Education Committee Paper: Assessment of Education Requirements

1. Background

The purpose of this paper is to look at the current process for assessing the education requirements of IAA Full Member associations and to consider any lessons learned. The paper then looks at possible changes that might be brought in for the future.

In 2004, the IAA Education Committee agreed on a process for assessing whether the education requirements of Full Member associations were compliant with the 1998 IAA Education Syllabus and requirements. This involved a self-assessment questionnaire. Associations were asked to give some details about their education system in general and then were asked to evaluate the level at which each of the 10 subjects was covered. 63 associations have now been through the process and their education system has been considered to be compliant. In 2004, there were about 55 existing Full Member associations so there was pressure to have a process that could be completed quickly and simply. The process also had to be adaptable to different types of education system: derivative associations who use other examinations; associations who rely on university examinations; associations who set their own professional examinations; associations who use government examinations; and associations who use a mix of methods. In 2007 the IAA Education Syllabus and Guidelines were updated and a short self assessment questionnaire was used to confirm compliance. The Education Syllabus and Guidelines were last revised in 2013.

2. Current Approach

On breadth, the IAA guidelines lay down that every subject must be covered. On depth, each subject must be covered to at least depth 2 on the following scale:

0 - Not covered at all
1 - An introduction to the topics so the student has a superficial knowledge of the subject
2 - The student has a good knowledge of the subject as defined in the syllabus and an understanding of how the subject is used in problem solving so that the student is able to solve well-defined problems as needed by actuaries.
3 - The student has a deep knowledge of the subject and is able to solve complex problems using judgment.

This scale is based on a simplified form of Bloom's taxonomy. The full set of categories in the Bloom's taxonomy is: Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation.

(Ref: Allyn & Bacon, Boston USA, are publishers and copyright owners of 'Taxonomy Of Educational Objectives' (Bloom et al 1956),).
The IAA categories may be seen to correspond as follows:

- Depth 1: Knowledge,
- Depth 2: Comprehension and Application,
- Depth 3: Analysis, Synthesis and Evaluation.

There can be averaging across the topics in each subject and no guidance is given at the level of topics. Originally indicative reading was supplied with the syllabus but this was taken out with the 2007 revisions as the reading was not kept as current.

Each association answers the questionnaire in English or French and gives details of a Website where more detail can be found. The Website is normally in the local language.

The questionnaire is reviewed by a group of Committee members and a dialogue is started with the association. In some cases a meeting has been held to fit in with the regular twice yearly IAA Council and Committee meetings.

3. Key Aspects of the Association Role

Experience gained with assessing the education requirements of different associations highlighted some important aspects for associations. These may be summarised by the following points:

1. The role of the association in education.
2. The review processes that the association uses in education and how it ensures that necessary changes are made.
3. The association needs a good understanding of standards with a mechanism to benchmark standards.
4. Where universities are used there needs to be good links between the association and the universities.
5. Where government is involved there need to be good links between the association and the government department.
6. Professionalism needs a prominent place both in initial qualification and in CPD.
7. The interaction between the depth of the educational material and the assessment questions.
8. It has also been accepted that it has been easier to assess the requirements of long established actuarial associations where their education systems have been running for many years and hence there have been qualified actuaries from these systems. It has been more difficult where a new association is starting up.

4. The Future

For the future, the main considerations are:

1. How much more guidance should be given? and

2. How may the IAA be assured that the association's self-assessment has been carried out based on a good understanding of required standards?

3. Should the IAA be looking to have a more rigorous process of evaluation of the education requirements of an association?

If there is to be a more rigorous evaluation of education requirements then a parallel may be drawn with the process used in some associations to validate the courses run by universities. These processes can be costly in people time in both the universities and the association. The IAA will have to seriously consider what level of resource is available for the process. Language issues will also be important.

5. Possible Future Approaches

In this section possible adaptations to the process are considered. It is not intended that all of these suggestions should be adopted but some of them might be appropriate going forward.

1. The concept of Bloom's taxonomy could be extended further. The syllabus would need to be rewritten in learning objectives and using the 6 levels defined in the taxonomy a level assigned to each learning objective.

