

# ASSESSMENT OF THE ENGLISH REMEDIAL PROGRAMME AT A PRIVATE UNIVERSITY IN LEBANON

RAMZI N. NASSER  
CAROL ANN GOFF-KFOURI

**Abstract** – *This study investigates whether remedial courses in a private university in Lebanon affect the enrolment decisions of pre-admission students. This study also investigates the effectiveness of the remedial English courses on subsequent English and academic performance. Findings revealed that a large number of remedial placements discouraged students from enrolling in the university. It was also found that remedial courses were not effective in providing better performance on general academic subjects. This study is significant because remedial programmes at universities in Lebanon and the Middle East have been rarely assessed in terms of goals and general academic objectives. With the open admission policies in the majority of private universities in Lebanon, the quality of discussion on the effect of remediation at universities in Lebanon and the Middle East is almost non-existent. This paper provides a benchmark for a forum of discussion and further study to the effectiveness of general and remedial programmes in the Middle East.*

## Introduction

**R**emedial programmes in higher education is coursework taken to fill or to compensate for what has been not learned, mislearned or not learned altogether (Bettinger & Long, 2005). The general and accepted goal of remedial programmes is to increase preparation of students with poor mathematics, English skills or other subjects prior to taking courses necessary to meet university graduation requirements.

Disenchantment with university placement into remedial courses has been a source of controversy among faculty, policy makers, students and a financial burden on parents. Inter-university discussion among faculty about the scope, need and objectives of remedial or placement courses has raised important questions about what remedial programmes are doing to improve student academic performance (Mazzeo, 2002). Many parents see remediation as paying for the same education twice and draw much contention about the nature of the programmes and their role in preparing students for future academic success.

In the international higher educational arena little is known about remedial programmes in private universities. Certainly, academics universally have identified specific knowledge and skills required to be successful in a college or university. For instance, academics consider as a 'rule' that English and mathematics are gatekeeper courses for enrolment in regular programmes, and that students who are successful in disciplines such as history, geography, arts and languages are also successful in the English language. Similarly, those successful in science, logic and engineering are successful in mathematics.

The nature of remedial programmes in the Middle East and in Lebanon is different from that of North American and Western programmes for reasons that have historical reference. Missionaries established the Lebanese educational system in the post-colonial period. These newly established schools were run by religious establishments such as French-Catholic orders and then taken up by Christian Maronite Lebanese orders (Bashour, 1997) and later developed into institutes of higher learning – the most notable establishment being Saint Joseph University.

A large number of schools still follow the French system in the language of instruction in the fields of science and mathematics. Many students who wish to obtain an American education, in an American-based university, go through an entrance examination established along American standards in the English language. Students are placed in English remedial courses because they shift from the French-based school system – as French is the background and learned language in schools after Arabic – to English, which is the medium of instruction at American style universities. In addition, there may be some disconnection or mismatch between what secondary schools consider college preparatory courses in mathematics and English, and what the colleges themselves set as admission standards.

Students seeking a university degree may choose one university over another based on remedial course requirements. For universities it becomes a way to choose and design – as they currently do – their own remedial programmes according to what falls within the scope of their strategic development for growth. There have been no unified policies on admissions, entrance examinations, placement criteria and standardisation of university remedial courses in Lebanon and other places around the world. These conditions are somewhat the same in the US (Breland et al., 2002). The conventional practice is that students generally take entrance examinations or the Scholastic Aptitude Tests (SATs) with their secondary school grade point average and other criteria to judge whether they are eligible for admission and/or placement in a remedial programme. Otherwise, they enrol into the regular programme. Many universities around the world, specifically in Europe, do not require students to go through remedial programmes. Those who do not qualify for admission are channelled to enrol in technical colleges or are rejected all together. However, with the open admission

policy and enterprising international higher education system, universities now seek students rather than students seek universities. This 'reversal supply-demand approach' has made many universities agile and sensitive to student needs in terms of the curriculum and programmes. Thus a review of remedial programmes has become a key aspect in the self-assessment that all universities go through for accreditation and strategic development.

