

The Role of Tests in a Self-Study Reading Course¹ :

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Introduction :

It has been argued² that tests, in addition to their measurement function, can play a significant part in rendering the teaching and learning of a foreign language (FL) more effective. This is particularly true when the tests are built in as an integral part of the FL programme.

The purpose of this paper is to lend support to this argument by reference to the functions of the various tests which form an integral part of *Foundation English I: Reading* (FRC I), the first part of a self-study course for first-year undergraduate students in Thai universities developed at the Chulalongkorn University Language Institute (CULI).

The paper is in three parts. These, in turn, look at :

1. the main features of the self-study approach adopted for the FRC ;
2. the three kinds of test built in to the course, their functions, and the ways in which they are exploited ;
3. initial feedback from the CULI project which tentatively supports the main argument of this paper.

1. FRC I : An Individualized Approach :

1.1 Background : *The Johnson Recommendations* :

In 1973, at the request of the Rector, Professor F.C. Johnson visited Chulalongkorn University (CU). The purpose of his visit was :

“....to investigate and make recommendations....on the provision of English language service courses to undergraduate students at Chulalongkorn University.” (Johnson 1972 : 3)

¹ This paper was originally prepared for the Fifteenth Regional Seminar at SEAMEO Regional Language Center, Singapore, 21-25 April 1980

² For example by Rivers (1980), Disick (1975), Chastain (1976), Valette (1977) and many others.

In the ensuing report (op. cit.) Johnson made three major recommendations (pp. 15-16) : only the second is relevant to the present paper. In it, Johnson laid down the fundamental principles upon which courses offered by CULI should be based. These were :

“That a learning and teaching system be established....which :

1. enables students of differing proficiency in English to enter the system at varying levels.
2. enables students to progress at individually differing rates of progress and through individually differing learning patterns.
3. is able to offer simultaneously the variety of courses needed by students in differing Faculties and Departments.
4. is able to service the English language skills needed by students as rapidly as possible in the early years of the student's undergraduate studies.
5. makes the most economic use of available teaching resources, both human and mechanical.”

In addition Johnson recommended that CULI should offer a “three tiered structure of English courses” (ibid : 49), each of which should be seen as “part of a hierarchy of courses of increasing skill in the use of English, each higher level servicing more specialist needs” (loc. cit.). At the lowest level he proposed a “common core” Basic Communication Skills Course, which was later retitled the Foundation English Course (FEC). As he saw it, most undergraduates at CU would be required to follow this course. Successful completion of the course, as measured by a post-course achievement test, was to be a necessary and sufficient condition for entry to courses at the next level. The FEC was to be divided into units of work. Progress from one unit to the next would depend on satisfactory completion of the first unit, as measured by a unit test. He also recommended that each student should enter the FEC at a point appropriate to his level of proficiency in English on entry ; this was to be measured by a pre-course placement test.

Johnson's proposals reflect most of the characteristics of an individualized FL programme as listed, for example, by Altman (1975 : 3-5)⁸. Once

⁸ These are, according to Altman :

1. teaching subordinated to learning ;
2. opportunity for different modes of learning ;
3. opportunity for flexible pacing ;
4. relevant curricula ;
5. affective needs (of learners) emphasized ;
6. quantity subordinated to quality (mastery learning) ;
7. criterion-referenced evaluation ;
8. the teacher as manager.

they had been accepted in principle by the University, they became the guidelines for the development of courses at CULI. In particular, his recommendations for the lowest level course were to provide the framework for the development of FRC I.

1.2 FRC I: The Main Features :

In line with Johnson's underlying philosophy the main principle upon which FRC I is based is that the course should be learner-centred. To satisfy this principle the course has been designed to take account of the differences among individual learners in terms of their :

1. learning strategies ;
2. level of proficiency on entry to the course ;
3. rate of progress through the course.

We shall now describe how each of these features is realized in the course.

1.2.1 Learning strategies :

Although designed to function as a self-study course, FRC I is sufficiently flexible to allow for a variety of learning strategies. Different learners learn in different ways, and the same learner may vary his learning strategy from one day to the next. Thus, in the implementation of FRC I, the teachers are encouraged to identify the appropriate learning strategy for any individual or group of individuals in their class on a day-to-day basis. This requires careful monitoring and assessment of learner needs. Consequently, class-room activity varies greatly. While the emphasis may be on self-study, the teachers are encouraged to exploit a whole range of learning/teaching activities as and when the need arises. These will include everything from conventional direct teaching in large or small groups, to peer-group teaching and one-to-one consultation, as well as self-study. At CU it is not uncommon to visit a class-room in which several learning activities are being exploited by different groups or individuals at the same time. In sum, given the inevitable constraints of the conventional time-table, every effort is made to help the individual learner learn in the way which best suits him at any time.

