

Quality Assurance in Developmental Education

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## Table of Contents

Abstract.....	3
Quality Assurance in Developmental Education .....	4
Best Practice Indicators.....	5
Tertiary Education Best Practice .....	5
Theoretical Best Practice in Developmental Education.....	6
Developmental Education Best Practice .....	6
Structural and Operational Best Practice .....	8
Evaluation Best Practice .....	12
Performance Indicators .....	13
Student Perceptions .....	15
Benchmarking .....	16
Developmental Education .....	17
Developmental Education Program Structure.....	17
Placement into and Exit from Developmental Education.....	18
Developmental Education Course Offerings.....	18
Participation in Developmental Programs .....	19
Movement through Developmental Education Programs.....	20
Program Status and Credit .....	20
Conclusion .....	20
References.....	24
Appendix A: Program Development and Renewal in the CAD .....	26
Appendix B: Intended Learning Outcomes of the CAD .....	27
Appendix C: Skills Covered in CAD courses.....	28
Appendix D: Learning Methodologies Employed in CAD .....	29
Appendix E: Written Output from CAD Courses .....	30

## Abstract

Quality assurance is an area of concern for developmental education programs worldwide. The Center for Academic Development (CAD) at Al Akhawayn University is no exception. In order to foster a quality educational experience, the center has developed its program with a clear understanding of and respect for best practice. As a result the CAD program is closely aligned with models of best practice. The program has also developed and implemented a clear set of performance indicators in the form of intended learning outcomes, student perceptions of learning, pedagogical methods and evaluation procedures. These performance indicators show positive results for the CAD program as a whole. An initial review of the literature with regard to program benchmarking indicates that the CAD measures well against international goals and standards within the field of developmental education.

## Quality Assurance in Developmental Education

Universities worldwide are becoming increasingly sensitive to the need for quality in teaching and learning. As Alstete (1997) points out, institutions of higher education in the 1990's began to recognise the value of and need for benchmarks to measure performance against competing institutions, to render themselves accountable, and to put increasing quantities of data to effective use. Much of this impetus for quality assurance has come from external stakeholders such as governments, governing bodies and parents but also from employers, faculty and students. Ronayne (as cited in Scott, Dixon and Dixon, 2006) argues that "prospective students are focusing on course quality and likely employment outcomes in making their selection" (p. 3). This puts pressure on institutions to meet evolving expectations.

Yet the development and implementation of the tools needed to provide valid and reliable quality assurance remain an issue. Several tools have been proposed. These include best practice indicators, performance indicators such as ILOs, perception studies; testing and evaluation; and program benchmarking. Ramsden (as cited in Scott, Dixon and Dixon, 2006) feels that such tools "Used holistically... would be a reliable indicator of teaching quality" (p.4). Yet these tools must be placed in a university ethos that supports and nurtures student learning. "Outcomes-based education is an example of the change in focus from the teacher input model to that of students' demonstrations of learning or the output orientation (Scott, Dixon and Dixon, 2006).

The Center for Academic Development (CAD) at Al Akhawayn University has always placed emphasis on student output. The core aim of developmental education is to provide students with all of the necessary skills and abilities to be successful in a tertiary level education system. However, provision of opportunity does not ensure learning or transfer of skills beyond the developmental education classroom. The CAD program has developed with reference to best practice in developmental education, to systematic measurement of outcomes and to the eventual needs for adjustments in the program. To this end the CAD developed a clear set of Intended Learning Outcomes (ILO's) from its inception (See Appendix A). Those ILOs have been tested in both the classroom and in the student assessment process. The CAD is currently working on a large scale longitudinal study of student perception with clear program benchmarking.

### Best Practice Indicators

The CAD has begun to investigate quality assurance with regard to 1) educational best practice; 2) theoretical best practice; 3) organizational best practice; and 4) structural best practice.

#### Tertiary Education Best Practice

Best practice in tertiary education has largely been founded on work by Chickering and Gamson. In 1987 they outlined the following seven ways of recognizing good practice:

1. Good practice encourages student - faculty contact
2. Good practice encourages cooperation among students
3. Good practice encourages active learning
4. Good practice gives prompt feedback
5. Good practice emphasizes time on task
6. Good practice communicates high expectations
7. Good practice respects diverse talents and ways of learning

In support of these functions of educational good practice, Angelo (1993) further delineates procedural inputs to cognitive development. He points out that focused attention and recognition of the importance of what is being learned, as well as goal-direction optimise learning. He places memory in its logical sequence vis-à-vis learning and he reiterates that time and effort are required for mastery of either a skill or a body of knowledge. He clarifies the individual's role in personalizing learning for retention, and he insists on the need for practice to enable transfer and application of skills to new contexts.

Angelo claims that frequent and early feedback and appropriate assessment form powerful inputs to student learning and achievement. He says that the motivation factor is not a static component, and can be modified by various aspects of the learning environment. He proposes that "High expectations encourage high achievement" (Angelo 1993, p. 7), teacher-student and student-student interaction are critical to learning, and that instruction that provides a "balance [in] levels of intellectual challenge and instructional support" (Angelo 1993, p. 7) will enhance effectiveness. Angelo's position on learning and relevant pedagogical practice is reflected in the design and implementation of the CAD Program.

### Theoretical Best Practice in Developmental Education

The theoretical base for the development of the CAD program at AUI was not articulated at the program's inception. However, the felt need inspired the CAD to focus attention on theory supported by educational research. As a result, a theoretical base has since been identified that provides the reasoning underlying developmental education practice at AUI. Cognitive psychology plays a fundamental theoretical role in education. This form of psychology developed during the 1960s to focus on how individuals understand, diagnose and solve problems. Jean Piaget investigated how children learn, which led to his cognitive development theory based on the child's construction of knowledge. Benjamin Bloom, a psychologist investigating learning in the 1960's, worked extensively on developing taxonomies to map the cognitive, affective and psychomotor domains. The constructive theories of Piaget and the social constructivist theories of Vygotsky are important bases for developmental education especially as they led to models of educational scaffolding.