## **Policy issues**

Universities tend to have their own admission policies or decisions on remediation. These policy issues are tied to the culture of the university. In rigid, authoritarian and bureaucratic organisational cultures, leadership tends to persuade others and potentially to advance policies that serve particular interests (McNay, 1995). According to Stone (1989), policy makers construct implicit models of causation of the problem and its solution. They provide the scenario, which is one-dimensional; they lay the problem and then offer its solution (Hoffman, 1995; Hatch, 1998). Eventually issues are settled through inter-university rules and regulations. In essence, in the absence of consensually based agreement and empirically validated objectives, unilaterally drawn policy decisions for remedial programmes seek to achieve a skill level that enables students to transfer into the regular curriculum (Bers, 1987).

There is some reason to believe that the majority of the private institutes of higher education in Lebanon offer remedial courses and compete for students with below standards in acknowledgement that they enrol students who require remediation in order to reach quality standards. Namely, the nature of private universities enterprise promotes remediation to cover 'enrolees overhead costs'. It is logical to suggest that universities in Lebanon and the Middle East boost their reputation through enrolment rates, with the logical consequences that these students complete their university with the highest grade point average, and graduate with a standard level to allow them to continue in graduate school and find occupational success.

## **Literature perspectives**

Remedial programmes in US colleges indicate success in degree attainment due to placement in college support programmes (McCabe, 2000; Cabrera & La Nasa, 2001). Students in remedial programmes are more likely to persist in college in comparison to those who were not required to take such courses (Bettinger &

Long, 2005). Similarly, Schoenecker, Bollman & Evens (1998) found that enrollees who did not complete the recommended remedial courses were less apt to continue with the programme of study. On the other hand, Saxon & Boylan (2001) reported that a high number of remedial courses are linked to a higher leaver rate. In the same study, those who completed the remedial courses had slightly higher grades and non-significant core curricular English courses compared to those who did not go through the remedial program. Johnson & Kuennen (2004) have shown that students who took remedial courses before enrolment in the regular programme performed better on these courses than those who took the courses concurrently. But others, like Richardson, Fisk & Okun (1983), argue that remediation does not advance students into college academic programmes; students who have to take a number of remedial courses get discouraged from continuing or dropout all together. At the same time, students who complete a long list of remedial courses tend to be more motivated and succeed in the regular programme of study. Richardson, Fisk & Okun (1983) also argue that students who enrol in regular courses without the remedial prerequisites often force faculty to water-down the curriculum so as to accommodate for low-track achievers.

Research has drawn the pros and cons of remedial programmes, but still policy or rationale based on empirical evidence is lacking in the field. In the absence of rigorous evaluation studies on the effectiveness and consequence of remedial programmes, one can say considerably little about what they 'really' accomplish.

Notwithstanding this, evaluative studies have not received enough attention from private universities in Lebanon, the Mediterranean and the Middle East. The authors, in fact, are not aware of one study that evaluates 'pre-university programmes' in Lebanon. Even in the US, research about the effectiveness of remedial education programmes has typically been sporadic, under funded and inconclusive (Bers, 1987). For instance, a study of 116 two- and four-year colleges and universities revealed that only a small percentage conducted any systematic evaluation of their remedial education programmes (Weissman, Bulakowski & Jumisco, 1997). Studies as early as four decades ago found that while mathematics remedial courses did not improve college mathematical abilities through regular college course work (Ottley, 1968), English remedial courses did not fulfil the intended objective (Lawson, 1959). More recently, Zhai & Skerl (2001) concluded from a comprehensive study on the effectiveness of remedial English courses at a four-year institute in the US that such course are effective in that they increase the success in regular English courses and subsequently in the retention and increase in graduation rates. Keeping in mind that there is no empirically based evaluation studies that provide models to identify and examine the success of remedial programmes, it is currently questionable as to what makes the best remedial programme.

## **The study**

### *Study objectives*

One of the major goals of this study was to consider whether placement in remedial courses bolsters higher enrolment rates or reduces it. We also wanted to examine whether remedial courses impact subsequent academic attainment in English and the general academic performance. These questions are worth studying because of the atypical conditions that provide the sustained rationale for the remedial programmes in Lebanon and other parts of the Middle East.

In our survey of research studies we were not able to find a single study that evaluates remedial programmes at universities in the Middle East. With the continued expansion of the higher educational system, this study provides a possible benchmark in the evaluation of remedial universities programmes in the Middle East, Mediterranean, and Lebanon in particular.

The specific research questions of our study were: (i) to what extents do the assigned English remedial courses hinder students from enrolling at the university? (ii) to what extent are the English remedial courses effective in preparing students for their required college English courses? and (iii) do the English remedial courses generally translate into a better overall academic performance?

