ExAC
Examination for Architects in Canada
Examen des architectes du Canada

Statistical and Technical Report 2024 ExAC

Summary

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Introduction

To fulfil its mandate, the Committee for the ExAC (CExAC) offers the Examination for Architects in Canada (ExAC) annually. The ExAC consists of four exams (sections) that cover thirteen (13) themes, thirty-eight (38) general objectives and one hundred fifty (150) specific objectives. The four sections, each of which lasts a maximum of 3 hours, are offered simultaneously throughout Canada, over a period of four days. The ExAC is offered in both official languages of Canada in a pencil-and-paper format.

The ExAC is intended for candidates who wish to obtain access to the profession of architect. The ExAC is an examination for admission that is recognized by all the professional bodies that oversee the architectural profession in the Canadian provinces and territories. Successful completion of the ExAC is one of the requirements that ensure the competence of architects. The ExAC is the one of the final steps that must be taken by candidates who wish to join the profession.

The purpose of this summary is to describe some of the technical characteristics and the professional expertise that contributed to optimise the reliability, the validity, and the psychometric integrity of the ExAC 2024.

Methods used in the development of the ExAC

Item Development

The ExAC is based on a series of general and specific objectives that were developed, reviewed and approved by architects. These objectives define the areas and levels of knowledge required by the profession. They are used to develop the multiple-choice items and the short-answer items for each exam so that the exams will have the same characteristics every year.

Every year, new items are developed and field-tested so that they can become items on future exams. Architects from several of the professional bodies assist the CExAC in all aspects of the development of the items On behalf of the CExAC, the co-administrators recruit architects, and the consultant trains them to participate in committees of five to fourteen architects. These committees meet several times a year to develop and review the multiple-choice and short-answer items used in the tests. All items must conform to the expectations and learning content described in the table of specifications. The architects are provided with copies of the *Guide for the Development of Items for the ExAC* to assist them in developing the multiple-choice and short-answer items and the descriptive rating scales for the items.

Multiple committees validate each item with respect to content and level of difficulty. For the multiple-choice items, they take into consideration the clarity and completeness of the content of an item, the exactness of the correct answer, the plausibility of the distractors, and the rules that apply to item development. For the short-answer items, they consider the correspondence between an item and its descriptive rating scale and determine if the items generate the expected range of answers, irrespective of the official language, province or territory of origin of the candidate.

Field-testing

The CExAC subjects the new items to a field-testing process. If the results of the field-testing indicate that the items are acceptable, they will be used in current and future exams. Items to be field-tested are incorporated into the exams that are given each year to maintain a representative sampling of new items. The scores obtained from the items that are being field-tested are not necessarily used to determine the results for the candidates.

Subjecting the exam material to field-testing allows that the items that are selected for future exams are of excellent quality and that they are fair, from a psychometric and metrological point of view, for all candidates. The field-testing process also provides data that enables the exams from each year to be matched to those of previous years, so that the results can be compared in a valid manner over time. The quality of the comparison of the data from one year to another relies on this equating process.

Exam Development

The exam items are selected from newly developed items and from items that were previously field-tested. Several key factors must be considered when selecting items to be used in an exam that is offered across the country:

- The measurement parameters for each item must demonstrate that the exam item is fair and of comparable difficulty to those used in previous exams;

- The items that are selected for an exam are reviewed to ensure that they conform to the exam specifications, that their content is balanced, and that there is no differential functioning in the items or in the exam;

- It is important to note that the items correspond to content groups but that not all the content in a group is measured in any one exam;

- The preparation of the items is done in accordance with a table of specifications.

Exam administration

The *Administration Manual for the ExAC* provides a detailed description of the administration procedures. These procedures must be followed by the ExAC administrators and test supervisors to ensure uniformity and fairness in the administration of the exams for candidates across Canada. Each administration site and each licensing authority receive copies of the Administration Manual so that the administrators and test supervisors can be trained to administer the exams. The Manual describes in detail what the ExAC administrators and test supervisors who administer the exams must do, and it deals specifically with:

- the procedures to be followed (e.g. the preparation of material that is to be distributed to the candidates, instructions to be followed during the examination phase);

- the specific adaptations and provisions that are permitted for candidates who have submitted a request for accommodation;

- what needs to be said to the candidates (e.g. instructions for presenting the four exams);

- the professional responsibilities of the personnel involved in the examination phase.