Developmental psychology investigates the psychological changes and stages individuals pass through as they develop intellectually and through life. Much work in this area has been undertaken by researchers such as Perry (1968), and Chickering & Gamson (1987). Perry identified nine stages of intellectual development that the average college-age student passes through. These stages represent the movement from the dualistic to the 'commitment in relativism' approaches to knowledge: at the dualistic and least ambiguous level, learners see concepts and issues in a right-or-wrong, black-or-white paradigm, that is, their logical base or conceptual framework are not questioned. At the ultimate commitment in relativism stage, young adults can use their understanding of a relatively obscure or theoretical academic issue to help them form a personal commitment to their own metaphysical reality. As the CAD program pays overt attention to cognitive processing, training in critical thinking and adjusting work habits to the complexity of the task at hand, it presents an optimised environment to lead students through these stages of intellectual development, while making them aware of their intellectual goals.

### Developmental Education Best Practice

Developmental education has incorporated Chickering and Gamson's (1987) articulation of effective learning to design programs grounded in the principles of best practice in undergraduate education. However, with the growth of developmental education, best practice has been the focus of attention from within the field. The Council for the Advancement of Standards (CAS) outlines developmental education best practice as follows:

1. to make students the central focus of the program
  2. to assist members of the campus community in achieving their personal potential for learning
  3. to provide instruction and services that address the cognitive, affective, and socio-cultural dimensions of learning
  4. to introduce students to the expectations of faculty and the culture of higher education
  5. to help students develop positive attitudes towards learning and confidence in their ability to learn
  6. to foster personal responsibility and accountability for one's own learning
  7. to provide a variety of instructional approaches that are appropriate for the level of skills and learning styles of the student population
  8. to assist students in transferring skills and strategies they have learned previously to their academic work;
  9. to provide services and resources to faculty, staff, and administrators that enhance and support classroom instruction and professional development
  10. to support the academic standards and requirements of the institution
- (Materniak et al, 1997, p. 4)

The CAD at Al Akhawayn University exemplifies best practices across its curriculum. By providing five credit-bearing courses, CAD keeps students the central focus of operations. By running workshops and providing services such as the Writing Center, CAD can help the entire community improve learning skills. The course syllabi all address and sustain students' attention to the cognitive, affective and socio-cultural dimensions of learning while at the same time explicitly attaching student output to the expectations of faculty further along in their academic careers. The courses stress the benefits of liking learning and the satisfaction CAD teachers themselves derive from learning, which leads directly to the promotion of the sense of responsibility for learning that university students need to succeed. CAD course structures provide a forum for the recognition of a variety of learning aptitudes and orientations. In CAD this refers to goal-setting, awareness of learning as a personal function, and recognition of the learning context one is in. In keeping class sizes small, teachers can provide input to help students recognise their own strengths and background knowledge, and further integrate the known with the unknown. CAD faculty has attempted to comply more fully with the requirement of #9 above, and to this end, has organised a number of faculty development workshops over each academic semester. CAD most expressly supports academic standards, by adhering to best practice, by a consistent failure rate, and by close scrutiny of course outcomes as a function of student effort.

The close personal and academic contacts between students and CAD faculty enable teachers to communicate high expectations, following Chickering and Gamson. The CAD

continually reviews and revises its program in order to deliver courses of the highest standards. The high expectations are recognised by students, even those who do not immediately grasp how to reach those expectations, and so are encouraged to strive to raise their standards.

Good practice entails prompt feedback. In CAD courses this involves continuous assessment where students receive feedback on weekly assignments or steps in a process. With modular tests occurring 3 to 4 times per semester, CAD students get a chance to reflect closely on their progress or what they need to do to increase their chances of success. CAD teachers normally use the subsequent class to review positive and negative test answering strategies for students to better understand their performance. Emphasizing time on task is a natural outcome of the instruction given and reinforced in CAD classes on the importance of and abilities needed for time management. The training students get is constant in terms of recognising deadlines, allocating time to meet them, giving themselves time to do their best, and allowing time for multiple drafts; revisions and refinement. Recognising that it takes time to learn difficult concepts and even more time to actively integrate them into one's routines is a precept in developmental education, where teachers are patiently pushy about all aspects of student behaviour.

With developmental education programs in place, the average student is forced to face issues of purpose, relevance and process of learning, all of which can provide the hooks to give the student motivation for improving learning habits. The Center for Academic Development aims to make these aspects of learning explicit.

#### Structural and Operational Best Practice

The structure and operational details of the department and the programs provide evidence of this aim. Specific components have been identified by Boylan, Bliss, and Bonham (1997) as being associated with student success, as follow:

- centralized program organizational structure,
- mandatory assessment of students,
- mandatory placement of students,
- availability of tutor training,
- availability of advising/counseling services, and
- program evaluation.

Each of these elements is embedded in the core CAD program, the Writing Center and Tutoring Services. The CAD has a centralized organization with a director and course coordinators. The organizational structure is clear in terms of chain of command, where course coordinators and staff report directly to the Director. It is also recognizable in management and decision-making. CAD uses a distributed leadership approach by clarifying educational objectives as the global aims of the unit, through the web site and meetings, and devolving responsibility for day-to-day functioning to the various course and service coordinators. Organizational management at CAD is optimized by careful and considered recruitment of personnel to fit in with the unit's objectives and teaching and learning philosophy, along with strong team leadership to encourage a collegial and professional working climate. This centralized organization is also evident in the clearly planned and sequenced curriculum, where each course introduces, reinforces or requires mastery of a specific learning objective. Coordinators of the Writing Center and Tutoring Services function with a certain autonomy in the management of their duties, while retaining a strong link to the overall program objectives, encouraging the CAD specific purposes of increasing student independence in learning, enhancing student use of resources for learning, and demanding a high level of student performance in all academic endeavours. This structure enables a close observation and reporting of specific student problems and enables a quick reaction time to resolve issues.

