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FUTURE EDUCATION METHODS

NOTE: The written record of this session is based on the presentations made at the Nashville meeting (April 2-3, 1987). The written record of the panelists' presentations is published only in the *Record*, Vol. 13, No. 1. Questions asked at the Nashville, Colorado Springs and New York sessions are published in the corresponding *Record*, Vol. 13, No. 1, 2 and 3. Each session had different moderators, panelists, and recorders.

The moderator, panelists, and recorder for Colorado Springs were: Moderator: Daniel J. Fitzgerald; Panelists: Warren R. Luckner, Reginald C. Yoder; and Recorder: Warren R. Luckner.

The moderator, panelists, and recorder for New York were: Moderator: Godfrey Perrott; Panelists: Judy Faucett, Stuart Klugman and Warren R. Luckner; and Recorder: Warren R. Luckner.

The moderator, panelists, and recorder for Nashville were: Moderator: Godfrey Perrott; Panelists: Linden N. Cole; and Recorder: Linden N. Cole.

o At this session there will be discussion of proposed changes in our method of educating and qualifying actuaries. Decisions already made will be explained, and matters under consideration will be presented for discussion. Possible items include:

- Implementing methods that appear to be educationally superior to our present method of self-study
- Giving limited credit for university courses under certain conditions
- Giving limited credit for research papers
- Requiring attendance at certain courses to get exam credit
- Introducing extensive examples into mathematical courses and requiring students to learn to work them

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QUESTIONS AND RESPONSES FROM COLORADO SPRINGS

MR. ERNEST REYNOLDS: I suspect most of my concerns you've heard many times, but maybe the more people you hear them from, the more impact it might have on the ultimate decision. My major concerns hinge around college credit. For Level 1, I understand all the college need do is be accredited by one of the half dozen or so accrediting institutions. I know of some colleges that really provide very little mathematical education in their mathematical courses. In requiring that a later exam be passed, or a particular number of exams be passed in the future, we have basically admitted that the math material may not be necessary as such. If that is the case, why bother at all? What we're saying is if students can Pass Part 3 and Part 4 that's all that is necessary.

MR. WARREN R. LUCKNER: The thing that has been considered is the option of eliminating Part 1 at least, and that is a question that is on the questionnaire and we are interested to see the responses. Personally I'd like to make just two observations. First of all, I'm speaking for myself and not everybody on the E&E Committee. I'm not as enthusiastic about Level 1 credit. I can live with it, I can live without it, but I do think that there is a need for students to go through some type of logical thought process where they try to develop their mathematical abilities. If you eliminate the Level 1 credit and eliminate Part 1, the students do not have the opportunity to, or are not forced to take calculus and linear algebra courses and go through the discipline of learning the logical thought processes. On the other hand it is true that normally most people getting into the actuarial profession will have to have gone through that anyway and we may not need to monitor that.

MR. REYNOLDS: My contention is that it's possible to go through certain schools and not have gained those anyway.

MR. LUCKNER: That is a problem. I'm not sure exactly how you solve it. Employers already have that problem when evaluating math majors from different schools for other nonactuarial positions.

MR. DANIEL J. FITZGERALD: I'd like to make just one observation. Relative to any concern that may be expressed in this particular forum, we do not guarantee that we'll provide you with a response that will make you happy. Nor do

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we guarantee that we will have a response. Our objective is to hear what you have to say about this and take it under consideration as we look forward to our final recommendations to the Board of Governors.

MR. REGINALD C. YODER: It seems to me we really have made it somewhat difficult for a student to consider making use of Level 1 credit for Parts 1 and 2 because if a student fails a couple exams, the student has to go back and take Parts 1 and 2. If a student comes out of college and doesn't have much of a mathematical background, it's going to be hard for that student to prepare and not fail a couple of the later exams. The student will then lose credit and have to go back and start over. I think we really need to counsel students, because some may actually try that and end up two steps behind.

MR. REYNOLDS: I understand that. Level 1 is not as great a concern to me as Level 2. Parenthetically, if I were doing it I would probably try the later ones before I would decide to go back and take Parts 1 and 2.

For Level 2, I agree that certain institutions have better education methods and would probably provide the student with a better education in their subjects than the Society's exams do. My most serious concern about the whole program is that the Society will not have the ability to select the schools. An example is that a university that is predominantly a minority school, for example, would have a very good case in court on discrimination if the Society would not recognize their programs. I really question the Society's ability to screen the universities.

A second concern is that an FSA who went to a school that is not approved for Level 2 might be offended that the Society did not recognize the school.