### *Case study*

This study was carried out in a university established in 1987; its structure is based on the American-credit system of education and it has seven faculties. These are: Humanities; Sciences; Engineering; Architecture and Art; Political Sciences and Public Administration; Business Administration and Economics; and Nursing. In 1988, the university accommodated 350 students mostly enrolled in undergraduate majors. Since the 1990s, the university has witnessed growth in the number of students. This encouraged the university administration to branch out to other regions in Lebanon. At present, the university has over 5000 students, mostly enrolled in undergraduate majors, with the majority registered in the Faculty of Business Administration and Economics. During the 2006-2007 academic year, however, the university's road map for strategic development attempted a comprehensive self-assessment study of the different aspects of the university programmes. The intention was to critically examine the university's performance and curricular effectiveness.

*English remedial courses*

Assignment to remedial courses is based on a placement test score. The Admissions Office, together with the faculties, determines the placement to remedial programmes according to the English entrance examination scores. The English placement examination determines whether students are placed in 0-level English remedial courses, the 100-level English remedial courses or in the standard programme. The English placement examinations decide each student’s level placement in English remedial courses. Students are placed in three types of English remedial courses. The placement examination cut-off score for the first 0-level English course is between 400-499; for the second 105-level or 109-level English course it is between 500 and 599; and for the third 107-level or 110-level English course it is between 600 and 699 (see Table 1 for further clarification). Students must earn a grade of C or better in order to pass from the 0-level remedial course to the 100-level remedial courses. Usually students take two remedial courses before moving on to the university general requirements in English. If a student passes the 0-level course, he or she takes additional remedial courses or continues in the regular curriculum, depending on the grade obtained.

*TABLE 1: The structure of English remedial courses placement*

| Placement Examination Scores |           | Major                                  |   |
|------------------------------|-----------|--|---|
|                              |           | Non-Science and Engineering Programmes | Science and Engineering Programmes              |
| O-Level                      | 400-499   | ENL: 002:<br>Intensive English         | ENL: 002:<br>Intensive English                  |
|                              | 100-Level | 500-599                                | ENL: 105:<br>Freshman English I                 |
| 600-699                      |           | ENL: 107:<br>Freshman English II       | ENL: 110:<br>Freshman English for<br>Science II |

The bulk of students placed in remedial courses are entering sophomores of the university. Typically, Lebanese high school students finish the baccalaureate diploma that is similar to the French baccalaureate, the thirteenth grade in high school, or the advanced placement status in American high schools. It is also comparable to the 'Advanced Level' course that British students complete and equivalent to the international baccalaureate. All students take two college level composition courses as part of their general educational requirements in the regular university curriculum. The first of the two courses (i.e., major) are used in this study.

## **Methodology**

To ensure reasonably informative comparisons, control or comparison groups were established and used in the analysis of the data. In the first analysis, we used two groups – those enrolled and those who did not enrol. In the second analysis, four sub-groups – representing students with zero, one, two or three remedial courses – were crossed with the level of performance on the first English course in the regular programme and their cumulative Grade Point Average (GPA). Lastly, based on the average grades on the remedial courses, three cohort groups were classified as low achievers, middle achievers and high achievers, and were crossed with the first English course and cumulative GPA.

The method in this study compares enrollees with non-enrolees, and those who took zero, one, two or three remedial courses on first English courses and GPA. In particular, the data consisted of student remedial grades, first English course grade and cumulative GPA from 2000-2001 to 2005-2006 academic years. Data were accrued for students' entrance examination scores, the 0-level courses, the 100-level courses and the first English course, and the Grade Point Averages were accrued from 2001 to 2006. Data pertaining to the non-enrolees included their English entrance examination scores and the type and number of remedial courses that were required. The data set was facilitated by the university's Administrative Computer Centre, and was organised in a spreadsheet file.

### *Statistics*

A chi-square statistic was used to compare student enrolment status between those who took zero, one, two or three remedial courses. A correlation analysis was performed to determine the level of association between the entrance examination scores, remedial grades, grade on their first English course and the

overall cumulative GPA. *T*-tests and one-way ANOVA were used to detect course performance differences on regular college level English and cumulative GPA with those with remedial courses.

## Results

The first analysis determined whether placement in remedial courses is related to the level of non-enrolment. A count was calculated for the number of students in remedial courses crossed with enrolment status (i.e., whether they enrolled or did not enrol at the university).

