In recent years, individualized instruction has been gaining popularity in foreign language teaching. The results obtained from experimentation with this new approach have offered new insights into methods of teaching and students' needs. This article is based on experimentation with "A Programmed Course in Modern Literary Arabic Phonology and Script" prepared by Ernest McCarus and the author in 1969. The program was used by four classes of first year Arabic of the Department of Near Eastern Studies at the University of Michigan. First, the article presents a description of the programmed materials, disclosing their nature, scope and layout. Second, it attempts to evaluate their effectiveness in facilitating the learning of Arabic sounds and writing systems. And third, it analyzes the results achieved in terms of their pedagogical implications. (Author)
INDIVIDUALIZED INSTRUCTION AND THE TEACHING
OF ARABIC PHONOLOGY AND SCRIPT

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Abstract

In recent years, individualized instruction has been gaining popularity in foreign language teaching. The results obtained from experimentation with this new approach has offered new insights into methods of teaching and students' needs. This article is based on my experimentation with A Programmed Course in Modern Literary Arabic Phonology and Script prepared by Ernest McCarus and me in 1969. The program was used by four classes of first year Arabic of the Department of Near Eastern Studies at the University of Michigan. First, the article presents a description of the programmed materials, disclosing their nature, scope and layout. Second, it attempts to evaluate their effectiveness in facilitating the learning of Arabic sound and writing systems. And third, it analyzes the results achieved in terms of their pedagogical implications.

On the basis of studies of the phonologics of American English and Modern Literary Arabic (MLA), the MLA writing system and the vocabularies of eleven Arabic textbooks used in this country, Dr. Ernest McCarus and I prepared A Programmed Course in Modern Literary Arabic Phonology and Script in 1969. This course has been designed primarily for individualized instruction with the assistance of recorded tapes in the language lab.

The target of the Programmed Course (PC) is contemporary literary Arabic and its specific goal is teaching non-native speakers to distinguish Arabic phonological contrasts accurately, to

*1 This article is based on a paper with the same title presented at the Middle East Studies Association Seventh Annual Meeting, Milwaukee, November 1973.
read both printed and handwritten Arabic with acceptable pronunciation and to write Arabic with a pleasing hand. A typical unit presents two or three letters related in visual form. The forms are introduced and dealt with individually in four sub-units as follows:

1. **Pronunciation:** Each pronunciation section starts with a phonetic description of the introduced letters. Accompanying diagrams of the points of articulation for sounds not occurring in English are also included, whenever necessary. This is followed by a series of listening and imitation drills in order to give the student sufficient practice in aural recognition and oral production of the newly-learned sounds.

   The student's responses are always immediately confirmed, either aurally from the tape or visually in the margin of the following page. This procedure of confirmation is used throughout the course wherever the student is required to respond actively.

   In general, sounds familiar to the English-speaking ear are presented first, holding the emphatic and gutteral consonants for the later units. A technical summary of the phonetic problems involved in the description of these latter sounds is often included at the end of their respective sections.

2. **Reading:** In this section all the letters which the student has already encountered are shown and read on tape in alphabetical order with the particular new letters inserted and marked in their proper places. The various forms of each new letter are presented in sequential order, one at a time. This is followed by drills for visual recognition and oral production of the new sounds.
or letters. These drills require the student to (a) recognize the new letters and their combinations by encircling them in the list of words or phrases given and (b) read aloud words or phrases containing these sounds. Immediate confirmation follows, as usual.

3. Writing: This section provides practice in recognizing and producing the letter shapes and their combinations as well as the relationships of size and composition of letters and spacing between words. Models of the new letters are shown with specific directions for forming them, first in their independent forms, then in their joined forms. Guidelines for tracing over dotted lines or completing partial forms are given with spaces made available below the models for the student's practice. Finally, the student is required to copy words and phrases independently. One of the main features of the writing sections in the PC is that they afford a great deal of practice in teaching the proper forms of the letters with all the variations possible.

4. Review: At the end of each unit, review drills are given covering some or all of the materials thus far practiced in order to test the student's performance in that unit. Performance is judged acceptable if the student does not make more than five mistakes in the review section.