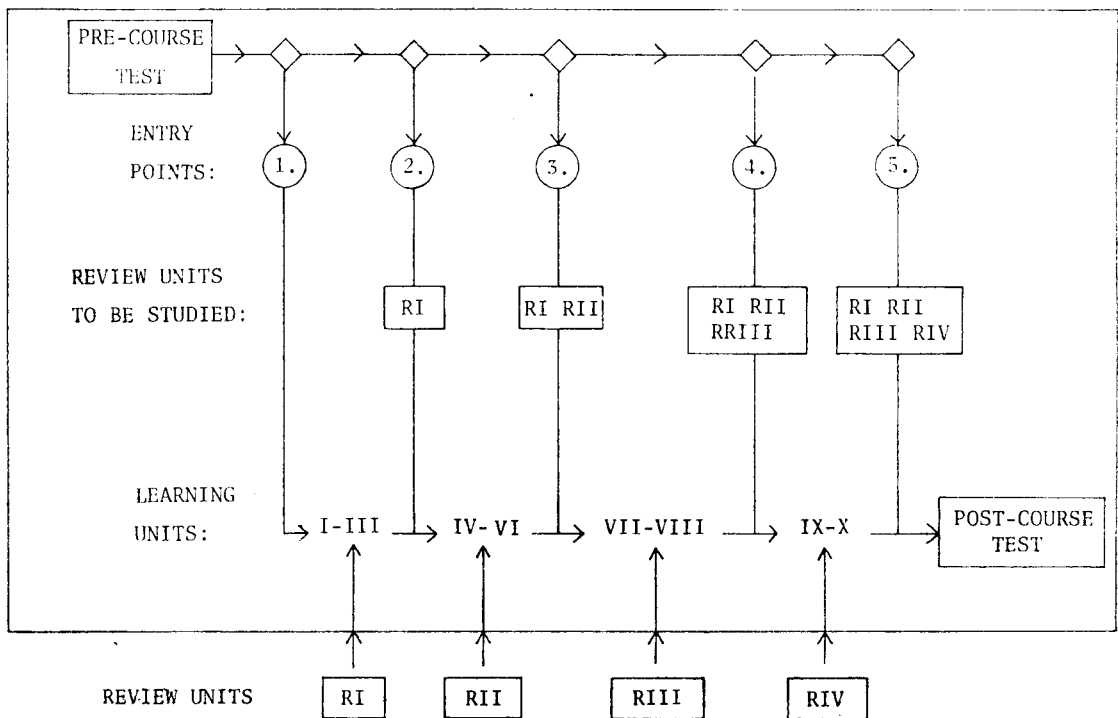
1.2.2 Levels of proficiency on entry to the course :

Among newly arrived first-year students at CU the level of proficiency in English varies enormously. In an attempt to take account of these individual differences FRC I has five entry points. As the course consists of 10 learning units, the entry points are as follows :

Level	Entry Point
1.	Unit I
2.	Unit IV
3.	Unit VII
4.	Unit IX
5.	Achievement Test,

The point at which any individual enters the course is determined by his performance on a pre-course placement test (see below 2.1.). Because the course is considered organic and because much of it is likely to be conceptually new to most of the learners, whatever their level of proficiency in English, there are four "review" units which summarize the main learning points covered in Levels 1-4. Learners entering the course at a point later than Level 1 are required to complete the appropriate review units before they begin the first unit at their entry point. This procedure is illustrated in Figure 1 below.

Figure : The Structure of FRC I :



1.2.3 Rate of progress through the course :

Different learners work at different speeds as well as in different ways. To allow for this, as we noted earlier, the course has been designed for use in the self-study mode, while remaining flexible enough to allow for the full range of teaching/learning strategies. This means that each individual learner is able to progress through the course at the pace, as well as in the way, which suits him best so that he may learn in the manner which is the most effective for him. The learner is encouraged to move from one learning unit to the next only when he is satisfied that he has adequate mastery of the learning points of the first unit. In short, he is encouraged to believe that quality of learning is more important than quantity. As part of this process the learner checks his own work (answer keys are in the learner's material) and, at regular intervals, is asked to evaluate his own learning performance. His progress is also evaluated externally by means of the teacher-corrected unit test which follows each unit. The function of the unit tests, and the other tests used with FRC I, is now considered in more detail.

