

# The CEQ: Is it a measure of Architecture program quality?



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***Abstract:** The paper examines discipline-specific data collected via a specially developed Review of Course Experience Questionnaire [RCEQ] from nine cohorts of graduands of the architecture degree at the University of New South Wales. The data provides information on aspects of architectural education aimed at explaining the discipline's comparatively poor showing in the Course Experience Questionnaire [CEQ]. The paper questions the degree to which the CEQ is a useful and relevant measure of quality assessment for architectural education programs. It suggests that key aspects of students' experiences of their architectural education are not addressed by the CEQ and that inherent characteristics of design learning predispose the discipline to low scores in key measures of the CEQ.*

***Keywords:** architectural education, quality measures, course experience.*

## Introduction

This paper had its genesis in concerns raised by the comparatively poor results the architecture program at the University of New South Wales [UNSW] achieved in the first round of the Course Experience Questionnaire [CEQ] in 1993. Developed for the Graduate Careers Council of Australia (GCCA, 2001a), the CEQ is conducted annually in conjunction with the national Graduate Destination Survey (DEST, 2001). Concurrent with the release of these results was a long standing concern about the crucial architectural design assessment process – the so called ‘design jury’, a practice where students present and argue the case for their design proposal before a panel of ‘experts’ consisting of academic staff and guest practitioners.

CEQ scores, particularly those for overall course satisfaction, have increasingly been adopted as broad indiscriminate measures of relative academic quality and value by both the public and government. Courses that score poorly in the CEQ become vulnerable to reduced student demand, criticism by management and potential funding cuts. Nationally, architecture courses have consistently fared poorly. For their collective wellbeing they need to know why. Are all architecture courses really educationally unsatisfactory? Or, may it be that in the nature of the discipline they are inherently disadvantaged by the CEQ in what it asks, how it is interpreted, and by what it fails to ask?

The paper is based on data collected through a discipline specific questionnaire, conducted over a six-year period, with UNSW architecture graduands. It explores aspects of architectural education that may explain some of the negative responses graduands record in the CEQ, and in so doing questions the degree to which the CEQ is an appropriate measure for the quality assurance and assessment of architectural courses.

## Context of the study

### The CEQ and Architecture

In measuring the students' *overall satisfaction* with their course, the UNSW architecture program, along with architecture programs across the country, scores poorly in absolute and comparative terms. Nationally, in 2000, Architecture [general] recorded an *overall satisfaction* of 18 on a scale of -100 to +100, Arts and Social Sciences [general] 50, Medicine 31 and Engineering [general] 38. Of 49 discipline fields only two, Landscape Architecture 13 and Aeronautical Engineering 15, score less than Architecture (UNSW, 2001).

As Table 1 indicates, results are consistent across the six CEQ scales for architecture courses nationally: the 'problems' of perception are not peculiar to architecture at UNSW.

CEQ Scale	University						
	Melbourne	Newcastle	Sydney	UNSW	Queensland	Technology, Sydney.	National Average
Good Teaching	-5	-9	4	-14	16	-11	-3
Clear Goals & Standards	-6	-9	-2	-7	-7	5	-2
Appropriate Workload	-6	-37	-26	-17	-17	-35	-26
Appropriate Assessment	44	56	55	45	71	45	49
Generic Skills	16	22	39	23	26	29	27
Overall Satisfaction	19	17	23	7	12	20	18

**Table 1: Comparative CEQ scores for selected Architecture programs for 2000**

[UNSW Planning Office 2001, Report on the Course Experience Questionnaire at UNSW, 2000]

The statistical differences in scores between various disciplines became evident early in the life of the CEQ. Used as initially intended, to allow for comparison between like courses and within a given course across time, these differences would not cause concern. While this potential has not been lost, the data is increasingly used by government, institutional management and marketing units to serve as broad, indiscriminate, comparative and competitive measures across and between disciplines and institutions, exemplified by the Good Universities Guide (2001). This tendency is a cause for concern.