MR. FITZGERALD: Let me respond to that, Ernie. We have completely worked out the details of the petition process the school would have to go through, but in general what the school would have to do would be to outline with a fair level of detail what the requirements are for that course, what the topics are that are covered in that course and the exams that are to be required. We would attempt to make sure that the standards that we would require for Level 2 would at least be equivalent to those we are adhering to in the examinations. Also there would need to be a renewal process. I don't know what that particular period of time

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is, but there would need to be a renewal process to maintain accreditation. With respect to your issue on minority colleges, I'm not sure we can address that ourselves.

MR. REYNOLDS: That is an illustration of the difficulty. I just don't think that the Society would be able to adequately screen the universities.

Would the intensive seminar be required, or is there a self-study method to gain those ten units of credit?

MR. FITZGERALD: You can go either way.

MR. REYNOLDS: My concern is if it is a required seminar. I suspect that many students are working for companies who are not willing to provide the financial backing needed for attendance at an intensive seminar. I do agree an intensive seminar would provide very, very good education. Can I get that some other way?

MR. YODER: This would be an elective. It wouldn't be required.

MR. REYNOLDS: The other comment I have is that I think the Fellowship seminar is a very positive addition, which can serve very good purposes for our Society.

MR. LUCKNER: I would like to make a couple of comments on two of the issues. *The issue of discrimination is a tough one that I have not really heard expressed before.* I think we obviously have to be very careful but at the same time I think the accrediting bodies for universities are able to deal with that in a legitimate fashion and we'd have to try and use their expertise.

The reason the intensive seminar could not be done by self-study in my estimation is because that would defeat the purpose of the intensive seminar which is to get people to have hands-on experience and deal with computers and deal with writing a report. I personally feel that the same type of thing would be a benefit in Level 2. I am more strongly in support of the Level 2 credit than the Level 1 credit.

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It's important that we do consider these potential and practical problems, but I am a little concerned that we give up too much in our effort to improve the education methods because of a combination of practical problems that are not directly related to the type of education that we give, but are complications that we should try to figure out a way to get around. Some of them may be significant enough to say that we should forget a particular proposal, but others may be such that we just have to figure out a different way to design the proposal that will allow us to achieve the educational objective and reduce the practical problems.

MR. FITZGERALD: Let me just follow up on one early comment that you had Ernie, and that is with respect to dropping Part 1 and Part 2. I think ever since I have been in this profession there has been discussion whether we ought to drop Part 1 so we're not forging new ground here.

MR. YODER: Could I make just one quick comment on the Level 2 question? I think that my major concern is that we aren't going to get a lot of colleges and universities to respond and actually develop courses. We need to have a real strong PR effort and I think that's the same kind of PR effort that's going to be attracting some of those students that we're losing to other disciplines. I also have a real concern for actuarial education in the United States, both from a research standpoint, and from the actuarial education quality standpoint. These universities that have served us in the past are really hurting right now as far as being able to attract staff and students, and I view this proposal as one way of strengthening those programs.

MS. CAROL A. MARLER: I'm perhaps a little bit rare as an FSA who passed every exam by self-study without having taken any courses; perhaps there are a few others. I have a number of questions regarding the proposal and also some comments. I'll begin by saying that I'm generally favorable to the idea but I see a discrimination problem in terms of geographic location. I started my actuarial career in Seattle and there is not much in the way of support for actuarial students in that area, and certainly not in Spokane where I grew up. So one of my questions is regarding the Level 2 college courses. How can we make sure that they're available to all geographic regions?

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MR. LUCKNER: The geographical problem is one we were concerned about not only with Level 2, but also with intensive seminars. There currently is a problem in that area in the sense that there are no university actuarial science programs in certain geographic locations. So, it's not a new problem that we would be creating but we may be compounding the problem by having these options available. I think Reg's comment about advertising and promoting and encouraging, as best as possible, schools to apply for Level 2 is one thing we need to do. I think we can have more control over implementing less geographical discrimination with intensive seminars by making sure that we offer them in certain geographic locations.

I would hope that we don't eliminate benefits for some students simply because not all students can have that benefit, but that's a tricky issue.

MR. FITZGERALD: Is your concern with Level 1 or Level 2?

MS. MARLER: My concern is more toward Level 2. My position on Level 1 is that we can deal with that.

MR. FITZGERALD: With respect to Level 2 it seems to me that there would be a possibility of allowing Level 2 credit for a course without having to be at the university location. I don't want to go so far as to say that you can do it by a correspondence course, but for example if you wanted to get into applied statistical methods, maybe the only prerequisite is that you have access to a PC with a modem that has a hookup to the institution that is supplying that. But I think you're right; we have to be concerned about the availability of Level 2 because it might be a problem. It may provide people with an opportunity because of their geographic location, but I would hope that we could address that through not necessarily a correspondence course but something that might approach that.