In evaluating the PC, I have used the following procedures:

1. Questionnaire: At the end of the program, the students were asked to complete a questionnaire consisting of a check list covering the following aspects of the program: its value, organization, clarity of instructions, timing of taped portions, adequate amount of English translations and interest and enjoyment. The
purpose of the questionnaire was explained clearly and the freedom to respond freely and openly was stressed. All questionnaire items were scaled from "very bad" to "very good" with "neutral" as the midpoint in the scale. The students were urged to add general comments or suggestions at the end of the questionnaire. (See chart on page 10.) As a matter of fact, many students availed themselves of this opportunity and wrote one to two pages of comments which were indeed very valuable in evaluating the PC.

I have utilized, in my evaluation, the comments obtained from the questionnaires as well as the experimental copies of the PC which were returned to us from some of the schools that used our program during the experimentation period. The PC has been tested out at the University of Arizona, the University of Chicago, George-town University, the University of Illinois, The Ohio State University, small colleges and private organizations and individuals throughout the country.

2. Class observations: I had the chance to observe the students in action and see the interaction between them and the program as well as the change in their attitudes while working in the language lab.

3. Informal individual and group meetings with students: I talked to not less than 15 students each year on an individual basis and occasionally discussed the program with them in class. The students represented a variety of levels--from freshman, to sophomore, to junior, to senior, to graduate--and also to special students and auditors. During these meetings, questions were asked with the intention of soliciting the students' oral responses to
matters relating to the structure and content of the PC, the methods used in handling it, the time spent on it in the language lab and the classroom, the quality of the program and its accompanying tapes as well as its effect on the students' morale.

4. Tests: I gave three tests to evaluate and compare the performance of the four Arabic classes which participated in the experiment at the University of Michigan. The first two tests were almost the same in terms of their structure, content and objectives. They all contained sounds, letter combinations and dictation. The only difference among them was that the items included on each test varied more or less from the items included on the others. Test I was given at the end of Unit 5, Test II at the end of Unit 10 and Test III at the end of the PC. The third test, however, was different from the preceding ones in its structure and content. It included reading comprehension and writing in addition to sounds, and was given at the end of lesson 10 of the Elementary Modern Standard Arabic (EMSA) textbook which follows the PC.*1

5. Course evaluation: At the end of each semester, students in the Department of Near Eastern Studies are asked to evaluate the courses they have taken through filling out course evaluation forms distributed by the instructors. The returns from course evaluations are used by instructors for the improvement of their teaching in coming semesters.

Before describing the four groups of students and the different materials and procedures used with each group, I should like to stress that the main objectives set for each group were the same: namely, the learning of Arabic phonology and script.

*1 This will be explained when describing the materials used with each group of students.
The number (N) of the first group was 19 students. Their teaching involved eight contact hours in class per week, doing the first ten lessons of EMSA, which are designed for Arabic phonology and script. They also spent one to two hours a day in the language lab or at home, doing the pronunciation, writing and dictation drills. This class managed to finish the first ten lessons in five weeks (approximately 70 hours). The second group, which numbered 19, used the PC alone. They spent eight hours per week in the language laboratory. They were able to finish the program in four weeks and spent one more week of eight contact hours in class plus four hours in the language lab in order to do lessons six through ten in EMSA (approximately 44 hours).

The third group (N. 21) used the PC supplemented by classroom practice. Their work consisted of eight hours per week: six in the language lab doing the programmed materials and two in class on Tuesdays and Thursdays for review, check up and oral practice of the dialogues in lessons six, seven, and eight of EMSA. This group completed the PC in three and one half weeks and spent another week of eight contact hours in class and four hours in the language lab going over lessons six through ten in EMSA (approximately 40 hours).