*TABLE 2: Frequencies and percentages for enrolees and non-enrolees in remedial English*

| Enrolment Status | Statistics          | Number of Remedial Courses |        |        |        | Total  |
|------------------|---------------------|----------------------------|--------|--------|--------|--------|
|                  |                     | 0                          | 1      | 2      | 3      |        |
| Not Enrolled     | Count               | 150                        | 469    | 637    | 469    | 1725   |
|                  | Row Percentage      | 8.7%                       | 27.2%  | 36.9%  | 27.2%  | 100.0% |
|                  | Column Percentage   | 15.9%                      | 16.0%  | 18.2%  | 39.2%  | 20.1%  |
|                  | Percentage of Total | 1.7%                       | 5.5%   | 7.4%   | 5.5%   | 20.1%  |
| Enrolled         | Count               | 795                        | 2469   | 2872   | 726    | 6862   |
|                  | Row Percentage      | 11.6%                      | 36.0%  | 41.9%  | 10.6%  | 100.0% |
|                  | Column Percentage   | 84.1%                      | 84.0%  | 81.8%  | 60.8%  | 79.9%  |
|                  | Percentage of Total | 9.3%                       | 28.8%  | 33.4%  | 8.5%   | 79.9%  |
| Total            | Count               | 945                        | 2938   | 3509   | 1195   | 8587   |
|                  | Row Percentage      | 11.0%                      | 34.2%  | 40.9%  | 13.9%  | 100.0% |
|                  | Column Percentage   | 100.0%                     | 100.0% | 100.0% | 100.0% | 100.0% |
|                  | Percentage of Total | 11.0%                      | 34.2%  | 40.9%  | 13.9%  | 100.0% |

Table 2 reports the percentages of the non-enrollee and enrollee classifications. The column percentages showed differences between those who enrolled and those who did not. The results indicate a significant difference between those who enrolled and those who did not enrol ( $\chi^2 [3, 8587] = 323.02, p < .0001$ ). In essence, a higher percentage of non-enrollees were assigned three remedial courses in comparison to those who enrolled. Those placed in one remedial course were more likely to enrol (36%) than not enrol at the university. We reclassified those placed in one or more remedial course and compared them with those who had no remedial course to take. These two classifications were crossed with those who were enrolled or who did not enrol. A significant higher number of students who enrolled had one or more remedial course compared to those who did not enrol ( $\chi^2 [1, 8587] = 11.75, p < .001$ ).

The second analysis determined whether there was a relation between remedial course grades, first English course grades and cumulative GPA. Table 3 presents the correlation matrix. A significant and high positive correlation appeared for the average remedial grade and first English course. In addition, there appeared a high correlation between the remedial course grades and the cumulative GPA, a low correlation between the entrance examination scores and the first English course, and a low correlation between the entrance examination scores and the average grade on remedial courses.

TABLE 3: Correlation analyses

| Scores                            | Cumulative GPA      | First English Course | Entrance Examination Scores |
|-----------------------------------|---------------------|----------------------|-----------------------------|
| First English Course              | .43**<br>(N = 6518) |                      |                             |
| Entrance Examination              | .25*<br>(N = 6786)  | .23*<br>(N = 6475)   |                             |
| Average of the Remedial Course(s) | .46**<br>(N = 6055) | .92**<br>(N = 5859)  | .24*<br>(N = 6012)          |

\*  $p < .05$ , \*\*  $p < .001$

The third analysis determined the impact of those who had no remedial course requirement with those who had one or more remedial English courses on student grades in their first English course and cumulative GPA. In order to get an accurate assessment of the impact of remedial English courses, a cohort of enrolled students was used in the analysis. A significant mean difference was found, with a higher mean for those who have not taken a remedial course on the first English course ( $t = 18.86$ ,  $df = 6528$ ,  $p < .001$ ) or their cumulative GPA ( $t = 10.71$ ,  $df = 6847$ ,  $p < .001$ ). The means are reported in Table 4.