Mandatory placement of students was a founding characteristic of the CAD program. All entering Moroccan freshmen are required to submit a TOEFL score, Baccalaureate/SAT results, High School continuous assessment, and take a General Admissions Test and in some cases an oral interview. Based on those indicators students are placed in or out of Language Center courses and are required to take five CAD courses in their first three to four semesters. The intention was to be able to accept high school graduates and to give them the support and tools they need to succeed in an American style university curriculum. This mandatory placement in CAD was reconsidered in the second year of the program when it became clear that some entering freshmen had a basic grasp of the learning skills and especially computer skills that would allow them to place out of two of the courses. Exemption tests were thus constructed for SSK 1201 and SSK1203 and every semester, a small percentage of the entering cohort passes one or the other. Rarely does a student exempt from both. The model that would best reduce the number of students who need this program is one whereby the standards and demands of a CAD-type curriculum trickled down to the high school level. The feeder school approach has worked in various educational contexts, where a designated

high school provides advanced placement and university preparation courses so that its graduates may have the academic advantage upon entry to a university. The Al Akhawayn system has the potential for such an arrangement, and has started to provide tuition in one CAD course, the computer skills course, at the local English medium school. If this school were upgraded substantially, it could expand its CAD-type training.

Mandatory assessment of students is also built into the five courses all undergraduate students take. These courses are credit-bearing and carry a strong continuous assessment load. Continuous assessment is a program requirement, as it reinforces the need for continuous preparation and readiness, thereby providing students an alternative to their last-minute cramming behaviour. Assessment in CAD courses is rigorous, by setting various tasks, tests and assignments for grading, and adhering to a course-wide standard for the grading. Assessment makes students into reflective learners by using portfolios as a collection of the process of their work, for the purpose of reviewing drafts and planning attempts to yield stronger end-products. The four CAD courses that require extensive writing train students in the process approach to writing, such that they are walked through the steps of planning, preparing, drafting, revising and presenting papers, so as to encourage original work, to reward completion of steps, and to provide the student with a process that will support all future writing. Teamwork and collaboration are actively used in CAD courses, and rewarded with grades in terms of shared marks for team projects or assignments. Assessment is underpinned by a visible set of grading criteria which are presented to the students in advance. Other kinds of assessment for feedback exist in all CAD courses and attune the student to specific points in their work that need attention or development.

The developmental education courses provided by CAD are supported by an integral tutoring services program. Over several years CAD faculty observed high failure rates in certain AUI university and school core courses and responded to student requests for assistance with the development of student-based tutoring services for these courses. This service now provides tutoring for eight courses across the curriculum, the usual courses that see high failure rates universally: calculus and discrete math, microeconomics, business statistics, programming, and various higher level computer courses. The tutoring program satisfies several aims implicit in developmental education. One is the outright offer of additional student support for learning, relevant to their self-selected needs. When students recognise their weakness in a particular course, they are more likely to apply successful study strategies to the small-group, course-focused help sessions provided by tutoring. Another element of the student-led tutoring that reinforces the learning process we espouse is that of

peer collaboration. The gains to students of using their peers as effective learning partners are reported throughout the literature on developmental education, as shown in Casazza (1998) and Bruffee (1993). Whereas a teacher may not be able to accommodate differing learning styles in a class period, the tutoring process has a greater chance of helping those learners who may not see it from the instructor's perspective. The gains to the tutors themselves are also clear. Tutors learn leadership skills by tutoring; they learn about learning, and about when and where learning interventions succeed. They test their own theories about the content of the course, its logical structure and how it becomes meaningful to others. They also become socially more sophisticated, as they learn about their own communication strategies, and how they come across to a group. Tutoring is finally a support structure in a learning organization, where the focus is on learning and making it multi-laterally accessible to all who are interested.

The need for advising has also long been recognized in the CAD. Faculty members hold office hours and take an active role in academic advising for the new cohort, as interim 'CADvisors'. Moroccan high school students do not have academic advisors, and so the realm of advising is a new one for them. Academic advising is a tool used by the university to get students to understand some of the procedures and behaviours they need to comply with in order to learn, make the most of their time here, and graduate. It is also a tool used by the CAD program to train new students to understand what precisely an academic advisor can do to help them, what the parameters of academic advising are, and to learn how to present their academic concerns with the best possibility of gaining insight or resolving a problem. CAD would also like to imbue students with an understanding of how much of the task at hand is their responsibility and how much is out of their control. As the university has an admitted concern with the quality of academic advising across the schools, CADvisors act in a training capacity whereby, as the first advisors incoming students see, they provide students with the advising that they should come to expect from their future school-based advisors.

Counseling is also seen as an important part of the educational experience, and has been supported from the beginning by employing a psychiatrist part-time. This has been extended with the addition of a CAD faculty member/counselor whose position is funded by Student Affairs. The counselor has duties that range from individual sessions with students to help them with stress and family issues to crisis intervention in serious cases. The counselor teaches one CAD course and is an integrated member of the community, with strong connections with the campus medical team, the Vice-President for Student Affairs, Housing, and various support groups. Counseling is a benefit at AUI for students whose

existing support structure may not supply precisely what they need in this transitional period of their lives.

### Evaluation Best Practice

Evaluation of the various components of a university or department is fundamental to developmental education. Evaluation must be merit-based, such that people and products are measured against standards of performance or quality that can be assessed transparently. CAD courses apply this principle in assessing students' performance in course outcomes, its staff and faculty's job performance and its program performance. Without merit-based assessment of outcomes, CAD is of little value to its constituents.

