. The last day of the seminar will be a project evaluation. Candidates' communication skills will be evaluated as well as their technical knowledge.

We realize that, for some candidates, attending the seminar would be a hardship, so we'll have to provide an alternative in a very limited number of cases. For a candidate to qualify for an alternative, he or she will need to demonstrate that the seminar attendance presents a hardship. One such situation would be if a candidate has some sort of physical or learning disability that makes it very difficult or impossible to attend the seminar or participate. For some candidates outside North America, it might be difficult to acquire a visa to come to the U.S. or Canada because their governments are concerned that they won't return. That would be a second exception. A third exception would be made if the seminar results in financial hardship. We see this applying, once again, to candidates outside North America who live in a country that has a much lower standard of living. We're currently looking at these three possibilities, but I suppose others might come up that we haven't considered.

We anticipate offering 20 to 30 seminars annually, with those seminars spread throughout the calendar year. They'll be geographically diverse as well, including at least one in Hong Kong and one in Taipei each year. In some cases, candidates will go to the most geographically convenient seminar. In other cases, candidates will travel to the location that covers the practice area or subject area they want to study.

For Course 8, candidates will have to select one of five different practice areas: (1) finance, (2) health, group life, and managed care, (3) individual insurance, (4) investment, and (5) retirement benefits. Although only five options are listed, there are actually seven. The health, group life, and managed care area will focus on a common core and then concentrate either on managed care, which will probably be taken primarily by U.S. candidates, or on other health coverages (with very limited coverage of managed care), which will probably be taken primarily by candidates outside the U.S.

The retirement benefits area also has options, primarily because of the enrolled actuary (EA) exams. Course 8 for finance will cover corporate finance, capital management, financial risk management, and corporate strategy. There won't be much overlap between the finance Course 8 and the investment Course 8. For the

individual insurance Course 8, we're talking primarily about life and annuity, not property and casualty coverages.

In investment Course 8, about 25% will be devoted to portfolio management, 25% to option pricing, and 50% to ALM. The health, group life, and managed care Course 8 will have a core portion common to all candidates and then a health and group life extension or a managed care extension. This course will cover plan design, cost analysis and rating, and financial management as well as administration and delivery of those benefits.

Finally, for Course 8 retirement benefits, the funding part of the exam will probably constitute about 25% and the design part, which incorporates several items, will be about 75%, with very limited emphasis on regulatory aspects. Once the candidates complete those first 8 exams, they still have to complete PD prior to attending the Fellowship Admissions Course (FAC).

Ms. Anne M. Katcher: I'm going to run through the background of how the PD program came into being, the educational objectives, an overview of the requirements, a description of the process for developing and executing a PD plan, and the role of the advisor in guiding the candidate through the process.

A new E&E committee has been formed to fine-tune the basic structure and guidelines, and to provide the mechanisms needed to put the PD program in place. The basic design structure put forth by the task force has been approved by the Board, and the E&E Committee now is working out the details. We hope to release additional details towards the end of 1998 so that people can start planning their PD program. We also expect to flush out some of the little nitty-gritty details that no one has thought of in developing the requirement and address them.

The PD idea evolved from work being done by the Board Task Force on Education. It was reinforced by a business advisory panel composed of business executives from insurance companies, research environments, and consulting firms. The panel talked about the need for actuaries to be effective businesspeople and stressed the importance of actuaries being able to combine their technical expertise with their effectiveness in a business environment. Also, the results of a gap analysis of actuarial skills confirmed that we really needed to work on honing our communication skills.

Starting with an assessment of the professional skills needed by actuaries, we developed the educational objectives:

- To expand the knowledge and the competency of candidates in their chosen practice area so they can more effectively address issues that are nation- and business-specific. They also need a good grasp of current issues, such as legal, technical, and ethical issues, as well as the practical aspects of their individual professional environment.
- To help candidates integrate the concepts and the techniques they've learned and apply them in a current business situation or an academic or a research environment, depending on where they're working.
- To have the candidate demonstrate the ability to communicate the results of that application effectively.

We can view the PD program as an introduction to post-Fellowship continuing education. It helps focus the candidates on the importance of maintaining their professional effectiveness well after they complete all the Fellowship requirements.