TABLE 4: Means on remedial and non-remedial courses by grades on the first English course and cumulative GPA

| Courses              | Remedial Status             |      |      |                   |      |     |
|----------------------|-----------------------------|------|------|-------------------|------|-----|
|                      | At least one remedial taken |      |      | No remedial taken |      |     |
|                      | Mean                        | SD   | N    | Mean              | SD   | N   |
| First English Course | 1.85                        | 0.81 | 5859 | 2.48              | 0.86 | 671 |
| Grade Point Average  | 2.49                        | 0.63 | 5701 | 2.86              | 0.65 | 748 |

To investigate whether the number of remedial courses directly impact performance in the first English and their cumulative GPA, we created three cohort groups – those who enrolled into one, two and three remedial courses – that were crossed with the first English course and the cumulative GPA (see Table 5). A high and significant difference was found on the first English course ( $F [2, 5856] = 43.34$ ,  $p < .001$ ). On the first English course, a post-hoc analysis between the three groups showed differences between those who took one and three remedial courses and those who took two and three remedial courses, with higher mean for those who took three remedial courses than those who took two or one and higher mean for those who took one remedial course compared to two.

On the cumulative GPA, a significant difference was found ( $F [2, 6052] = 25.88$ ,  $p < .001$ ). The post-hoc analysis reports a significant difference between all the groups, with higher means for those who took two remedial courses than those who took one or three.

In general, the results indicate that the more English remedial courses students take the better the student performance on regular academic courses as determined by GPA.

TABLE 5: Means on the first English course and cumulative GPA by number of remedial(s)

| Courses              | Number of Remedial Courses |      |      |                      |      |      |                        |      |     |
|----------------------|----------------------------|------|------|----------------------|------|------|------------------------|------|-----|
|                      | One Remedial English       |      |      | Two Remedial English |      |      | Three Remedial English |      |     |
|                      | Mean                       | SD   | N    | Mean                 | SD   | N    | Mean                   | SD   | N   |
| First English Course | 1.82                       | 0.96 | 2396 | 1.81                 | 0.73 | 2587 | 2.09                   | 0.49 | 876 |
| Grade Point Average  | 2.59                       | 0.69 | 2214 | 2.46                 | 0.61 | 2765 | 2.31                   | 0.52 | 722 |

The high correlations found between the average remedial grade and the first English course and between the average remedial grade and the cumulative GPA indicate that a relation may exist between the course content of both remedial courses and the first English course. When comparing these results to those who did not take remedial courses, the latter group had a higher first English course mean as well as a higher cumulative GPA. We created three cohort groups: (i) low achievers – those who received a grade lower than a ‘C’ on the remedial course(s); (ii) middle achievers – those who received a grade between ‘C’ and ‘B’, both included, on the remedial course(s); and (iii) high achievers – those who received a grade higher than ‘B’ on the remedial course(s). For those who took two remedial courses, an average was obtained for the two remedial courses and then a separate one-way ANOVA was run on the cumulative GPA and on the first English course. Table 6 reports the means and the *F*-ratios.

A Scheffe’ post-hoc analysis showed a significant difference between all combinatorial groups, with higher means for those who were high achievers, followed by the middle achievers, and lastly by the low achievers. The results indicate that high achievers had the highest cumulative GPA and grade on the first English course. Conversely, those who were low achievers on the remedial courses had the lowest grades on the first English course and the cumulative GPA.

## Discussion

Different universities have different criteria for admission and placements in remedial courses. Normative practice within institutions of higher education has academic policy makers and academics that decide on the remedial placement of newly admitted students. For instance, in this case study, the university leadership

TABLE 6: The ANOVA results on the three remedial grade levels

| Courses              | Redemial Grade Level | Statistics |      |           |                        |
|----------------------|----------------------|------------|------|-----------|------------------------|
|                      |                      | <i>N</i>   | Mean | <i>SD</i> | F                      |
| First English Course | Low Achievers        | 2851       | 1.27 | 0.68      | 3490.72**<br>(2, 5858) |
|                      | Middle Achievers     | 2812       | 2.34 | 0.39      |                        |
|                      | High Achievers       | 196        | 3.39 | 0.25      |                        |
| Cumulative GPA       | Low Achievers        | 2804       | 2.28 | 0.58      | 484.857**<br>(2, 5698) |
|                      | Middle Achievers     | 2437       | 2.58 | 0.60      |                        |
|                      | High Achievers       | 460        | 3.11 | 0.87      |                        |

\*\*  $p < .001$

decided to remove all mathematics remedial courses for those entering fields such as the Humanities, Arts and Design and reduced mathematics remedial courses to one course for all other programmes. The faculties and departments offering remedial courses are also likely to influence the type of remedial courses given, the remedial policy, as well as the entrance examination placements. After all, a large cadre of the faculty teaches remedial courses. The costs and benefits of remedial programmes are calculations that the leadership makes to sustain and advance a particular policy proposal for or against remedial programmes. Certainly, underachievement often draws policy makers to make decisions about college preparatory courses and the continuation of these programmes. For example, weak entrance examination scores, low academic standards and/or poor communication and articulation in English language across secondary and post-secondary systems are prime motivators for the continuation of remedial education programmes, albeit with little regard for the evaluation and assessment of the programmes themselves (Mazzeo, 2002).