2. FRC I : The Testing Component :

In discussing the main features of FRC I which reflect the learner-centred approach, we made reference to three kinds of test which are used with the course. These are :

1. a pre-course placement test ;
2. progress (or unit) tests administered at regular intervals through the course ;
3. a post-course achievement test.

These different tests are an integral part of FRC I and each, in some way, reflects the learner-centred, self-study approach adopted for the course. We shall now consider briefly the function and design of each one, paying particular attention to the progress tests.

2.1 *The Placement Test* :

As we pointed out earlier (see above 1.2.2.), a major feature of FRC I as used at CULI is that each individual enters the course at a point appropriate to his level of proficiency in English immediately prior to commencing the course. Obviously we need some measure of his proficiency for this purpose. Existing tests taken by our students before they come to CU⁴ are not satisfactory because :

⁴ For example, the "University Entrance Test : English" which is compulsory for all students seeking places in Thai universities.

1. they tend to be discrete-item, multiple-choice tests of language form, not use ;
2. they are general proficiency tests unrelated to the target objectives of FRC I.

Therefore, to ensure that we had a measure of proficiency appropriate for our purposes, we decided to develop a course-related placement test. The principal function of this test, which is still under revision, is to measure the course entrant's ability to perform at the target level of language behaviour set for the course, namely that they should be able to read with comprehension and at a reasonable speed non-fiction, non-specialist texts in English up to 250 words in length. As the post course achievement test was fundamentally required to fulfill the same function (see below 2.3.), it was decided that the placement test should be a parallel version of the achievement test. To fulfill this function an integrative test of comprehension of written texts of the appropriate kind was prepared. The test questions were task-oriented and involved problem-solving strategies⁵; this reflected the kinds of tasks which the learners would be required to perform during the course.

The ultimate purpose of the placement test was to enable us to determine the appropriate entry point for each individual beginning FRC I. In terms of the philosophy of our approach we wanted to ensure that each learner would have to study only as much of the course as he needed in order to attain the target behaviour set for the course as measured by the post-course achievement test. We shall consider later to what extent the placement test satisfied this goal (see below 3.2.),

2.2 *The Progress Tests :*

A central feature of FRC I is that the individual student, working in the way and at the pace that suits him best, only progresses from one unit to the next when both he and his tutor are satisfied that the learning points of the completed unit have been adequately mastered. Of necessity this means that :

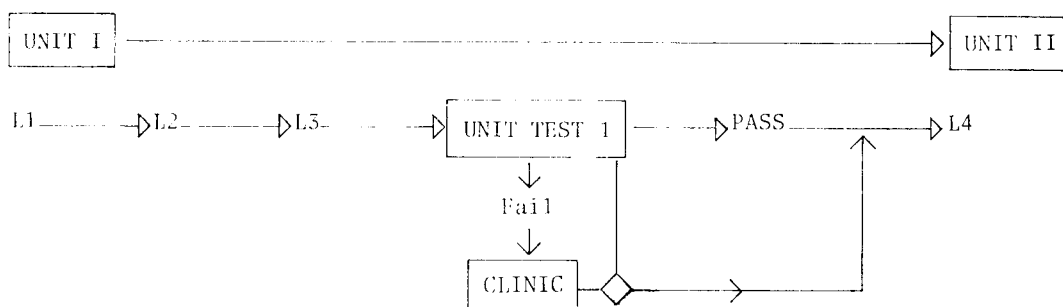
“If students are permitted to take tests when they feel ready to do so, the teacher must establish a flexible system for administering tests.” (Valette, 1977 : 38).

Thus a learner at CULI may request to take a unit test during any class hour : permission is granted if the teacher is satisfied that the

⁵ There is no time in this short paper to describe the test in detail. Further information is available on request from the Director, CULI.

learner has successfully completed the relevant unit. Effectively this means that the learner must demonstrate 90% mastery of the learning points of the unit, that is, mastery at the independent level⁶, as indicated by their performance on the various tasks set in the unit which they are required to complete. Progress to the next unit is then determined by their performance on the unit test, the criterion being 75%, that is, the instructional⁶ level of mastery. Any learner failing to reach the criterion is required to complete extra tasks ('clinic' materials) as recommended by his teacher⁷. In addition, the teacher may also require (at his discretion) that any learner who reaches the test criterion of 75% but who fails to achieve 90% (the independent level) on any section of the test do further work on the relevant learning point(s) before proceeding to the next unit. The "clinic" work is checked by the teacher who either asks the learner to do the unit test again or, more usually, allows him to proceed to the next unit. This process is summarized in Figure 2 below.