Scoring

The answers to the multiple-choice items are collected by the online testing platform. The data that is collected is sent automatically to a database. As far as the short-answer items are concerned, on behalf of the CExAC, the consultant follows rigorous scoring procedures to insure the validity and reliability of the exam scores. Trained markers score all answers to the short-answer items. All answers are scored at least by two different markers, sometimes three.

Selection of the Exemplars

The selection of the exemplars (an exemplar is a typical copy of a particular score point) permits the determination of the range of acceptable levels of performance for each score point in each scoring grid. The goal is to reach consensus on the scoring of the answers given by the candidates. The exemplars are used to train the markers.

For the selection of the exemplars for the short-answer items, the answers provided to the item are used, and the selection is made just before the exams are scored.

The consultants have developed procedures and a scoring process to ensure uniformity. The training is intended to develop a clear and uniform understanding of the scoring material so that each consultant and each marker will interpret and use the scoring material in the same manner. The result is a level of scoring of the responses of the candidates that is reliable, uniform, valid and precise, no matter which marker has scored the items. The markers are all trained to perform scoring with the same scoring material.

Measurement of the Reliability and the Validity of the Scoring by the Markers

The measurement of interrater reliability (consistency between markers when scoring the same test copy) and of the validity of the scoring is used to assess the uniformity of the scoring by the markers. The scores assigned to the answers from a given candidate are compared to determine if they are the same or if they differ by one score point (near perfect) or by more than one score point. At least two markers score each answer. If the two scores are not identical, the answer will be assigned to a third marker for scoring.

Interrater Reliability for the 2024 ExAC

The percentages of perfect agreement for Section 1 vary between 63.8 % and 95.0 % for the English and French versions of the exam. Overall, the percentages of perfect agreement for the items in Section 1 of the English and French versions exceed the generally accepted standards.

The percentages of perfect agreement for Section 3 vary between 68.2 % and 94.6 % or the English and French versions of the exam, except for one item. Overall, the percentages of perfect agreement for the items in Section 3 of the English and French versions exceed the generally accepted standards.

As a reminder, when the scores from two markers are not in 100 % agreement, a third marker proceeds with a third scoring. The markers are not aware of a previous score given by another marker. A marker does not know whether he or she is the first, the second, the third or the fourth to score a particular candidate's response.

Analysis of the exam results for the 2024 ExAC

The process for setting cut scores consists of a series of steps that permit the determination of the passing score for each exam. The process begins by asking several expert markers (architects who have been trained as markers during a scoring session) to examine each exam item and to estimate the likelihood of success of a minimally competent candidate. The average of the estimates of the markers for all exams constitute one of the elements taken into consideration when establishing the minimum score required to pass a section of the exam. Also, for the purpose of test equating, some items are reused and tracked from year to another.

Since the exams are measuring instruments with an imperfect level of reliability, a confidence interval, situated around the cut score estimated by the markers is calculated. This enables the benefit of the doubt to be given to the candidates with an apparent minimum level of competence. A candidate who fails an exam will have received a score that is lower than the cut score determined by the markers, and this same result is also lower than the lowest level of the confidence interval that could be considered as a margin for error.

Seventeen markers participated in the scoring process of the 2024 ExAC. Many of these markers are bilingual. The table below shows the success rate for each section. Of the 931 candidates who wrote the 2024 ExAC, 672 of them passed all the sections for which they were eligible, therefore 72.2 % of the candidates succeeded in all sections. The overall success rate for all the exams is 83.5 %.

Success rate for the English and French form of the ExAC 2024

Section 1	Section 2	Section 3	Section 4
705 / 839	704 / 847	699 / 835	704 / 845
84,0 %	83,1 %	83,7 %	83,3 %

Publication of the results

The registrar for each licensing authority mails the results to the candidates in a performance report (transcript). This document reports the status of the candidate, the sections of the ExAC that were passed, the equivalencies that were awarded (where applicable), and the sections that need to be taken again. The report does not include raw scores. The results are indicated in pass/fail format.

Where a section must be taken again, the report provides constructive information on the sections of the exam that were less successfully completed. The candidate can then take the section again the next time that the ExAC is offered. The sections that were passed do not have to be rewritten. It is important, however, to communicate with the respective licensing authority to obtain information about exceptions that are linked to time limits.

Requests for review

An candidate may request a review of the score obtained. The precise rules that apply to this process are contained in the **Preparation Guide**. Once a request has been made, the consultants perform a multi-point review of the bubble sheets. The short-answer items are scored again by experienced markers. Data regarding the candidate is tracked through the databases to verify the integrity of the data.