The CEQ has recently been reviewed (DETYA 2001), the process addressing some of the perceived shortcomings of the original instrument. While the recommended changes may provide useful information for the universities and government, they will not alleviate nor identify the underlying causes of the rating problems faced by architecture courses.

The proposed revisions recommend universal retention of only the original scales for *generic skills*, *good teaching* and *overall satisfaction*, leaving institutions free to administer as much or little of the original and recommended extended questionnaire as they wish. There is apparently little consensus among institutions as to the questions and scales each will adopt. The possibility of a much reduced common database is significant for architecture as it scores particularly poorly on two on the three retained scales.

### Architecture courses / quality control

Completion of an accredited architecture degree is a legal prerequisite for any person seeking professional registration under the conditions of the Architects Act 1921 in New South Wales or its equivalent in other states and internationally. Architecture programs have been and

continue to be subjected to a regular and rigorous process of course accreditation. Full re-accreditation is undertaken at five yearly intervals with review panels visiting in each intervening year. Nationally, all courses have consistently met the standards for full accreditation. The students and graduates of these programs are held by the accrediting body to be appropriately educated for the profession.

Architecture courses make extensive use of local practitioners, both as part-time lecturers and design studio tutors, to deliver components of their programs. These links with the profession provide important avenues for monitoring both the quality of student work and appropriateness of course content. Similarly, the work experience requirement of many courses provides feedback via both the students and practices. Nevertheless, the apparent difference in the perceptions of the accrediting bodies to those of graduands, as reflected in their CEQ responses, raise questions not only of the CEQ but of the accreditation process itself and of what it may be failing to address.

### **Architecture at UNSW**

The architecture course at the UNSW, the largest in the country, had an *effective full-time student unit [eftsu]* enrolment of 608 for 2001. It is highly competitive with other local architecture programs, maintains an international student intake of 20-25% of *eftsu*, and has a steady intake of transferring advanced standing students. Within its field it is a successful and well-respected program. It is a five-year full-time study program with a six-month work experience requirement. In the senior years the flexibility of elective courses allows students to operate on a semesterised and often part-time basis, tailoring their enrolment to suit work commitments.

Program content is structured in five streams encompassing nine subject areas – design, communications, history/theory, technology [construction, structures, environment], and research and practice. Program subjects are divided into core [71% of total load] and elective categories, the bulk of the core material scheduled in the early years. Design is the only subject stream to continue as core throughout the program.

### **Development of the RCEQ**

In 1995 the author and a colleague from the university's counselling unit developed a discipline-specific three part questionnaire, referred to as the Review of Course Experience Questionnaire [RCEQ]. Part: A - the standard CEQ [allowing comparison with GCCA results]; B - the body of the questionnaire, on discipline-specific issues; and C - demographic data. The five sections of Part B address issues significant to a student's experience of the program. The first, course structure, deals with students' perceptions of their ability to cope with the identified subject areas and the relative importance and weighting that is and should be given to each. The second covers students' perceptions of the opportunities the course gives to develop a range of specific skills. The third looks at aspects of the design studio environment and its assessment. The fourth, deals with the perceived impact of culture and language, and access to financial resources on potential academic success. The fifth covers a range of employment and practice issues.

#### **The RCEQ data base**

The questionnaire was initially administered to three cohorts of students: 5 and 2 year out graduates [1990 and 1993 respectively] and session 2 graduands of 1995, and subsequently to a further 6 cohorts [Table 2]. The cohorts span the ten-year period from the introduction in 1988 of a significantly revised program to the first graduands of the current program introduced in 1999.