The fourth group (N. 32) used the PC supplemented by classroom practice and review, exactly like the third group. Instead of spending eight hours per week, however, they had only six: five in the language lab and only one hour in class. It took this class three weeks to finish the program and one more week of six contact hours in class and three in the language lab to do lessons six through ten in EMSA. It should be pointed out that the members of this class spent an average of ten hours of their extra time in the language
lab in order to complete the PC within the scheduled three week period. This brings the total hours spent by this group to approximately 37 hours. The following chart gives a summary of the time spent by each group and how it was spent.*

<table>
<thead>
<tr>
<th>Group Number</th>
<th>Hours spent on PC</th>
<th>Hours spent on EMSA</th>
<th>Total hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Language Lab</td>
<td>Classroom</td>
<td>Language Lab</td>
</tr>
<tr>
<td>G₁</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>G₂</td>
<td>32</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>G₃</td>
<td>21</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>G₄</td>
<td>25</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

According to the results obtained from the tests given and my own observations of the students' performance in class, I can state the following:

There was little difference in the ability of the four groups to recognize and produce the various Arabic sound contrasts contained in the tests or done orally in class. The majority of the students did well on the sounds. On writing, the third group did significantly better than the rest, especially in spelling and joining letters into words. Next to it in performance came the fourth group, then the second and last of all the first group. Indeed, the members of Group

*Note:  
G₁ did lessons 1-10 in EMSA  
G₂, G₃ and G₄ did lessons 6-10 only
I spent about a month after they finished lesson 10 in EMSA before they were able to overcome the problems they encountered in the formation of some Arabic letters and the use of dots. I found out later that this was due to the fact that they did most of the writing drills outside of class, not concurrently with their class work like the other groups. On the fourth test which contained reading comprehension and writing besides sounds, the third group ranked superior to the others. Among the other three, the fourth group did better than the first and the second on drills involving writing, whereas the first group was superior to the other two on reading comprehension. Significantly enough, the performance of the first and third groups in reading dialogues and basic texts aloud was better than the performance of the second and fourth groups, especially in terms of speed and the use of the pausal form.

Most of the comments collected from the students' evaluations of the PC were favorable. Most felt the PC was very satisfactory, well-organized, and enjoyed the freedom to work through it at their own pace without pressure from the instructor or the class. Other comments stressed "thoroughness of coverage", "the enjoyment one derives from doing the writing drills under the trace-copy technique", "the satisfaction of being able to learn both printed and handwritten forms of Arabic letters with all their possible variations", as well as "the ability to read and write Arabic satisfactorily without resorting to transliteration and with the minimum aid of English translation". The following are some of the typical comments I have received from students who used the PC.

--"I have studied several different languages using several
different methods. In addition, I have taught English as a foreign language. I have found that a carefully developed course of programmed instruction such as the one we have for Arabic phonology and script is definitely superior to any other."

"The Programmed Course in Arabic was extremely useful to me because of the relatively slow pace at which I learn foreign languages. The program gave me an opportunity to work at my own pace without hectic outside pressure. This was very good for me because, in the past, fear and resentment have played a great part in my failure to learn."

"I took the introductory course at the University of Wisconsin and used EMSA's first 10 lessons to learn MLA phonology and script. It is my opinion that the programmed course was a much more effective and enjoyable method for learning the same materials."

"For the past four years I have lived and worked in the Middle East, first in Cairo, then in Dhuhran. I have studied Arabic, therefore, since September, 1969. This program is by far the most effective and enjoyable introduction to the language that I have had contact with. Its programmed presentation gets the student over the very significant barriers of phonology and orthography; the fact that the student can proceed at his own rate makes this course extremely valuable."

The following chart contains the results of the students' rating of the six areas included on the questionnaire which they completed at the end of the PC. Out of 131 who returned the questionnaire, 91 were from the University of Michigan, 15 from the University of Chicago, 13 from The Ohio State University, and 12 from private organizations.
Using the PC in the language lab was not without problems. Unfortunately, there were technical problems which interfered with the program. Eight students reported that they had trouble hearing some of the subtle contrasts such as the unh unh contrast or distinguishing the exact sounds such as û ð and ʃ f . After checking the tapes, I found that this was due to poor amplification of sound and bad quality of some tapes. And where the students had to use cassette tape recorders, it was due to bad earphones. At times I noticed that the students were depressed and bored especially whenever something went wrong with the tape recorders or the computer, since they would have to wait impatiently for some time until the machines were fixed. This led several students to express a strong desire for more access to a live instructor. One student commented,
"The presence of the instructor is a magnificent aid in tempering the hostility of the tempermental machinery of the language lab."