The goal in developing the program's major components was to achieve a balance between having enough rigor to ensure high standards and having enough flexibility to accommodate the individual needs of the candidates. Trying to decide on the appropriate balance between these elements was a big challenge, and we finally settled on three components. First, we have formal PD programs, including seminars, meetings, additional exams, and graduate-level courses. Then we have a project candidates must complete to demonstrate some sort of extensive analysis of an issue relevant to their own practice area. And the final major component is presenting that project, either orally or in writing, and outlining its purpose, scope, results, conclusions, and recommendations.

Candidates must achieve 50 units within a two-year period, and the PD requirement cannot be satisfied until Courses 1–8 are completed. Thirty-five of the 50 units are earned in the formal PD programs, and the remaining 15 credits are earned from completing and communicating the individual projects. The SOA is going to develop models for each of the practice areas, listing possible courses and seminars that can be selected to earn the 35 units in the first component. At least 20 of the 35 units must be SOA-approved options. To choose something outside this list, the candidate must obtain a recommendation from his or her advisor and gain SOA approval.

With respect to unit values for program elements, a professional actuarial organization seminar would be worth six units a day, whereas meeting sessions would net one unit for each hour of meeting time. A candidate may want to take another Course 8 for PD credit. Someone in individual insurance could take the

finance Course 8 and earn 25 units. The person also could take a Chartered Financial Analyst or EA exam to earn 25 units.

Candidates who will be affected by this change in the exam structure will be able to apply some of their conversion credits towards the PD requirement. Non-SOA-approved credits would have to be approved by the advisor and filed as part of candidates' PD plan with the SOA. A graduate-level course, for example would be worth a maximum of 10 units, and other seminars, either provided by universities, employers, or a commercial vendor, would be worth 5 units per day, with a maximum of 10 units for each seminar.

Now let's look at the 15-credit project. Some of the candidates in my company are fearful that it's going to be equivalent to a master's thesis. The main elements are to define an issue that's relevant to their chosen practice area, undertake the necessary research and investigation to obtain information and collect data, perform an analysis of the data, and provide conclusions and recommendations. This research may be associated with work they're doing in conjunction with their employment, so candidates might be able to extend something that they're working on in their own business environment. Then they'll need to prepare a written or oral communication for peer review and comment. Some examples of acceptable communication vehicles would be writing an article for a Section newsletter, or presenting at an SOA meeting, a local actuarial club meeting, or an in-company function.

Let's go through the steps in developing and implementing a PD plan. Candidates must select an advisor, jointly identify the goals they wish to achieve, and develop an appropriate PD plan, looking at the practice area, jurisdiction, and environment (research, academic, business, or consulting) it's going to focus on. Advisors will have to approve the formal programs that are not SOA approved; if they're not sure, they must contact the SOA for some guidance. There will be a team within the SOA responsible for arbitrating any disagreements that come up. That aspect of the process will evolve as we go along. Some PD credit can be attained prior to passing all the course exams, but the plan cannot be approved or filed with the SOA before the exams are completed.

Many of you are probably wonder, "What will I have to do if a candidate asks me to be his or her advisor?" First of all, an advisor needs to be an FSA for at least five years and a member of the SOA in good standing. It's possible for the candidate to have an advisory panel of more than one person, but the head of that panel would have to be an FSA. The role of the advisor will be to guide the candidate in developing his or her PD plan and review the plan as it progresses. However, the responsibility for the execution of the plan rests solely with the candidate. Once the

plan is completed, the advisor will be asked to sign a document attesting to that and submit it with the project to the SOA for final signoff. Both the candidate and the advisor will sign letters of commitment to their roles and responsibilities.

This is a new and different responsibility, so we don't expect people to figure out on their own how to do this. With PD being so different from our typical exam process, we wanted to ensure consistency of standards, equitable treatment of candidates, and accurate measurement of programs. To assist in this, the SOA is working to develop some support tools for candidates and advisors. Guidelines will provide a means for communicating expectations on both sides, and there will be a catalog of continuing education and PD programs; an extensive list of seminars, meeting sessions, courses, and exams; and information on other valuable programs that can be used in developing the plan. We will have PD models for each of the standard practice areas, so candidates and advisors can see examples of acceptable plans and work projects.

When discussing what should be involved in a project, we found some very good, practical applications of research within the Actuarial Education and Research Fund papers. These were summarized in a very clear and consistent manner, and should provide some beginning guidance. The SOA will hold training sessions for the advisors to get them started with this process. The PD E&E Committee is still working on the details of the implementation, but you'll be informed of the progress through newsletters and other publications on the SOA Web site.