There is little consensus and understanding of what remedial education is doing in higher education, whom it serves, who provides it, how much it costs, and its effectiveness. None of Lebanon's universities meet or agree on remedial standards. Consequently, this lack of fundamental information and imprecision of consent provides grounds and need for a forum of discussion and a direction toward a standardised remedial policy, and a disseminative programme for parents and pre-admission university students (Merisotis & Phipps, 2000). With the growth of American-style universities in the Arab world and the Mediterranean region (Zoepf, 2006), universities and general pre-college English requirements

can be criticised for the lack of rigorous follow-up studies and formative and summative evaluations of programmes. In the absence of such evaluative and operative studies, one cannot establish what these programmes actually accomplish.

The main findings of this study suggest that students assigned three remedial courses are discouraged from enrolment into a private university in Lebanon. The findings show a significant chi-square difference between those with a higher number of remedial courses who did not enrol in comparison to those who enrolled. Another important finding is that grades on the remedial courses are associated with the cumulative GPA and the first English course grade. The close relation between student achievement on remedial and other courses provides validity to the similar content of the remedial courses and the regular course content. Finally, the major finding of this study indicates that there is an underlying factor that cuts across all remedial and academic subjects: academic achievement emerges as the main causal dimension of performance in academic and regular English subjects.

Academic achievement is the main surrogate variable and a complex aspect of academic performance, retention and, eventually, occupational success. Thus, weak remedial students will remain weak in other academic subjects. Conversely, successful students in remedial courses continue to succeed in other academic subjects. English and mathematics remediation cannot therefore be the panacea to a much more fundamental problem in student academic performance. It may be that remediation may be required because students lack the fundamental prerequisite learning skills. University remediation programmes would then be greatly enhanced should learning and study skills methods become part of these programmes. Even with the growing pressure within universities from faculties that experience a lack of writing abilities among students, there is a need to find a solution to the 'lack of' academic skills that raise key issues, and even questions, about the basic assumptions behind remedial and developmental education practices. While it is very clear that the less able and the less prepared students are more likely to be placed in remedial programmes, in spite of their placement in such programmes they are still less likely to succeed and persist academically (Bettinger & Long, 2005).

A final question involves the dynamics of raising standards and eliminating remedial courses. As mentioned earlier, the university in this case study has taken steps to reorganise these courses, namely by integrating remedial courses with regular programmes. For other American-style and the growing number of universities in Lebanon and the Middle East, a number of questions remain: What will happen to remedial policies if enrolment declines? Will they 'water-down' the curriculum as to integrate remedial courses in the regular programme or will they

eliminate remedial programmes altogether? Will parents, students and administrators press to roll back these policies? Our own subjective estimates suggest that leadership in private universities is sensitive to enrolment projections and the overall demand for higher education. With the ever-expanding higher education systems in Lebanon, the Mediterranean, and the Middle East, the debate will remain as to how to maintain a balance in academic standards and expand access through open admission policy.

## **Limitations and recommendations**

Our research focused on whether English remedial courses improve students' performance in English courses and university course subjects. It is questionable as to whether success on remedial English prepares students for the regular programmes. In this study we assessed the remedial English courses. However, remedial programmes also cover mathematics, thus making it essential that further work would need to integrate mathematics remedial courses in the formative assessment process. In this study we established achievement as a surrogate factor of performance in remedial and academic course work. This implies that a variety of abilities (e.g., quantitative, problem-solving, logical or abstract abilities) are related to achievement and would be as important as language factors. Thus, further study would have to look at general ability components such as logical, spatial and kinesthetic (see Gardner, 1983) or even intra- or inter-personal abilities as measures of performance and possible measures of achievement. It is suggested that future research prompts the types of abilities within each academic programme and an in-depth study of the educational objectives of each academic programme of study for specialised remedial programmes.