Graduation group	date	Numbers			
		class total	RCEQ issued	returns on issue	% return on issue
<b>Cohort A</b>	1990	105	105	16	15.2%
<b>Cohort B</b>	1993	74	74	20	27.0%
<b>Cohort C</b>	Session 2/95	59	59	17	28.8%
<b>Cohort D</b>	Session 1/96	57	57	38	66.7%
<b>Cohort E</b>	Session 2/96	46	46	36	78.3%
<b>Cohort F</b>	Session 1/97	52	39	27	69.2%
<b>Cohort G</b>	Session 1/98	51	44	22	50%
<b>Cohort H</b>	Session 2/99	57	47	26	55.3%
<b>Cohort I</b>	Session 2/00	51	51	46	90.2%
<b>TOTALS</b>		552	522	248	

**Table 2: RCEQ survey numbers**

## **Results and observations from the RCEQ data**

The following reviews and comments on the results from the RCEQ address those sections of the questionnaire most relevant to interpreting corresponding CEQ data: course structure and relevance to employment; design assessment; and cultural and social equity and bias. Data from cohort 'I' have been omitted as these graduates completed the final two years of their degree under the program introduced in 1999.

### ***Course structure***

This section asked respondents how well they had coped with each of the key subject areas; what significance they felt the course gave each; and how much it should have given. In relation to employment it asked how capable they felt in dealing with these subjects in practice, and which subject areas they had learnt most about in their first months of practice [Table 3].

Averaged across the subject areas, 87% of graduands held all the program components to be important, 32% had some difficulty coping, while 62% saw the subjects as adequate for the demands of employment. Of the specific subject areas, results for design and construction stand out. For design, 97% of students, the highest for any subject area, list it as an important or very important part of the course. They also indicate that 45% had difficulty coping with design, also the highest for any subject, while 58% saw the need for design to have greater weighting within the program. Despite their perceived difficulties with design, 86% saw themselves as having adequate design knowledge to meet the demands of professional practice. Significantly, it is also a subject relatively few [42%] thought they learnt much about in their early office experience.

The results for construction present a very different picture to that of design. Held to be of near equal importance in the program at 95%, 72% suggested a need for greater weighting, by far the highest of any subject area. However, compared to design, only 42% felt adequately prepared for professional practice and 87% saw construction as the area they learnt most

about in their initial employment. Related to the students' course experiences were two general questions on their transition to practice. Asked how well their expectations had been met by their first employment experiences, 42% recorded disappointment. However, in contrast, 79% were confident of their ability to meet their employers' expectations.

Issue x % of students agreeing	Key subject area								
	communications	construction	design	environment	history	Practice	structures	theory	AVERAGE
had difficulty coping with subject area	26	34	45	21	23	26	40	40	32
subject area perceived as important	92	95	97	87	75	81	86	83	87
subject area perceived as needing greater course weighting	47	72	58	40	27	44	44	30	45
had adequate subject knowledge for practice	74	42	86	65	63	44	52	71	62
subject area learnt most about in first months in practice	61	87	42	37	9	88	53	11	49

**Table 3: Student agreement with course issue by key subject area**

### ***Design assessment***

Schon (1987) has suggested, learning to design is like launching into the unknown, not knowing what one is looking for and unlikely to recognise it when found: a process filled with uncertainty, potential frustration and anxiety. Architectural design is a holistic, complex activity, by nature prone to actual and perceived subjectivity in assessment. Design assessment, due to its 'jury' format and academic weighting, can be a highly stressful process for the student and controversial in its results. It is the area into which students invest much of their 'selves', the area where performance is least predictable, and the area in which the assessed result is least likely to be appreciated.

Design is the core of the degree constituting 40% of the overall course weighting. Section 3 of the RCEQ elicits student perceptions of their experiences with the design studio and its associated assessment process. The results, shown in Tables 4 and 5, confirm the likelihood of this prominent assessment process significantly influencing students' perceptions of their overall course experience.