Mr. Bykerk: I want to follow up with a comment on the issue of PD credit expiring. When candidates submit the final filing with the SOA saying they've covered all 50 units of PD credit and so forth, at that particular point in time, any formal program units cannot be more than two years old. However, an exam or something that has a rigorous evaluation attached does not expire and can be applied beyond two years. Also when you initially file your plan, no more than 15 completed program units can be applied against your program.

Mr. Wolfe Snow: When are you going to have a list of specific readings? I know you have sample questions for Courses 1 and 2, and we could infer what the syllabus is from those, but the titles "Elementary Microeconomics" and "Intermediate Microeconomics" don't pin it down as well as a textbook with assigned pages would.

Mr. Beckley: If you look at one of the appendices of that Course 2 report, it does identify a few textbooks. That's as specific as we intend to get. We do not intend to identify one specific textbook as the only textbook. And, I believe the appendix

identifies chapters for those textbooks. You can download that report from either the CAS or the SOA Web site, or call the SOA and request it.

For Course 1, the emphasis is on learning objectives, but chapters in a few common probability and risk management textbooks are identified. The report for Courses 3 and 4 does not include sample exams at the moment, but it identifies specific textbooks, chapters, and sections. Those courses are essentially final.

Mr. Raymond Caucci: How are the candidates for Course 7 going to be evaluated? How will they get a passing grade? What are the criteria?

Mr. Beckley: Besides technical knowledge, they'll be evaluated on their communication skills and how they present their report.

Mr. Caucci: Are they going to do anything written?

Mr. Beckley: It is a written evaluation. All of the candidates at the seminar will be given the same project and have from noon one day to noon the next day to complete it, including a written report on that project. Prior to attending the seminar, candidates will get a sample report and pre-reading material that should help develop their communication skills, or at least establish the expectations. I don't know if all the shorter case studies during the common core will have sample reports, but the business instructor of the large case study will lead candidates through the important items that should be covered in the report. In the end, the instructor will give everyone a report that he or she has developed for that case study.

Mr. Caucci: What would you expect the pass ratio to be for the seminar?

Mr. Beckley: I would say 75–90%. The pretest is intended to screen out candidates who are unprepared for the seminar. It won't screen out everybody, and it's not going to be a situation where you can pass by showing up, paying attention, and staying awake. But unless candidates are in much worse shape than they should be at that point in their exam development, we should have a fairly high pass rate.

Mr. Caucci: If someone were to complete the required exam credits, say, as of this November, and all they need is the PD piece, can he or she start getting credit for work accomplished in 1999 before the official transition starts.

Mr. Beckley: Candidates would do so at their own risk. We hear questions such as, "If, when the conversion comes, I could be a Fellow immediately, except for the

Fellowship Admissions Course, why can't you give me my fellowship now?" We know that people are anxious to know the requirements and get started on it, but we don't have everything completely developed. When we started this process, we said we would give people three years' notice for the whole thing to take place and that most of that time would be taken up with developing the needed courses and programs and getting everything nailed down.

In the case of PD, we have to get the advisors' handbooks put together, develop their training courses, etc. We don't want to jump the gun or be pushed into putting things out that are undeveloped. We are not prepared now, and I doubt that we will be fully prepared in mid-January. We hope to have it nailed down before mid-1999. At some point, if there are lists of accepted seminars out there, etc., people might look at those, but you can't complete more than 15 units of seminar-type activity before you make your filing. I do not think we will be prepared to accept filings of plans before Jan. 1, 2000.

I tell the candidates who work in my company to proceed full bore ahead, take the courses, and get as many credits as they can. You will have the greatest amount of flexibility if you do that. Credits can be applied against PD, and if you keep moving forward fast enough, you may be close to attaining your Fellowship by then or have only 15–20 units left to take. Then, it's a no-brainer, because you'll be able to get those in two years.

From the Floor: I know that, with respect to conversion credits being applied to PD, if you have 50 unassigned credits, you would be deemed to have completely satisfied the PD requirement. What if someone comes in with, say, 40 of those 50, by conversion. Would they have to do the project?

Mr. Beckley: No.

From the Floor: What if they have 35 credits?

Mr. Beckley: As long as you come in with 15 credits, you get credit for the project. If you want to, you don't have to use it that way and can still do the project.

From the Floor: Let me get this straight. Have 15 of the 50 credits by conversion frees you from the project?

Mr. Beckley: Right. But you can still do the project.

From the Floor: I would want to be aware of all the options.