The norm in higher education program evaluation is difficult to pinpoint. It appears that accreditation acts as a stamp of recognition by some group or agency of a program's having submitted to a process of oversight. This process is meant to judge how well an institution or department is upholding its mission through transparent recording of objectives and documented fulfillment thereof. CAD proposes its own self-study as a way of documenting the policies, procedures and outcomes, in light of a lack of a governing body such as exist for the longer established domains. The US National Center for Education Statistics published a Survey Report in May 1991 whose main purpose was to evaluate the use of remedial programs across US tertiary education. Of the institutions surveyed, 80% used student evaluations, 78% used instructor evaluations and 78% used student completion rates (of the remedial program) to evaluate their programs. Follow-up studies of grades later in the students' academic careers were used by 65% of institutions, while 54% used other follow-up of student academic performance (Mansfield & Farris, 1991). These evaluation tools, along with their findings, provide insight to the current CAD self-study, which is using

- Current CAD student grades upon completion of CAD courses,
- Current CAD student perception of success in learning CAD course objectives,
- Former CAD student grades further along in their academic careers,
- Former CAD student perceptions of need for CAD course objectives in later courses,
- Graduate perceptions of the need for CAD course objectives in the workplace or in further education,
- Employers' reports of the need for CAD course objectives in the workplace,
- AUI student retention rates
- Faculty perception of the need for CAD course objectives in their own courses

Program evaluation is a key issue for the CAD. As the program has grown, it has raised many questions and complaints from the students who could not see the need for it, resented the workload demanded by it, and felt their major program studies delayed and extended by the requirement to take preparatory courses. The first CAD Validation Study was undertaken by the CAD Director in 2003, as a way of verifying the utility of the program for students' future studies. Results showed that CAD course grades correlated well with future scores in the students' major courses. Four years later, this program is being evaluated again, by a team of four faculty members.

Interim evaluation is done systematically with course review teams who work on course structure, materials, assessment, rubrics and tasks. These courses go through an incessant revision process, whereby the demands are refined and contextualized to more closely respond to both student ability and student need (See Appendix A). The assumption has always been that CAD courses are preparing students for rigorous further studies in an American style curriculum, and so the courses aim high, set challenging standards, turn a lot of control for learning over to students and expect the best of them. Consequently, CAD students perform at a level that often surpasses our expectations. Another impetus for course evaluation and improvement comes from the student evaluations of course and teacher, done twice a semester.

### Performance Indicators

The CAD has developed a sophisticated set of performance indicators to guide its program assessment, development and revision. A list of the forty-eight core intended learning outcomes can be seen in Appendix B. To ensure attainment of these outcomes the CAD has built a program encased in sound educational theory. The theory is supported by a clear taxonomy of skills dealt with overtly in the teaching-learning process (see Appendix C). The educational theory and content are operationalised in state-of-the-art pedagogical practice. The teaching methodologies employed in the CAD can be seen in Appendix D. These can be compared with evidence from American universities with learning assistance programs found in Roueche, Baker and Roueche (1984, p. 4)

Institutions are widely divided in their use of teaching strategies; 60 percent of the responding institutions employed some form of individualized learning, such as audiovisual-tutorial, computer-assisted, or self-paced and packaged modules. These colleges also indicated concern and consideration for students' individual learning

styles. Forty percent of the colleges employ more traditional methods of instruction, i.e., lecture method, class discussion, and group activities.

The CAD has developed a set of assessment and evaluation tools which measure student performance. A student progressing through the CAD program is assessed using the following measures:

**Table 1: Student Evaluation Tools**

Measure	Specification	Quantity
Supervised Written Tests	Three parts	8
	Matching	2
	Multiple Choice	3
	Short Answer	10
	Long Answer	8
Take-home Tests	Long Answer	1
Written Academic Papers (argumentative and problem solution)	1 page	3
	3-5 pages	2
	7-8 pages	1
	10-20 pages	2
Response Papers	1-2 pages	2
Journal	4-8 pages	1
Seminar Presentations	Group Work 20-40 minutes	2-3
Oral Presentations	Group Work 5-10 minutes	2
Portfolios	Compendium of work accomplished	5
Peer Reviews	Peer evaluation of writing	5-7
Assignments	Individual or group activities	6-10
In-class Performance	Teacher evaluation	5
Total		68 - 75

Over the five CAD courses a student will be assessed at least sixty-eight times through a number of different modes and methods. Test instruments are constructed by course teams, with the aim of standardizing both course content delivery and assessment. Tests and written papers are routinely peer marked and a conscious attempt is made to grade blind, although this is left largely to the individual grader. Each semester, grades are scrutinized in a departmental assessment meeting whereby individual grades and assessment concerns are aired. The range and variety of the evaluation helps to ensure that it is fair and impartial.

In the academic year 2006 Spring, Summer and Fall Semesters, the CAD had an average success rate of eighty-nine point nine percent. During the same academic period the School of Humanities and Social Sciences (SHSS) in its 100 level courses had a success rate

of ninety-six point three percent. In its 200 level course the SHSS had a success rate of ninety-seven point seven. The fact that these SHSS courses constitute the majority of the university core curriculum leads to the following possible conclusions. First, it could be concluded that the CAD courses are successful in preparing AUI students for university level work. The CAD believes that its assessment regime is both valid and reliable and there is evidence to show that CAD grades are accurate predictors of success at AUI (See Hardcastle, 2003). This rigorous evaluation process helps to ensure both high standards and quality in evaluation process and procedure.