These mechanical problems, however, were tackled in a number of ways. First, the language lab staff were very cooperative with us; they corrected all the technical problems which arose during the experiment. Second, both Ms. Nora Kalliel, who assists me in teaching first year Arabic this year, and I were available in the language lab most of the time in order to make sure that things were going smoothly. And third, I integrated language lab seminars with work in class, occasionally, and thus broke the monotony resulting from working constantly in the language lab.

Judging by the results thus far mentioned, and in view of my own observation of the students' behavior and attitudes during their use of the PC in the language lab, I feel most strongly that the application of the individualized instruction approach to the teaching of MLA sound and writing systems is pedagogically sound and more effective generally than the traditional classroom method. It is desirable for the following reasons:

1. It is the most economical and enjoyable method to teach the complicated systems of MLA phonology and script in a manner capable of evoking students' interests and maintaining their maximum involvement in learning. Throughout my experience in teaching language courses, I have found that the PC has more consistently sustained students' interests than I thought possible for any language class.

2. It accommodates individual differences in learning, because it offers the student as much practice with Arabic sounds and letters as he wants, needs, or is able to assimilate.
3. It provides the student with options such as repetition of instructions and stimulus and immediate feedback.

4. It provides the student with an environment where he can overcome the personality factors of embarrassment and shyness through working at his own pace, discovering his own mistakes and correcting them.

5. It gives the beginning student of Arabic confidence in the fundamentals of the language, because it provides him with a learning situation which would enable him to develop self-confidence and ultimately become a self-directed learner making the right choices about his own learning.

What are the pedagogical implications of programmed learning? The PC has been an extremely valuable experience for me in that it has enabled me to gain new insights into methods of teaching and students' needs. Having had the opportunity first to observe the students in action, and then study and analyze their comments and observations on the PC, I have started to think differently about our present teaching strategies and methods.

First of all, I strongly believe now that letters and sounds are the tools of working with any language, and the sooner the students have a command of them, the sooner they can get into the more substantial skills of vocabulary and structures. I have also become convinced that all of us as teachers should consider seriously the affective outcomes of each course for which we prepare materials or which we plan to teach. If our aim in teaching is to help our students learn what we want them to learn in an enjoyable, relaxed and profitable atmosphere, we should make an effort to utilize in our teaching and textbook writing some of the principles underlying programmed instruction, i.e. small steps, active responding, immediate...
iate confirmation, flexibility in materials, personalized teaching, development of self-motivation and self-reliance, and varied learning needs.

In the overall course evaluations at the end of each semester, a considerable number of students expressed a desire to see EMSA divided into small segments, each one dealing effectively with one aspect of the language, following the PC pattern. Several students suggested reviews at the end of each lesson in EMSA similar to the review sections included in the PC. Some of the students felt that the pace of the course was fast, others felt it was slow, and there were others who felt the pace was just right. These varied reactions should lead us to give differences in learning speed special attention and to abandon the idea of putting standardized limits to students' coverage of materials. A group of students demanded that assignments and tests be returned to them as soon as possible for immediate confirmation and discussion of errors. Another group felt that EMSA should offer more alternatives in terms of approach, material, and organization in order to allow both instructors and students to choose the method, pace and type of material which they like most. The use of student teaching in our department has been found to be so effective in personalizing the teaching experience, by giving more attention to the individual student, that some students have been encouraged to indicate their desire to be taught in small groups in or out of class. Students, in general, expressed strong sentiment for a varied use of teaching materials and techniques in order to satisfy their different levels as well as their various skills and needs. On the whole, conventional classroom materials and techniques were described as being "sometimes uniform, at times cold, boring,
impersonal or ignoring the basic individual differences among students." Whereas self-instructional materials such as the PC were found to be stimulating and self-motivating.

In view of all these results and observations, it might be well to end this article with the following conclusions:

1. Individualized learning in the language lab is especially important in learning MLA phonology and orthography.

2. Integration of programmed materials with conventional texts, individualized learning in the language lab or at home with live teaching in class, as well as listening and speaking with reading and writing, should receive special attention in today's teaching.

3. The instructional program set for each level should be divided into small segments, with each segment having its specific goals, specific materials and specific methods.

4. There is no single method or approach to be prescribed for teaching. The best approach is a blend of many methods and techniques derived from success in actual classroom experience.

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