Dr. Brown: We wrestled with that recently and, in fact, just cleared it recently at the Board of Governors meeting. We started out on the other extreme, saying if you didn't have at least 40, you didn't get credit for the project. You can debate it either way. We think this is a very important element of the new exam structure. But we also want to recognize the difficulty of taking, writing, and passing the exams as they are today. We went back and forth and finally decided to give credit for the project for as few as 15 units, but if somebody wants to do the project, he or she can certainly do that.

Mr. Harvey Halpert: I'm a little unclear about the formal part of the PD requirements, the 35 credits. Does the candidate only have to show up at the seminar to get credit or will there be some testing?

Ms. Katcher: When I gave my presentation to a few of the candidates in my department, their biggest concern was: "What if I pay attention and take notes during the seminar and somebody else sleeps through the whole thing? Why should he or she get credit? Are we going to have to take a test?" Even when we send candidates to meetings like this one, we're giving them company time and expect them to bring something back. So as an advisor, I would want to discuss the session with my candidates, ask them to write up their notes, and explain what they got out of it. I don't know what the E&E Committee is going to do. As an advisor, I wouldn't ask them to write a paper and present it to the whole company, but I certainly would try to make sure that their objectives were met.

Mr. Halpert: That is a good idea, to have the advisor be the monitor, so to speak. It wasn't clear to me whether he or she is going to be the one to keep the candidate honest.

Mr. Beckley: During this process, both the advisor and the candidate are subject to all the codes of professional conduct and ethics that we have. The objective is to develop a PD plan that says, "I want to be this kind of an actuary, focus in this area, and have my program round me out in this way. I want to be conversant in this element and so forth." This is probably the biggest philosophical issue with all of the changes we have made. We have reported to the Board of Governors at every meeting for the last four and a half years, and there are diverse opinions on this. Some board members say, "I know what I would do if I were an advisor, but I'm worried about him being an advisor." They're not pointing to anyone specifically, but making a point about consistency. However, in the long run, we need to do some things like this, as a profession, to grow and to expand. This gives candidates more opportunities to move into nontraditional areas by honing their particular PD program. We're just going to have to be vigilant and make sure that those kinds of things don't happen. Is there occasionally going to be a candidate who, as one

person said, “sat in the room with talking heads at the front?” Probably, yes. But as hard as we try to control the exam system we have today, some people get through the system knowing more than others do. Sometimes it’s the luck of the draw: You get the question you studied for or you didn’t.

Mr. Halpert: Will that be part of what the E&E Committee will continue to work on, or have you decided that the approach will be to depend on the professionalism of the advisors and the candidates?

Dr. Brown: I think we have the philosophy settled. The E&E Committee is now actually drafting these models and deciding what will be pre-approved as accredited by the SOA for that 20-unit block. One of the important elements is that the advisor must sign a very official form that alludes to quality. It says: “I am a Fellow of the SOA, and this candidate has been reporting to me, and I am satisfied with his or her completion of the PD plan and project.” If you also keep in mind that part of the goal is to start the candidate off on professional and continuing education, then it might be logically inconsistent to have a significantly higher set of hurdles for pre-Fellowship continuing education requirements than for post-fellowship requirements. These people are one nanosecond away from being fully qualified actuaries, and they need to act that way.

Mr. Halpert: I have one final question regarding the PD. Who decides the worthiness of the 15-unit project requirement? Or can you not fail to get the credit for it?

Mr. Brown: That will be between the candidate and the advisor; however, the projects will be filed and randomly reviewed.

Mr. Beckley: Also, we’re still talking about having them available for publication by the SOA, if the SOA so chooses.

Dr. Brown: One of the issues we might get into on that note is that it will be possible to do proprietary work. In this case, you will file the assignment and state it is not for public dissemination because it contains company materials of a proprietary nature. That differs from a research paper, for example, which, almost by definition, has to go to publication. It’s a relatively thin line.

Mr. Benjamin Goodman: I have a couple of questions. I’m an FSA, so this is not for me, although it may sound personal because it’s for my wife. The current exam system has 10-credit, one-and-a-half hour exams because you couldn’t test that amount of material in one hour. With the new program, you’re crushing 80 or 90 credits into a five-hour exam. Do you think there’s any problem with that?