Second, it could be concluded that AUI students are not in need of developmental education as they are ready on entrance for university level work. This would seem unlikely given the wide disparity between the secondary education received and the requirements of an American style of education. It would be unusual for Moroccan students entering a university following an American educational model to be less in need of developmental education than American students.

Third, it could be concluded that evaluation and grading standards are low in the SHSS courses referred to. The issue of standards across the curriculum at AUI has not been addressed. It certainly is an area that requires investigation as the university moves forward with a quality assurance vision.

### Student Perceptions

The Center for Academic Development has undertaken a longitudinal study of student perception of learning and course ethos. Data was collected on a five point scale. A score of one showed a low or weak perception of learning, while five showed a high or strong perception of learning. Data was then categorized according to strong perception (a score of 5 or 4), neutral perception (a score of 3) and weak perception (a score of 2 or 1). The initial (Burgess, Koya, Owens and Belhiah, 2007) survey has produced encouraging results.

On average, sixty-nine percent of CAD students felt that they had learned the Intended Learning Outcomes of the CAD program. Twenty percent had a neutral feeling while eleven percent felt that they had not succeeded in learning the ILO's.

Data also showed a positive attitude to the program ethos as a whole. Sixty-three percent CAD students found their course challenging. Sixty-nine percent felt that they had put significant effort into their course. Sixty-nine percent believed that they had gained valuable knowledge and sixty-eight percent felt they had learned significant skills in their course. Fifty-four percent felt they were currently using the skills and abilities learned in

their course while sixty-seven percent felt that they would use those skills and abilities in future courses at AUI. Sixty-one percent of CAD students reported enjoying taking their course. Fifty-five percent reported coming to class prepared. Overall, fifty-two percent felt that their course was necessary for AUI students as a whole.

Clearly CAD students at AUI have a positive view of their learning and of the course ethos. Yet there is a minority (eleven percent) of students who feel that they have not learned in the CAD. This may well be true as this closely matches the CAD average failure rate of ten percent. Similarly sixteen percent have a negative impression of the course ethos overall. This is something that the CAD will need to investigate more closely and work to reduce.

### Benchmarking

The Center for Academic Development at Al Akhawayn University has begun to investigate the concept of benchmarking as a quality assurance tool in developmental education. Benchmarking is commonly considered a standard against which something can be judged or measured. Schofield (1998) believes “.... it is generally recognised that benchmarking is a means of making comparisons of performance, usually with a view to establishing 'good' - or more ambitiously 'best' – practice methods, and as such it is also used to diagnose problems in performance and to identify areas of strength” (p, 9). According to Alstete (1997), benchmarking attempts to answer the following questions:

1. How well are we doing compared to others?
2. How good do we want to be?
3. Who is doing it the best?
4. How do they do it?
5. How can we adapt what they do to our institution?
6. How can we be better than the best?

Perhaps the most important question to be answered is “How well are we doing compared to others?” This question cannot be answered unequivocally as more data needs to be collected. However, preliminary data is encouraging. Studies by Roueche, Baker and Roueche in 1984; Mansfield and Farris in 1991; Boylan, Bonham, and White, in 1999; and Parsad and Lewis in 2003 give a solid basis from which to begin the benchmarking process.

Nearly every tertiary level institution in the United States of America provides some form of developmental education. The extent to which educational support is provided depends on the type of institution: two year or 4 year; public or private; and the degree of selectivity of the institution. Generally, two year colleges are more likely to provide a

broader range of developmental education support than four year colleges; four year public colleges are more likely to provide a broader range of support than four year private colleges; and the less selective the institution the more likely it is to provide a broader range of developmental education support than highly selective institutions.

### Developmental Education

According to Boylan, Bonham, and White, (1999) developmental education is best seen as a continuum of academic support services. They see developmental education as: ...ranging from remedial courses at the low end to tutoring or learning assistance centers at the high end. Developmental education is something of an umbrella under which a variety of interventions designed to develop the diverse talents of students may fit (Cross, 1976). Developmental education is the whole of which remediation on the one end and learning assistance on the other end are both a part (p.88).

According to Mansfield and Farris (1991, p.13) learning assistance programs commonly comprise five or more services. Most commonly offered included:

1. peer tutoring,
2. faculty tutoring
3. additional diagnostic testing,
4. counseling
5. assistance laboratories
6. learning centers

### Developmental Education Program Structure

Developmental education is a long standing tradition in tertiary level education. As a result, over time, a wide array of developmental education program models and styles has developed. They range from diffuse learning assistance programs, to decentralized remedial education programs to centralized developmental education centers. Roueche, Baker and Roueche (1984) state that “While a great number of institutions provide "drop-in" assistance to low-achieving students, i.e., tutoring, and individualized learning centers, most prefer to offer instruction in full-semester or quarter-length developmental courses” (p.4).

Mansfield and Farris (1991) reported that “about 20 percent of colleges offering remedial education had a separate remedial department or division.” Boylan, Bonham, and White (1999) state:

Since the 1960s, however, the trend has been to establish formal organizational structures for the provision of these services. The two most common organizational structures are the learning assistance center and the developmental education program (Casazza and Silverman, 1996). Learning centers typically provide some combination of individualized instruction, tutoring, and short-term workshops on such topics as study skills or test taking. Developmental education programs typically provide courses and learning laboratories (p. 87).

Boylan, Bonham, and White argue quite convincingly that “Developmental education courses and services require coordination and communication in order to be effective. This is best provided within the context of a centralized developmental program” (1999, p. 91).

#### Placement into and Exit from Developmental Education

How students are placed into developmental education programs varies from institution to institution. Roueche, Baker and Roueche (1984) report that most tertiary educational institutions require some form of entry level assessment. Mansfield, and Farris (1991) put this at ninety percent. One of the major concerns has been the realization that high-school records are not solid indicators of student preparedness for college level studies (Roueche, Baker and Roueche, 1984).