Figure 2 : FRC I : Unit Structure and Student Progress :



Each unit test includes items on each learning point covered in the relevant unit⁸. As in the placement test, the items set tasks similar to those set in the learning unit. The items are cross-referenced with the appropriate clinic materials and the appropriate sections in the unit. Thus, once the teacher has diagnosed the area(s) of difficulty, he is able to refer the learner to the relevant follow-up work.

The unit tests have an evaluative and a diagnostic function. They are criterion-referenced tests designed :.....

⁶ For a brief discussion of the concepts of independent and instructional levels of mastery see Aitken (1977 : 62-3)

⁷ Exceptionally the teacher may ask the learner to rework relevant sections in the original unit.

⁸ For a description of how the learning material is structured see Frankel (1979).

1. to determine whether the learner has adequately mastered the learning points of each unit and may proceed to the next unit (evaluative);
2. to identify any areas of difficulty experienced by the learner which may need further practice (diagnostic).

In this sense they are seen as forming an essential part of the course structure and of the teaching/learning process. We consider later (see below 3.3.), to what extent they render the teaching/learning process more effective.

2.3 *The Achievement Test :*

To complete the testing component of FRC I we needed a test which, like the placement test, would measure each learner's performance in terms of the target level of language behaviour set for the course⁹. The only difference between the two tests was the purpose for which this information was required. The purpose of the placement test was to show how much of FRC I each learner would need to study successfully in order to reach the target level of behaviour. The purpose of the achievement test was to show how far towards the target level of behaviour each learner had progressed on completion of FRC I. Consequently it was agreed that in form and content the achievement test and the placement test should be parallel (and, therefore, interchangeable) versions of the same test (see above 2.1.).

In this section we have briefly described the different tests integrated with FRC I and their principal functions. They are seen as an essential factor in the course design, as it relates to the teaching/learning process, having been :

“...constructed primarily as devices to reinforce learning and to motivate the student...” (Heaton 1975 : 1).

In the next section we present some tentative evidence that the tests, particularly the progress tests, may be successfully fulfilling this aim.

3. FRC I : A Pilot Study

3.1 *The Study*

This informal study was a part of a pilot project of the Foundation Reading Course I at Chulalongkorn University undertaken in the first semester of the academic year 1978 from June–October 1978. The population consisted of 1,154 students in the Faculty of Engineering,

⁹ It was also to serve as the criterion for entry into FRC II.

the Faculty of Commerce and Accountancy and the Faculty of Political Science. The study was carried out to evaluate, among other things, the role of the three kinds of test used in the course, with particular attention given to the progress tests in their function as aids to learning.

3.2 The Pre-Test and Post-Test : Results :

As mentioned earlier in this paper (see above 2.1.), the achievement test was a parallel version of the placement test; thus we were able to use the two tests for a pre-test and post-test experiment in order to compare student performance prior to entrance to FRC I and on completion of the course. The following table showed the results of the pre-test and post-test for students entering the course at different entry points. The comparison was made from the raw scores.

Table 1

Results of the pre-test and post-test for students entering FRC I at different entry points

Entry Point	N	\bar{X} Pretest (140)	S.D.	\bar{X} post-test (140)	S.D.	Gain Score
1	135	58.574	18.385	67.457	20.489	8.883*
2	627	75.275	11.683	83.083	11.400	7.808*
3	288	88.753	9.882	97.483	10.012	8.730*
4	93	98.651	8.921	107.105	7.587	8.454*
5	11	108.900	6.189	113.000	5.710	4.100
Total	1154	79.580	15.09	87.050	14.852	7.470*

* Statistically significant at the .01 level.

As can be seen from Table 1 the gain scores were relatively small (we shall return to this point later). Nevertheless we established that such gains as took place, except among students entering the course at Level 5, were not due to chance but were statistically significant at the .01

level. Regarding the Level 5 students (1% of the population), the absence of a significant gain score is relatively easy to explain. These students only studied the four review units before taking the achievement test. Moreover they were not required to take any of the unit tests which, in our view, are a key component of the course and of the teaching/learning process. As a result they had minimal learning and reinforcement between taking the placement test and the achievement test.