Dr. Brown: One of our educational objectives is to get the candidate to assimilate the material, so that when we ask one question, it might touch on three different areas in the reading material. For a significant number of questions, it touches on more than one topic area. If we can get high-quality questions, we would feel confident testing a 600- to 1,200-page syllabus in five hours. We don't want to think of the syllabus as being a disjointed series of topics that is then tested in a disjointed way. We feel confident that a five-hour exam will reach the goals we're after.

Mr. Goodman: Regarding the issue of hardship on Course 7, why didn't anyone ever think of the hardship of the FAC? We didn't discuss where we lived, how much it cost, and whether we were physically disabled. For Course 7, you're starting to make exceptions for some people and not for others.

Dr. Brown: We have handled some situations for the FAC that may not have been published; we're even going so far as to think of situations where people are not allowed to leave their country.

Mr. Beckley: Part of it is, how many times do you put someone through the hardship, if it is a significant hardship. If we require them to come to Course 7 and to the FAC, then we've done it twice. Maybe it's all right to do it once, but not twice. You're right. We have been fairly hard and fast, until the last year or so, with requiring you to come to the FAC to become a Fellow. As I understand it, within the last few years, we've arrived at some arrangements with the U.K., the Institute, and the Australian Institute, where candidates may now attend those professionalism courses instead of our FAC. They still have to complete some correspondence course work, but they can get credit for the FAC by attending courses elsewhere. It's an attempt to alleviate some of the hardship cases. Likewise, we have candidates who want or need the U.K. or Australian Institute's professionalism courses attending our FAC because it's more convenient for them, so we have a reciprocal arrangement with the two Institutes. It makes sense to make some exceptions when we're talking about putting some of the candidates through a significant hardship twice.

Dr. Brown: It would be rare to make exceptions for residents of New York City.

Mr. Bykerk: It would be rare to make exceptions for residents of North America.

Mr. Goodman: I'm guessing the travel time to Fellowship would be decreased greatly. Am I right?

Mr. Beckley: We hope so.

Mr. Goodman: Is that a good thing? Does it devalue the FSA, or don't you think that's a problem? You could have someone completing college in three years. You could have a 23-year-old FSA running around?

Mr. Beckley: Many years ago, we had eight exams, and there weren't very many three-year Fellows out there. The system we're putting together is a better system. I think it will reduce travel time. I was part of the group that helped set up Future Education Methods-Flexible Education System (FEM-FES), and travel time was our No. 1 concern. And, in nearly every exam session held since FEM-FES was instituted, the average number of credits taken has gone down slightly.

Candidates say, "If I take 10 credits of exam versus 50 credits, I can put in a lot more focus on one hour and make sure I'll really get it. People figure, if they're taking 50 credits or five hours' worth of exams, they're not going to stand a chance against a person who's taking a piece of one of those, who puts in the same amount of time, but is only writing 25 credits. Part of what we're trying to achieve with the new system is a move away from compartmentalizing things so neatly. Candidates are going to have to think across topics, integrate material, and draw in different facts from different pieces of that material.

Dr. Brown: There will be less difference in travel time between the existing syllabus and the year 2000 syllabus, and age of attainment of Fellowship. You won't get as quick a start, in some sense. It will be a very rare candidate who will leave college with any more than three exams. When I first presented this new syllabus to some very young candidates in Canada, one of them commented, "What you've done is changed a system that used to have exams 1 to 8 to one that has exams 3 to 10. Does that make it any better?" I would say the differential between travel time and age of attainment will be two different things.

Mr. Timothy Allen: Before I give you a hard time, I'd like to complement you on the changes. I think this is a great improvement over the old system. My question has to do with maintaining consistent standards from exam to exam. My personal experience has been that the passing standard has changed. If you were to consult with the top psychometricians in the country, would they consider what you're doing to maintain this standard from exam to exam is state-of-the-art?

Dr. Brown: We do consult with psychometricians and do have questions that are used from exam to exam, so we can do that kind of analysis. But I'll let Marta jump in.

Dr. Marta Holmberg: What we are most able to do, in terms of setting the passing standard and maintaining it, is available to us on the first couple of examinations.

We can repeat multiple-choice questions, and, using those repeated items, anchor performance across different candidate populations. Then, the performance differences between those populations can be adjusted for the relative difficulty of the exams over time, allowing us to maintain the same passing standard. We can establish the same standard and the equivalent threshold for candidates at the onset of the process for the first couple of examinations. For the later exams, it's much more difficult, in that you need very large candidate populations before you can effect the kind of stability needed to be able to say that the population performance can be used as a standard.