2. Examples are given of English verbs for learning objectives to match each level and consideration would be needed about how this is adapted for other languages. This approach is similar to that planned for CERA. This would help in providing more guidance and would require associations to think carefully about the syllabus.

3. It might be possible to rewrite the syllabus in learning objectives for subjects which may be thought of as beyond the foundation stage. This would cover Subjects 7 Actuarial Mathematics, 8 Investment and Asset Analysis, 9 Actuarial Risk Management and 10 Professionalism as these are subjects which may be considered to be more specifically actuarial in nature. This approach is similar to 1, but would involve less work than 1, for both the IAA Education Committee and associations. Many associations who rely on universities have a lot of liaison work and with this modified suggestion the associations need only concentrate on the later subjects.

4. Within Europe there is the concept of the European Credit Transfer System. (ECTS). One credit is worth about 25-30 hours work by a student including lectures and self-study and a student on a full-tine course will do 60 credits each year. This system could be adapted and credit values given to each subject within the IAA syllabus. Associations would be expected to meet at least the agreed IAA credit amount for each subject. This

would help in providing more guidance and would require associations to think carefully about the demands of the syllabus.

5. It has been intended to have a database of learning materials for each subject but there has not been appropriate resource to do this. It is hoped that the Actuarial Educators' Network will take this task on. Associations would have to demonstrate that their learning materials were of the same agreed minimum depth as those used by other associations. This would help in providing more guidance and in getting more evidence as to what the education levels required in an association are.

6. A survey of associations is taking place this summer on typical questions to assess different topics. This is in a pilot phase with one topic at present but could be extended to cover all subjects and all topics. Required solutions as well as questions would be needed from an association maybe for a sample of topics. Language issues could be a problem. This would help both in providing more guidance and in getting more evidence as to what the education levels required in an association are.

7. The questionnaire could be adapted to put more emphasis on the responsibility of an association in ensuring that the IAA education requirements are met. Associations where the government sets requirements or where universities provide the education have often had to introduce special requirements for actuaries who want to be considered as international actuaries for IAA purposes. This would be a reasonably cheap way of helping the IAA understand how much the association is prepared to take responsibility for their actuarial education. It is always possible for an association to be a derivative from other associations if education is a great burden.

8. The final product of an education process is crucial. The qualified actuaries emerging from the process should be able to achieve and hold jobs of a traditional and non traditional nature suitable for actuaries. Universities are asked from time to time in some countries about the destinations of their graduates. This is known as a destination survey and might be adapted for our purposes. Could we ask associations to tell us the types of jobs which their newly admitted actuaries are holding? The destinations give an indicator of fitness for purpose at least within a country.

9. A more formal approach would be to ask an association making major changes or applying for the first time to make a presentation to a group of people at an IAA meeting. Alternatively a visit could be made to the association by a group from the IAA. This however could be expensive for the IAA in the second case and for the association in the first case.

10. An even more rigorous approach would be to ask for all documents from an association to be translated into English or French and a panel appointed to pour over these followed by a meeting with the association. This could be expensive for both the IAA for the association. However, it would reflect a key part of a typical university validation process.

11. It might be possible to conduct some of the questioning by telephone but there will be a lot of organisation needed for most forms of meeting between the IAA and the association.

12. Another approach would be to create a new category of membership for new associations who are also starting a new education system. Associations in this category would be expected to have at least two outputs of qualified actuaries before they could be assessed for full membership. This idea would not work so well for associations which have derivative education requirements but move to their own system. This would mean changes to the philosophy of the IAA and might not be acceptable. It would help associations to understand themselves some of the issues in running an education system.

13. There has been a suggestion that associations who are part of the Associate Actuarial of Europe (AAE) in Europe should not have to go through two evaluation processes for their education requirements. The AAE syllabus is intended to educate actuaries to a higher level than the IAA syllabus so would it be possible to accept the GC on the education requirements for an association that is within the GC. At present the GC relies on self-evaluation as does the IAA so there would need to be change in the GC process but this is under discussion.

14. The Education Committee is invited to discuss these suggestions and consider which they would like to take forward. This paper should be considered with the recent one on the IAA role in Education from the President of the IAA.