---

**Ramzi N. Nasser** *is director of the Centre of Educational Development and Research at the University of Qatar. Dr Nasser's research interests include mathematics misconceptions, attribution, well being of elderly, ICT effectiveness and professional teacher training. His e-mail address is: ramzinaimnasser@hotmail.com*

**Carol Ann Goff-Kfour** *is associate professor of Education and presently Dean of the Faculty of Humanities, Notre Dame University – Louaize, Lebanon. Her research interests lie in teacher training and classroom management. Dr Goff-Kfour's e-mail address is: ckfour@ndu.edu.lb*

## References

- Bashour, M. (1998) *The History of Higher Education in Lebanon* (in Arabic). Beirut: Lebanese Association of Educational Studies.
- Bers, T. (1987) Evaluating remedial education programs, *AIR Professional File*, Vol. 29, pp. 1-8.
- Bettinger, P. E., & Long, B. T. (2005) *Addressing the Needs of Under-Prepared Students in Higher Education: Does College Remediation Work?* Cambridge, MA: National Bureau of Economic Research. Available online at: <http://www.nber.org/papers/w11325>
- Breland, H., Maxey, J., Gernand, R., Cumming, T., & Trapani, C. (2002) *Trends in College Admission 2000: A Report of a National Survey of Undergraduate Admission Policies, Practices, and Procedures*. Available online at: <http://www.airweb.org/images/trendsreport.pdf>
- Cabrera, A. F., & La Nasa, S. M. (2001) On the right path: the higher education story of one generation, *Research in Higher Education*, Vol. 42(2), pp. 119-149.
- Gardner, H. (1983) *Frames of Mind: A Theory of Multiple Intelligences*. London: Fontana Press.
- Hatch, T. (1998) The differences in theory that matter in the practice of school improvement, *American Educational Research Journal*, Vol. 35(1), pp. 1-31.
- Hoffman, J. (1995) Implicit theories in policy discourse, *Policy Sciences*, Vol. 28, pp. 127-148.
- Johnson, M., & Kuennen, E. (2004) Delaying development mathematics: the characteristics and costs, *Journal of Development Education*, Vol. 28(2), pp. 24-29.
- Lawson, L. (1959) National trends in remedial English, *College Composition and Communication*, Vol. 10(2), pp. 113-115.
- Mazzeo, C. (2002) Stakes for students: agenda-setting and remedial education, *The Review of Higher Education*, Vol. 26(1), pp. 19-39.
- McCabe, R. H. (2000) *No One to Waste: A Report to Public Decision Makers and Community College Leaders*. Washington, DC: Community College Press.
- McNay, I. (1995) From the collegial academy to the corporate enterprise: the changing cultures of universities. In T. Shuller (ed.) *The Changing University?* Buckingham: Open University Press.
- Merisotis, J., & Phipps, R. (2000) Remedial education in colleges and universities: what's really going on? *The Review of Higher Education*, Vol. 24(1), pp. 67-85.
- Ottley, E. (1968) The effect of remedial instruction on mathematics achievement, *The American Mathematical Monthly*, Vol. 75(9), pp. 1002-1004.
- Richardson, R., Fisk, E., & Okun, M. (1983) *Literacy in the Open-Access College*. San Francisco, CA: Jossey-Bass.
- Saxon, D. P., & Boylan, H. R. (2001) The cost of remedial education in higher education, *Journal of Developmental Education*, Vol. 25(2), pp. 2-4, 6, 8.
- Schoenecker, C., Bollman, L., & Evens, J. (1998) Developmental education outcomes at Minnesota community colleges, *Association of Institutional Research Professional File*, Vol. 68, pp. 1-14.

- Stone, D. (1989) Causal stories and the formation of policy agendas, *Political Science Quarterly*, Vol. 104, pp. 281-300.
- Weissman, J., Bulakowski, C., & Jumisco, M. (1997) Using research to evaluate developmental education programs and policies. In J. Ignash (ed.) *New Directions for Community Colleges (No. 100)*. San Francisco, CA: Jossey-Bass.
- Zhai, M., & Skerl, J. (2001) *The Impact of Remedial English Courses on Student College-Level Coursework Performance and Persistence*. Paper presented at the North East Association for Institutional Research Conference, 3-7 June, Long Beach, California, USA.
- Zoepf, K. (2006) Universities for women push borders in Persian Gulf, *The Chronicle of Higher Education*, Vol. 52(32), p. A46.