MS. MARLER: The intensive seminar is also an issue for me and I have had some correspondence with the Society on the subject of continuing education seminars and why they never have them in southern California. It is an issue that could be of concern to people who are working in some regions.

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MR. REYNOLDS: I am Vice Chairman of the Continuing Education Committee and will be chairman this Fall. The reason they're not in southern California or a few other places that sound logical is because people don't attend. When we have had them there the attendance has not been enough to support the seminar.

MS. MARLER: That was about five years ago. I'm saying that conditions may have changed. The Society has been very slow in trying again in those locations. I think the question should come up again, and we should be very sure that we include those geographic regions where there are companies who have students that need access to these things. The companies also need a certain amount of lead time to plan for their people to attend, particularly smaller companies such as mine. It's a real imposition on the actuarial department to let somebody go to a seminar, because of their other assignments.

MR. FITZGERALD: Let me just address that and talk about both the geographic as well as the financial ability of small companies. I don't think that it's outside the realm of possibility that the Admission Course or the Finishing Course could be subsidized. I don't know that we have discussed this specifically, but it would seem to me that if that is a particular concern, we could address that. It may be along the lines of a subsidy. But, I don't want to speak for the Treasurer of the Society.

MR. YODER: As I looked into the seminar issues it appeared that there are some university locations where if you are willing to have them during their off time you can get some facilities at lower costs. I live in Des Moines and unfortunately it costs me \$400 to fly round trip to Chicago, but only about \$250 to fly through Chicago to Toronto. I suspect that we could probably find some locations such that facility and staff costs and convenience to a major airport would allow you to keep the cost down enough so that you really would not have to have the southern California location. This has not been fully researched, but I do know that plane fare is significant and there are places that are better than others and certainly some university settings might be very inexpensive, have good facilities, and offer a good price.

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MR. FITZGERALD: The general reaction to the Fellowship Admission Course has been universally positive. I think that if it's recognized as being a substantial benefit in the overall actuarial development process, we will find ways around these problems.

MS. MARLER: Would the response be equally as positive if current FSAs were asked to attend it as well?

MR. LUCKNER: It is interesting you raise that question because some of the responses I have been getting at presentations are that some of the FSAs who are already in the system feel that we should require FSAs to take it, and they would be very willing to go to it. They would like to have the opportunity to attend.

MS. MARLER: As part of the continuing education program?

MR. FITZGERALD: Yes. I think that Continuing Education would have to be very heavily involved in that issue.

MS. MARLER: I have a detailed question on the seminar in Advanced Statistical Methods. Would that be available to those who had achieved the Statistical Methods credit by college course?

MR. LUCKNER: At this point it would not be for two reasons. First of all, in a sense it would duplicate some of the same things. Second, the current requirement for the intensive seminar is that you pass the Society of Actuaries examination in Applied Statistical Methods.

MS. MARLER: Are we going to see the day when the Associateship level requires a certain number of hours of electives chosen from a list, in addition to the required courses, or will it just be that they must take the required courses and the electives are totally optional?

MR. FITZGERALD: Our current thinking at this stage is that you must have a certain minimum number of units to become an ASA. There will be certain required courses that you have to take and the balance of those units, minus the required, would be taken through the electives.

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MR. LUCKNER: I would like to make one clarification to my previous statement. In the current way it's structured you could not get Level 2 credit for Applied Statistical Methods but you could get Level 2 credit for other topics.

MS. MARLER: With regard to the research papers for the FSA designation, has any really final decision been made with regard to publication? For example, would they have to be accepted for publication in the *Transactions*? Are they automatically accepted, or would it be strictly optional?

MR. FITZGERALD: We have not made a decision on that yet. It may very well may be that a paper that is presented is appropriate to provide the units of credit relative to education requirements, but may not be suitable for publication in the *Transactions*.

MR. LUCKNER: It is my understanding that some previous discussions about that specific question concluded that the question of whether or not a paper is suitable for publication and the question of whether or not a paper is suitable for education are independent questions. They do not have to be tied together.

MS. MARLER: With regard to the Fellowship Admission Course and the attempt to instill some ethical consideration in actuaries, I wonder if some of you may have read the *Wall Street Journal* article that questions the push for putting ethics courses into MBA programs. There is kind of an interesting "other look" at this subject. For example, if you have a course on ethics it's going to look at yesterday's ethical problems and may or may not prepare people to deal with tomorrow's.

MR. FITZGERALD: Many of the stockbrokers on Wall Street probably ought to read that article.

MR. LUCKNER: I can make one response to that. I think there are problems like that; that the case studies you would use deal with situations of which you are already aware. But you could also develop case studies that deal with situations which you anticipate happening. The idea of interaction in dealing with those case studies obviously has some merit and to discard that would be a mistake.