Roueche, Baker and Roueche (1984) report that “Institutions in all responding categories favor mandatory over voluntary pre-assessment of academic skills. There are, however, wide variations in the testing practices of institutions. Many use standardized instruments like the ACT, the SAT, or the Nelson-Denny Reading Test; still others use locally-designed and developed tests. Community colleges prefer to use their own, while senior institutions prefer commercially developed tests” (p. 4.).

Mansfield and Farris (1991) report that remedial-course exit skills were “...based on regular academic course entry skills by 86 percent of institutions for remedial mathematics courses, by 81 percent for remedial writing courses, and by 70 percent for remedial reading courses” (p.8).

#### Developmental Education Course Offerings

The types and numbers of developmental education courses vary from institution to institution. However, the most necessary remedial education courses were felt to be reading, writing and mathematics. Mansfield and Farris (1991, p. iii) reported that in fall 1989 “Sixty-eight percent offered mathematics, 65 percent writing, and 58 percent reading.”

Typically, institutions offering remedial courses offered more than one course in each subject area. Mansfield and Farris (1991) stated “...38 percent of institutions offering courses in remedial mathematics had one course, 29 percent had two, 24 percent had three or four, and 9 percent had more than four. Similar patterns emerged for course offerings in remedial reading and writing.... (p. 3).”

According to Parsad and Lewis (2003, p.12) “Of the institutions that offered at least one remedial course in fall 2000, 23 percent offered remedial courses in academic subject areas other than reading, writing, or mathematics. The most frequently mentioned subjects were science (general science, biology, chemistry, and physics), English as a second language, study skills, and basic computer skills.

#### Participation in Developmental Programs

Participation in developmental education programs remains an issue. Many institutions do not have a mandatory placement of students into remedial or developmental courses. Mansfield and Farris (1991) report that:

50 percent of institutions offering remedial courses in fall 1989 most frequently required students needing remediation to take remedial courses. Such courses were voluntary at only 2 to 3 percent of institutions. At the remainder of institutions, remedial courses were recommended but not required” (p. 8).

Roueche, Baker and Roueche (1984) argue that this leads to a situation in which “...most of the students who need academic help choose not to take the courses or programs that are offered for them” (p. 1). This practice is justified as the “student’s right to fail” (Roueche, Baker and Roueche (1984, p.4).

Institutions have differing policies towards allowing students to take other university courses while in a developmental education program. Mansfield and Farris (1991) state that “One-third of colleges providing remedial education allowed students to take any regular academic courses while taking remedial courses; in only 2 percent could students take no regular academic courses while taking remedial courses” (p. iv).

Furthermore, Parsad and Lewis (2003) reported that between 1995 and 2000 institutions further restricted students in developmental education programs from taking other courses and to require students who needed developmental education to actually take the required courses.

### Movement through Developmental Education Programs

Movement of students through developmental education programs is of utmost importance to all stakeholders. According to Parsad and Lewis (2003, p.19) institutions reported average time spent by students in developmental education as follows:

60 percent: less than 1 year

35 percent: 1 year

5 percent: more than 1 year

### Program Status and Credit

Developmental education programs apply a range of methods to value developmental education courses. Boylan, Bonham, and White (1999) report that “Developmental courses are usually considered to be college level but with a focus on academic development such as study strategies, critical thinking, or the freshman experience rather than a particular content area” (p.88). On the other hand, remedial courses work with lower than university level content and thus receive a course status and number below the 100 level (Boylan, Bonham, and White).

Credit status awarded by institution varies according to the institution’s conception of the level of scholarship in the course: remedial, developmental or university. Roueche, Baker and Roueche (1984) argue that “More institutions are awarding college credit for basic skills courses and applying it toward degree attainment than was true five years ago” (p.3). Mansfield and Farris (1991) report that “...of institutions offering remedial mathematics courses, 69 percent gave institutional credit. In contrast, only 20 percent awarded some degree credit (5 percent for subject requirements and 15 percent for elective requirements) for such remedial courses. The remaining 11 percent gave no formal credit” (p.7). Roueche, Baker and Roueche in 1984 make the point that while students may receive credit for developmental education courses, “Many students needing academic skill development will require 150 or more hours of college courses to graduate” (p. 3).

### Conclusion

The results of this investigation of quality assurance in developmental education are encouraging. The Center for Academic Development at Al Akhawayn University has demonstrated an adherence to best practice in both tertiary and developmental education. The CAD is grounded in cognitive and developmental theories of best practice. It follows

developmental education best practice in terms of focus on student learning, pedagogical standards and expectations, student independence and accountability and instructional approaches. Structurally and operationally, the CAD fully complies with known best practice.

Overall, the CAD program at Al Akhawayn University is an embodiment of best practices in developmental education. CAD faculty work closely with students to instill an interest in learning for learning's sake, along with the habits and abilities needed to succeed. Given the program outcomes, level of sophistication of the projects and writing, and general acquisition of effective learning processes, this curriculum is a model of high standards and strong educational potential.

The CAD has developed its program carefully to provide a clearly delineated teaching and learning environment. The CAD has specified forty-eight intended learning outcomes for its program; the skills, abilities and content needed to achieve these outcomes; the teaching and learning methodologies employed to ensure these outcomes; and the CAD has developed and implemented a high quality system of student and program evaluation to measure the outcomes. The CAD has an ongoing process of curriculum renewal and an extensive, fair and comprehensive suite of measurement tools that has resulted in a consistent result with known predictive value.

A recent perception study undertaken by the CAD (Burgess, Koya, Owens and Belhiah, 2007) clearly shows students feel they have learned what the CAD intended them to learn. Sixty-nine percent of students felt that they had learned course specific objectives in their CAD course(s) while eleven percent felt that they had not succeeded in learning.