Given the significance of design performance to a student's academic success and progress and the potential for controversy in the assessment process, one might expect the *appropriate assessment* scale of the CEQ to reflect this situation with at best weak scores. The opposite is the case, consistently the highest scoring scale [see Table 1]. Looking at the individual questions that constitute the scale, the results are less surprising - *Q8. To do well in this course all you really need is a good memory, Q12. The staff seemed more interested in testing what I had memorised than what I had understood; and Q19. Too many staff asked me questions just about facts.*

For architecture, the results indicate the program is successfully promoting holistic problem solving abilities and deep over surface learning, characteristics essential to the successful designer. This observation is consistent with the findings of the initial Graduate Skills Assessment survey conducted for the Department of Education, Science and Training [DEST] by the Australian Council for Educational Research (ACER, 2001). However, the results also indicate that the scale is not eliciting information on the peculiarities of design assessment that students see as problematic. The problem lies not with what the *appropriate assessment* scale measures but with what it does not measure.

The RCEQ identifies problem areas associated with design assessment that provide some explanation for the low CEQ *overall satisfaction* scores.

Responding to questions on the fairness of the ‘jury’ assessment and the usefulness of the feedback provided, 46% saw the ‘jury’ as unfair and 45% believe the process failed to provide constructive feedback. In responses to more specific criteria, three themes emerge. Success in the ‘jury’ process is perceived as being highly ‘personality’ dependent, 80% listed getting on with one’s tutor as necessary, 83% the need to appear confident, and 62% believed meeting the tutors expectations to be important [Table 4]. Secondly, 79% believed that the ‘appearance’ of visual material submitted was a highly significant indicator of likely success. Thirdly, more pragmatic, ‘objectively’ measurable criteria are perceived to be given relatively lesser significance – ‘buildability’ and conforming to the project brief rated at only 34% and 40% respectively. For these criteria and that of meeting tutors expectations, the students suggested the situation should be effectively reversed. to: buildability 78%, adherence to brief 76%, and meeting tutors’ expectations 36% [Table 5].

Issue	% agree
Getting along with your tutor during the session	80
Being able to argue the case for your design	47
Saying as little as possible in the 'jury'	20
Appearing to be confident in presenting to the 'jury'	83

**Table 4: Student perception of criteria necessary to successful Design ‘Jury’ performance**

Issue	importance given % agree	importance should be given % agree
Oral presentation	53	61
Visual presentation	79	70
Meeting tutors expectations	62	36
Quality of the design proposal	72	92
Conforms to design brief	40	76
‘Buildability’ of the design proposal	34	78

**Table 5: Student perception of importance given to design assessment criteria**

### **Resources and Culture: equity and bias**

Universities have for many years been drawing students from increasingly diverse cultural and socio-economic backgrounds. In addition to local diversity, the UNSW architecture course enrolls significant numbers of international students [20 to 25% of intake]. It also enrolls many local non-English speaking background [NESB] students. Given the highly interactive environment of architecture programs with the requirement for 'public' presentation of design and other material, fluency in English is a necessary skill.

As for any design field, the constant demand for equipment and materials makes architecture an expensive program to undertake. This is exacerbated by increasingly limited equipment and material budgets available to universities, and necessitates many students seeking permanent part-time employment.

Collectively these factors can leave programs vulnerable to perceptions of cultural and socio-economic bias. The third section of RCEQ results deals with students' perceptions of the impact of these factors on performance in the program.

Culture and language were seen to be significant factors influencing a student's potential success, 68% indicating difficulties with language and oral expression as a major cause for poor performance. Of greater concern are responses on equity and culture. Here 46% reported that students of all cultural backgrounds are not treated equally, with 57% indicating that cultural background influences one's level of success in the course.

Financially, 75% claim 'spending power' directly influences potential success in the course, while 73% saw the need to earn money during their course lowering their academic performance.

Although unlikely to be peculiar to architecture courses, these findings are cause for concern and likely to have a negative impact on CEQ scores. Unfortunately, the nature of questions in this section does not allow further interpretation of the results. However, they are factors that should be further investigated.