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MS. MARLER: I can envision some interesting reactions from basically two types of people that would be attending the seminar. One would be people who have their own opinions and cover them up, fail to express them because they think it would be perceived negatively. Others would be the ones to take a contrary position just to see the effect on the rest of the group.

MR. FITZGERALD: Yes. I think that one of the real benefits you get out of the Admissions course in the area of ethics is you avoid the situation where you give somebody a book on how to swim, you make them study all the the various strokes that would be required to be a swimmer, and then you give them a multiple choice test. If they satisfy the standards then you pronounce them a swimmer. It seems to me that in ethics it's a lot easier to throw the person into the water and see if they can swim.

MS. MARLER: Just a brief question with regard to the selection effect of exams 1 and 2, as used by employers. Is there now a validated version of the Actuarial Aptitude Test that employees could use? It's my understanding that the existing one is no longer in use because it has not been statistically validated.

MR. LUCKNER: I don't think such a validation exists. They've just dropped the test and I don't know if there are any plans to continue that or to develop a new one. Does anybody in the room know?

MR. FITZGERALD: It's unfortunate that we're in that situation because it was a neat tool.

MS. MARLER: I think it might have been more useful in some ways than the Part I exam, although there have been exceptions in that some people scored low on it and nevertheless went through and passed the exams. I also think we may have lost a few people who got discouraged by Part I who would have been able to go through and do a good job on the exams.

With regard to a one-week intensive seminar, it seems to me that we have usually said that an hour exam was the equivalent of eighty hours of study and I'm wondering if one week is quite long enough.

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A question inspired by the luncheon speaker yesterday: if we were going to plan backwards for the examination system, would we start with asking how many FSAs we want in the year 2000, and set our hurdle rate to let the right number of actuaries get in?

MR. LUCKNER: This is a personal opinion. I would say definitely not.

MR. FITZGERALD: Our objective in looking at Future Education Methods and the Flexible Education System itself is not to in any way compromise standards that we have right now. It's not to address the supply and demand question. We're saying that we're going to maintain standards. It's just that some of the barriers that we have for people getting into the profession, or becoming attracted to the profession, we think can be addressed through FEM, and even in the Flexible Education System itself.

MR. LUCKNER: I think what we might do in that planning is say what type of actuaries we would need in the year 2000 as opposed to the number of actuaries, but at the same time, I think there obviously has to be some concern about whether we will have enough actuaries.

MS. MARLER: The rest of my notes are more in terms of comments rather than questions. For example, I don't share the concern that these methods will weaken the FSA designation if we set the standards properly. The FSA designation will be at least as valuable as it ever was.

As far as complexity of the proposal is concerned, I think most of the complexity is in the change-over period rather than in the proposal itself.

My thought is we probably should have been doing this a long time ago particularly at the time we started doing tracks in the Fellowship exams. Going this route would really have accomplished our purposes and made it easier to understand and easier to implement the updates in the exam process.

As far as the "weak-path" concept is concerned, I once worked with an actuary who decided to take a topic on one of the Fellowship exams which had nothing to do with his expertise. Instead, he had counted the number of pages in the

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reading material of the two alternatives and chose the one with fewer pages. He did not pass the exam.

MR. JOHN W. HADLEY: I have a lot of concerns with the whole FEM proposal and the way the questionnaire was constructed, virtually every aspect of it except the research paper, which I think is a very good idea. It seems to me that the main barrier to getting a lot of other people into the actuarial profession comes from two things. One is the lack of knowledge about the actuarial profession. Most people don't know who we are and they find out after they've already gone into a different field. These proposals indirectly address that in some ways but they don't seem to me to be the way that you should go about addressing that. The biggest barrier I see is the difficulty of attaining an FSA and either FEM will make that easier, in which case we have lowered our standards, or it won't make it easier, in which case we haven't removed the barrier.

MR. FITZGERALD: With respect to the PR effort that we have, or the lack of PR effort that we have, as far as recruiting people, I don't think that there's anybody who has been involved in the E&E process or even the Career Encouragement committee who would argue with your point. We have not done our job in terms of recruiting. I would point out that we do have a new brochure. I don't know if you've seen it, but it's addressed to the high school level and I have used it when I've gone out to talk about the actuarial profession. I've gotten a lot better feedback on that PR piece than I have on the other piece we had which was geared to a much higher level.

MR. LUCKNER: It's my own personal bias because of my background in education, but I do think there are some educational advantages to these proposals and the question of attracting or not attracting people to the profession, or removing barriers, is not as important to me as the educational benefits that we might achieve with some of these methods.

Even if we haven't reduced the barrier and we have improved the education, I think that would be a benefit to us. I'm not sure our objective is to necessarily reduce the barrier.