The process of benchmarking is based on the idea of measuring oneself against others in the field. While more work needs to be done in this area, some encouraging results are hinted at in this initial overview. At AUI the model of developmental education ranges from Language Center courses in English as a second language to learning assistance courses in CAD. The CAD offers peer tutoring and workshops, faculty tutoring and workshops, counseling, advising and learning assistance labs. The CAD program is centrally organized and highly coordinated. All AUI students are given a mandatory assessment and placed into developmental programs based on the results. There are five CAD courses, which follows quite closely the breadth and scope of other developmental education programs. However, probably the most significant difference is that there is no remedial course in mathematics – the most common remedial program elsewhere. Ninety-percent of AUI students can pass through the CAD program in three semesters or one academic year. This may be spread over

more than one calendar year. The CAD program is given institutional credit in the university core curriculum.

It is important to remember that quality assurance is a complex exercise, one that will not be fully understood using a purely positivist epistemology, quantitative research designs and stringent measurement of results. Answers resulting from such methodologies are clearly necessary but not sufficient to provide a definitive answer to a complex educational issue. Educational research deals with human issues of morality, values, ethics, and teaching and learning. Objective positivist approaches will answer the question “What has happened?” but will often not answer “How has this happened?” For example, careful data mining of the university’s academic database could show that AUI has a strong success rate as measured by A’s, B’s and C’s; excellent retention rates as measured by numbers of entrants in any given cohort exiting with a degree in four to six academic years. Yet these rates do not indicate how they are accomplished, and more importantly, how they can continue to be accomplished and improved. Were these results due to excellent teaching and excellent learning or due to mediocre teaching and learning coupled with low academic standards? Answering educational questions requires a broad range of educational research methodologies that go beyond mere numbers. Yet the answers are of crucial importance.

CAD and AUI can reach the highest pedagogical standards by taking a number of positive steps. One step that can and should be taken is to foster institutional knowledge and understanding of the academic development program at all levels of the university administration. A second crucial step is to foster increased knowledge and understanding of faculty concerning the goals and objectives of the CAD program as well as the exit standards of the program. Faculty need to recognize what students can and have achieved in the developmental education program at AUI and what standards they can be held to in subsequent courses. This alone should have a positive impact on quality assurance in the institution.

A third step is to foster increased knowledge and understanding of the student body concerning the goals and objectives of the CAD program. There is, currently, a small but vocal disaffected minority among AUI students that needs to be addressed both by the CAD and the institution as a whole. Clearly, there are members of the student population who do not understand the need for the CAD nor how the CAD can prepare them for success. The CAD is planning to address this issue in new student orientation by also by incorporating evidence of the benefit of teaching and learning issues into its course SSK1201 Skills for Learning and Research. With support from the University administration and faculty, this

issue of a disaffected minority should be overcome. Overall increased levels of communication with regard to teaching and learning objectives of the university could lead to substantial gains in quality assurance.

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## Appendix A: Program Development and Renewal in the CAD

	SSK1201	SSK1202	SSK1203	SSK1204	SSK1205
2000	EFL Textbooks		EFL Textbooks		
2001	Move to in-house materials Website developed Web delivery of content implemented	EFL Textbook Move to in-house materials Website developed Web delivery of content implemented	Move to in-house materials	EFL Textbooks	Developed in-house materials Course structure fully implemented: Modular Task based Design Module Exams
2002	Course structure fully implemented: Modular/Task based Design Module exams Seminar Presentation Argumentative Paper Readings/.Seminar Concepts/Vocabulary	Course structure fully implemented: Modular Design Midterm/final exams Two Problem Solution Projects Readings/.Seminar Concepts/Vocabulary	Website developed Web delivery of content implemented Course structure fully implemented: Modular Task based Design Module exams Module Projects Readings Concepts/Vocabulary	Move to in-house materials Teacher-specific webpage support Project designed	Critical writing component added
2003	Modules revised Readings revised Website revised	Modules revised Readings revised Website revised	Website revised Modules revised Readings revised Module Projects revised	Project reported on-line	
2004	Modules Revised Readings Revised	Project load reduced to one Readings revised Website revised	Modules reduced to four Readings developed Test design revised Module Projects revised	Course structure fully implemented: Readings selected Tasks developed Project standardized Grading criteria established	
2005	Readings Revised	Readings revised	Modules reduced to three Test design revised Module Projects revised Readings developed	Website developed Web delivery of content implemented	Website developed Web delivery of content implemented
2006	Course Revised Readings Revised Seminar Presentation dropped Unit Design Two Unit tests Test design revised	Readings revised Reading Workload reduced to 10 papers Test design revised	Module Projects revised	Web site revised Tasks refined Project refined	Course Revised Tasks added Videos added Workshops added Demonstrations added Readings added Test design revised
2007	Course Revised Modular/Task based Design Readings Revised Module exams Website Look and Feel Developed	Readings revised Website Look and Feel Developed	Modules two and three revised Module Projects revised Website Look and Feel Developed	Website Look and Feel Developed	Self-reflection tests added Website Look and Feel Developed