As part of the study a control group of 91 students from the Faculty of Law were given the same pre-test and post-test. The control group followed a substantially different reading and structure course which nevertheless had similar objectives and lasted about the same number of contact hours as FRC I. The students in the control group were almost exclusively the equivalent of Level 2 students in the experimental group on entry to the course. A comparison of the pre- and post-test results for the experimental group (total and Level 2) and the control group is given in Table 2 below. The scores given are the raw scores.

Table 2

Results of the pre-test and post-test for students in the control group and the experimental group :

Group	N	\bar{X} Pre-test	S.D.	\bar{X} Post-test	S.D.	Gain Score
Experimental (total)	1154	79.580	15.090	87.050	14.852	7.470
Experimental (Level 2)	627	75.275	11.683	83.083	11.400	7.808
Control	91	76.198	13.240	76.374	15.053	0.176

Although not too much should be read into these results given that the tests were both course-related, it was nevertheless encouraging that the control group made virtually no gain after a similar period of instruction using different materials with similar objectives. However the relatively small gain for the experimental group remained worrying.

It was clear that there were three principal factors which individually or in combination could have accounted for the low gain score. These were:

1. the tests used, which had still to be validated;
2. the course materials;
3. the learning strategy.

A formal investigation of each of these factors on learner performance has still to be completed, but from learner feedback and teacher observation it seemed that the students in general experienced considerable difficulty in adjusting to, what was for them, a new approach to learning which required them to assume greater responsibility for their own learning than their previous educational training had prepared them for. Another possibly significant factor which may have contributed to the low gain score was that the learners only had access to the course materials during class hours. As the materials were still in an experimental stage of development they were issued at the beginning, and collected in at the end of each class hour. Consequently the students had no opportunity to use private study time to reinforce and review what they had learned prior to taking the achievement test. It is not unreasonable to assume that the learners' gain scores might have been higher if they had been able to study the course materials in their own time as well as during timetabled class hours.

3.3 The Unit Tests :

Another function of the pilot study was to provide some indication of the extent to which the unit tests were fulfilling their role in the learning process. To do this we first aggregated the scores on the unit tests achieved by each student in the experimental group. We then computed for each student the mean score for the tests taken. Each individual's unit test mean score was then compared with his achievement test score on a pass/fail basis as shown in the following 2×2 contingency table.

Table 3

A 2×2 contingency table showing the relationship between the unit tests and the achievement test on a pass/fail basis :

		Unit Tests		
		Pass	Fail	Total
Achievement Test	Pass	777 students 67.33 %	285 students 24.75 %	1062
	Fail	26 students 2.25 %	66 students 5.72 %	92
	Total	803	351	1154

The chi squared test of association¹⁰ was used to study the relationship between the unit tests and the achievement test. For 1 degree of freedom the X^2 value needed at the .001 level was 10.83. The X^2 obtained from the sample was 80.66.

In other words there was a high probability that each individual's performance on the unit tests would be repeated in the achievement test. Thus learners who failed to pass the unit tests would also probably fail the achievement test if no opportunity were provided to remedy their weaknesses.

This finding enabled us to assess how well the unit tests were fulfilling their intended learning function. As Table 3 shows, some 30% of the experimental group failed to reach an average of 75% overall on the unit tests. 80% of those who failed (24.75% of the total) went on to pass the achievement test after they had worked closely with their instructors on their problem areas as diagnosed from the unit tests. Only 2.25% of the total passed the unit tests overall but failed the achievement test. Thus, while we do not consider this evidence conclusive, there is an encouraging indication that the unit tests, used evaluatively to measure student progress and diagnostically to identify areas of learner difficulty fulfilled their intended function in FRC I as aids to learning.

4. Summary and Conclusion.

In this paper we have attempted to provide some support for the argument that tests can have an important function as aids to learning in a foreign language learning programme. We have done this by reference to the functions of the different tests, in particular the unit tests, which form an integral part of FRC I developed at CULL. We have then gone on to consider the findings of an informal research study carried out in 1978, which among other things, investigated the extent to which the unit tests in particular were fulfilling their "aids-to-learning" function.

The findings of the research study were no more than suggestive. Nevertheless, even though the tests used were at an early stage of development and had consequently not been validated, there was some indication that the test programme in general and the unit tests in particular, incorporated into the design of FRC I as an integral part of the course, played a valuable part in rendering the teaching and learning process more effective during the course.

¹⁰ See Robson (1975 : 84-9) for a discussion of the chi squared test of association.

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