### **Discussion**

It can be argued that students entering a defined vocational discipline are likely to be more critical of their courses than those entering more general programs. This contention tends to be supported by the CEQ results. Equally, for professional courses like architecture, the interface between academia and practice is a critical one for students, graduates and the profession.

Research undertaken by Cowdroy (1990) indicated that there is a significant chance of a student's or recent graduate's first job experience being unsatisfactory to both employee and employer. RCEQ data lends support to this observation. The problem lies in the respective expectations of the parties. The student finds little of the excitement and creative opportunity of the university design studio, while the employer finds an employee with too little knowledge and understanding of the practicalities of practice. Similarly, the RCEQ data indicate a perception of major differences in the comparative weighting of the key subject areas in the academic and practice settings. The requirement for work experience during the course by many architecture programs ensures most graduates will have had direct and immediate experience of these 'mismatches' by the time they receive the CEQ.

That student expectations are not met in early employment experiences can be argued as an almost inescapable situation. Professional courses, delivered through full-time university study cannot replicate the world of practice. The emphasis given to the various aspects that constitute architectural practice will inevitably and rightly vary between practice and academia. The university is an appropriate and successful place for students to experience the creative excitement of design, it is not a good place to appreciate the niceties of contract drawings nor of the legal and financial consequences of many design decisions. In an office the student will see the result of the creative act of design but as observer rather than initiator. Design, although arguably the most critical part of the architectural process, forms only a fraction of the overall time and effort expended in procuring a building. With limited experience it is unlikely the student or recent graduate will appreciate this situation and, consequently, is likely to perceive a failing in their education.

## Conclusion

This paper has suggested that inherent in the nature of architectural education are a number of discipline and course specific characteristics that directly and negatively influence students' responses in the CEQ. As a measurement tool for program quality, at least for architecture, there are significant features the CEQ does not address. It is with this situation that architecture courses need to deal and that the RCEQ was established to explore. In considering responses to the RCEQ and CEQ and the operation of the architecture program, further research on three issues appears relevant: perceptions of inequity and bias; design tutoring and assessment; and the interface with professional practice. On the first, at this stage, there are no figures to confirm or otherwise the veracity of these perceptions. Anecdotally, there is no glaring imbalance in the diversity of graduands. However, the perceptions, well founded or not, are significant and will colour a student's perception of the conduct of the course and of their sense of satisfaction.

To put in context the second issue, design tutoring, architecture programs score particularly poorly on three CEQ scales, *appropriate workload*, *clear goals and standards* and *good teaching*, national averages for 2000 being -26, -2 and -3 respectively (UNSW, 2001). The first two, although undesirable are understandable, the third, *good teaching*, is far less explicable. One possible explanation is the extensive use of part-time staff. Educationally perceived as a valuable addition to the diversity of views and approaches presented, for the student they can add a level of unpredictability, and of frustration stemming from the unavailability of part-timers outside class hours. In the intense, interactive dynamic of the design studio possibilities of personality clashes are very real along with perceptions of inconsistency of interpretation and assessment within and between tutorial groups. Without careful monitoring by experienced full-time staff, these issues can become educationally destructive and unsettling for students.

Finally, there is a need to develop a better understood and productive interaction for students moving between study and the profession to overcome the disquiet generated by the marked differences in direction and focus of their studies and those of the profession.

Architecture courses continue to compete successfully in the sector for both local and international students. Entry standards remain strong and competitive and exit standards are recognised through the accreditation process to be acceptable to the profession. There appears little reason to doubt the basic educational validity of architecture courses. However, results from both the CEQ and RCEQ indicate there is need for improvement and careful

examination of program delivery and a questioning of the established program accreditation process. Equally, RCEQ results suggest that, at least for architecture, significant factors related to the nature of the discipline are not accounted for in the CEQ. As a measure of course quality the CEQ is, at best, indicative of problem areas and, at worst, where used as a comparative and competitive measure with other disciplines, inappropriate and misleading.

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