## Appendix B: Intended Learning Outcomes of the CAD

	SSK	At the end of the CAD program students will be able to:
1	1201	use academic resources online and offline effectively
2	1201	use strategies to avoid plagiarism
3	1201	begin to take responsibility for their own learning
4	1201	take notes from texts and lectures
5	1201	develop an informed academic argument
6	1201	organize work for task completion
7	1201	structure time according to determined objectives
8	1201	apply different learning strategies to different learning tasks
9	1201	prepare for and take tests effectively
10	1201	begin a process of text and concept analysis
11	1201	ask appropriate questions
12	1201	understand what is involved in rational discourse
13	1202	work effectively in study groups/teams/collaboratively/cooperatively
14	1202	run a seminar based on academic reading materials
15	1202	evaluate peer and personal academic work
16	1202	analyze a problem solution topic
17	1202	apply knowledge to new contexts
18	1202	think critically
19	1202	read critically
20	1202	evaluate academic reading materials
21	1202	synthesize from academic reading materials
22	1202	take notes from academic reading materials
23	1203	navigate the local area network
24	1203	create accurate and presentable charts, charts, graphs and tables for use in academic work
25	1203	use spreadsheets to perform simple functions such as summing and averaging
26	1203	obtain class materials from the LAN or the WWW
27	1203	format research papers use the APA guidelines
28	1203	create simple, visual presentations using presentation software and basic design principles
29	1203	configure and evaluate computer systems for personal use or purchase
30	1203	find and evaluate credible and appropriate sources for academic papers and reports
31	1203	participate in academic discussions online
32	1204	synthesize, summarize, and paraphrase academic information
33	1204	identify a topic worthy of academic research
34	1204	produce academic writing following APA guidelines for format and citation
35	1204	analyze the structure and meaning of complex texts
36	1204	analyze arguments critically
37	1204	find, evaluate, and make notes from a variety of academic sources
38	1204	plan and carry out effective teamwork, both cooperatively and collaboratively
39	1204	develop academic information processing skills
40	1205	analyze a communication situation to manage conflict
41	1205	use context-specific communication strategies
42	1205	take into account the role of the other in social interaction
43	1205	manipulate their communication style to enhance effectiveness
44	1205	evaluate communication events for effect on others
45	1205	use personal communication events to practice strategies
46	1205	take control of their communication styles
47	1205	recognize the role of the self in communication
48	1205	apply knowledge gained about communication to new contexts

## Appendix C: Skills Covered in CAD courses

	1203	1201	1205	1202	1204
<b>Reading Skills</b>					
Note-taking		Introduced		Reinforced	Required
Critical Reading Questions	Introduced	Reinforced	Reinforced	Reinforced	Required
Vocabulary	Introduced	Required		Required	
Analysis		Introduced	Reinforced	Required	Required
Evaluation	Introduced	Introduced	Reinforced	Required	Required
Synthesis		Introduced		Required	Reinforced
<b>Speaking Skills</b>					
Seminar Skills		(moderating discussions)		Introduced	Reinforced
Citing outside sources in oral presentation					Introduced
Adjusting delivery to audience			Introduced	Reinforced	Required
Perception checking			Introduced	Reinforced	Reinforced
<b>Writing Skills</b>					
Thesis statement	Referred to	Introduced		Reinforced	Required
Peer-review		Introduced			Required
Outline		Introduced		Reinforced	
Multiple drafts		Introduced		Required	Required
Paraphrasing		Introduced		Required	Required
Academic Report Writing format	Introduced	Required		Required	Required
Citation & references	Introduced	Reinforced		Required	Required
Non-text Data	Introduced			Required	
Library research		Introduced		Reinforced	Required
<b>Listening Skills</b>					
Note-taking		Introduced	Required	Required	Required
Active listening	Introduced	Reinforced	Practiced	Reinforced	Reinforced
<b>Oral Skills</b>					
Question/Answer	Introduced	Reinforced	Reinforced	Reinforced	Reinforced
Oral Presentation		Introduced	Required		Required
Seminar Presentation				Introduced	
Discussion		Introduced	Reinforced		
Debate					
<b>Critical Thinking</b>					
Analysis	Introduced	Reinforced	Reinforced	Required	Required
Argumentation		Introduced		Required	Required
Logic		Introduced	Reinforced	Reinforced	Reinforced
Using fact to support contention		Introduced	Reinforced	Required	Required
Evaluation	Introduced	Reinforced	Reinforced	Required	Required
Synthesis		Introduced		Reinforced	Required
<b>Note-taking</b>	<b>Introduced</b>	<b>Required</b>		<b>Required</b>	
<b>Test Taking Skills</b>					
Short Answer	Introduced	Reinforced	Reinforced	Reinforced	
Long Answer	Introduced	Reinforced	Reinforced	Reinforced	
Multiple Choice		Introduced			
Matching				Introduced	
Time Management	Introduced	Reinforced		Reinforced	Required
Planning	Introduced	Reinforced		Reinforced	
<b>Self-Development</b>					
Time management	Introduced	Reinforced	Reinforced	Reinforced	Reinforced
Self direction		Introduced	Reinforced	Reinforced	Required
Test-taking strategies	Introduced	Re-introduced	Reinforced	Reinforced	
Reflective process		Introduced	Reinforced		Required
Team work processes	Introduced	Reinforced	Reinforced	Required	Required
Ethics	Introduced	Reinforced	Reinforced	Required	Required
<b>Vocabulary Skills</b>					
Vocabulary Development	Introduced	Reinforced	Reinforced	Reinforced	Reinforced

## Appendix D: Learning Methodologies Employed in CAD

	SSK1201	SSK1202	SSK1203	SSK1204	SSK1205
Individual work	✓	✓	✓	✓	✓
Pair work	✓		✓		✓
Group/ team work	✓	✓	✓	✓	✓
Project work		✓	✓	✓	✓
Portfolio	✓	✓	✓	✓	✓
Seminar/ Presentation	✓	✓		✓	✓
Question/ Answer	✓	✓	✓	✓	✓
Lecture/ Presentation	✓	✓	✓	✓	✓
Peer Review	✓	✓	✓	✓	✓
Timed Writing	✓				
Discussion	✓	✓		✓	✓
Demonstration	✓	✓	✓		
Modeling					✓
Tasks	✓	✓	✓	✓	✓

## Appendix E: Written Output from CAD Courses

Written output from the CAD courses can be found at the following address:

<http://www.aui.ma/VPAA/cads/research/cad-research-student.htm>