

Technical Report: January 2020 CHRL ELE

Human Resources Professionals Association

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Executive Summary¹

Note that this technical report covers only the primary new form or forms administered during an administration, and not detailed results for all forms used (which may include previously used forms, scrambled forms, and other modifications to maintain exam and score integrity).

The CHRL Employment Law Exam (CHRL ELE) was administered to 145 candidates using computer-based testing at Prometric test centres January 13–27, 2020, inclusive. The examination comprised 110 three-option multiple choice items and had a 3½-hour time limit.

As per the CHRL ELE blueprint, the exam was scored using the 98–102 best-performing items (while adhering to the prescribed distribution across topics). The mean score for first-time candidates ($n=125^2$) was 75.0 (75.0%), and for all candidates it was 74.1 (74.1%), out of 100 validated items for scoring. Reliability was borderline at .70 (noting that there is substantial range restriction with these candidates). The final set of scored items adhered to the blueprint parameters.

The pass mark was set using equating back to the January 2019 and September 2019 administrations, yielding an integer pass mark of 66. Equating was conducted to compensate for minor changes in exam form difficulty so that any given candidate has an equivalent hurdle regardless of when they write the CHRL ELE. This pass mark resulted in a pass rate for first-time candidates of 89.6% and a pass rate for all candidates of 86.9%.

This report, the analyses performed, and the processes followed are consistent with NCCA standards³ and ISO 17024 standards.⁴

¹ This technical report is an abbreviated version of the full report. Information has been excluded that if known to candidates could negatively affect the validity of future candidate test score interpretations. This includes item-level statistics, some information about the construction of test forms, and some specific details concerning equating.

² Excludes those who had failed an HRPAs employment law examination in the past, who were identified as being statistical outliers, or who had written an alternative test form.

³ National Commission for Certifying Agencies (2014). *Standards for the accreditation of certification programs*. Washington, DC: Institute for Credentialing Excellence.

⁴ International Organization for Standardization (2012). *ISO/IEC 17024:2012 Conformity assessment – General requirements for bodies operating certification of persons*. Geneva: International Organization for Standardization.

Administration

Form Setting

Using only validated test items, Wickett Measurement Systems prepared one 110-item test form. Wickett constructed the final test form according to the following parameters:

1. Including only items validated by the validation panel in the past 2 years
2. Fitting the total item count of 110
3. Excluding enemy items
4. Matching the blueprint weights
5. Maximizing spread across subtopics as per the blueprint weights
6. Reducing item exposure
7. Selecting items with perceived psychometric effectiveness, using statistics from previous administrations as available

The final form was reviewed for currency and enemy items by Laurie Torno and Debbie Hynes (CHRL Examination Validation Committee members), facilitated remotely, in a session held October 25, 2019.

The final form composition for the primary January 2020 CHRL ELE is shown in Table 1 (domain weighting) and Table 2 (cognitive level weighting). The form reflected the examination blueprint (see Appendix for full CHRL ELE blueprint).

Note that at any administration, HRPAs make use of previously validated and administered test forms along with new test forms, in addition to employing other mechanisms to maintain the integrity of the exams and candidate scores.

Table 1: Domain fit at administration

| Domain | Actual Items | Target Range | Target Items | Variance |
|--|--------------|--------------|--------------|----------|
| A Employment Contracts and Terminations | 50 | 46% ± 5% | 46–56 | — |
| B Employer Obligations | 36 | 33% ± 4% | 32–40 | — |
| C Regulations and Legislation | 24 | 21% ± 3% | 20–26 | — |
| TOTAL | 110 | | 110 | — |

Table 2: Cognitive level fit at administration

| Cognitive Level | Actual Items | Target Range | Target Items | Variance |
|-------------------|--------------|--------------|--------------|----------|
| Knowledge | 9 | 10% ± 3% | 8–14 | — |
| Application | 55 | 50% ± 10% | 44–66 | — |
| Critical thinking | 46 | 40% ± 10% | 33–55 | — |
| TOTAL | 110 | | 110 | — |

The test form adhered to the blueprint for content domain and cognitive level.

Testing Window

The examination was administered via computer-based testing at Prometric test sites primarily in Ontario. The testing window was January 13–27, 2020, inclusive, and 145 candidates wrote the exam. A scheduling issue required one candidate to write on paper and responses for this candidate arrived after all analyses were completed; analyses were conducted with 144 candidates.

Candidates had access to a basic-function calculator on screen and access via PDF to 10 pieces of searchable legislation (compiled into 2 documents):

Provincial

- AODA – *Accessibility for Ontarians with Disabilities Act, 2005*
- ESA – *Employment Standards Act, 2000*
- LRA – *Labour Relations Act, 1995*
- OHRC – *Human Rights Code*
- OHSA – *Occupational Health and Safety Act*
- PEA – *Pay Equity Act*
- WSIA – *Workplace Safety and Insurance Act, 1997*

Federal

- CHRA – *Canadian Human Rights Act*
- CLC – *Canada Labour Code*
- PIPEDA – *Personal Information Protection and Electronic Documents Act*

The versions of the legislation were as accessed on October 16, 2019.

Analysis

Data Cleaning and Integrity Checks

Prometric provided data in .xml format via a secure ftp site. Candidate files were provided as candidates completed the examination throughout the testing window. These files were extracted to Microsoft Excel for processing. They contained identifying information for each candidate, form information, start and stop times, answer string, key string, candidate total score, item comments if the candidate made any, and time spent per item.

The data files received were reconciled against the roster provided by Prometric to ensure that all .xml files had been received. Further, each candidate total score as computed by Prometric was reconciled with that computed by Wickett for the full set of 110 items to verify key accuracy. Comments on items were also reviewed to identify any specific item-level issues. No problems were encountered.

The average time taken by all candidates was assessed to detect potential examination timing concerns. The distribution is shown in Figure 1. The mean was 3 hours, 5 minutes (7 minutes more than in September 2019). The time limit on the CHRL ELE was 3½ hours, suggesting that time may have been a factor for at least some candidates.

Thirty-two candidates (22%) took the full 3½ hours (or were within 5 minutes of it), suggesting that those candidates may have wanted more time. Four candidates (3%) left at least one item blank, suggesting that those candidates timed out of the exam before being able to complete it. These metrics will continue to be monitored and are somewhat higher than what was observed at the September 2019 administration; at present they do not appear problematically high. Note that because they have access to legislation, candidates may take more time than intended by researching more answers. This may skew time metrics higher.

The correlation between scores on the 110 items and time spent writing the examination was essential zero at a value of .03, suggesting that time was not generally related to candidate performance.

Note that one candidate exceeded the time limit; this candidate was granted additional time in advance of the administration as an accommodation.

Candidate scores were computed across the window to look for any evidence of item exposure. As shown in Figure 2, there was little variation across the window, and the difference between the first 3 days and the last 3 days was a decrease of 3.0 marks out of 110.

As a matter of interest, candidate volumes were also examined across the window; these are also shown in Figure 2. Though not psychometrically meaningful, there is a pattern for candidates to prefer to book at the end of window rather than at the start.

Figure 1: Examination time distribution for all candidates

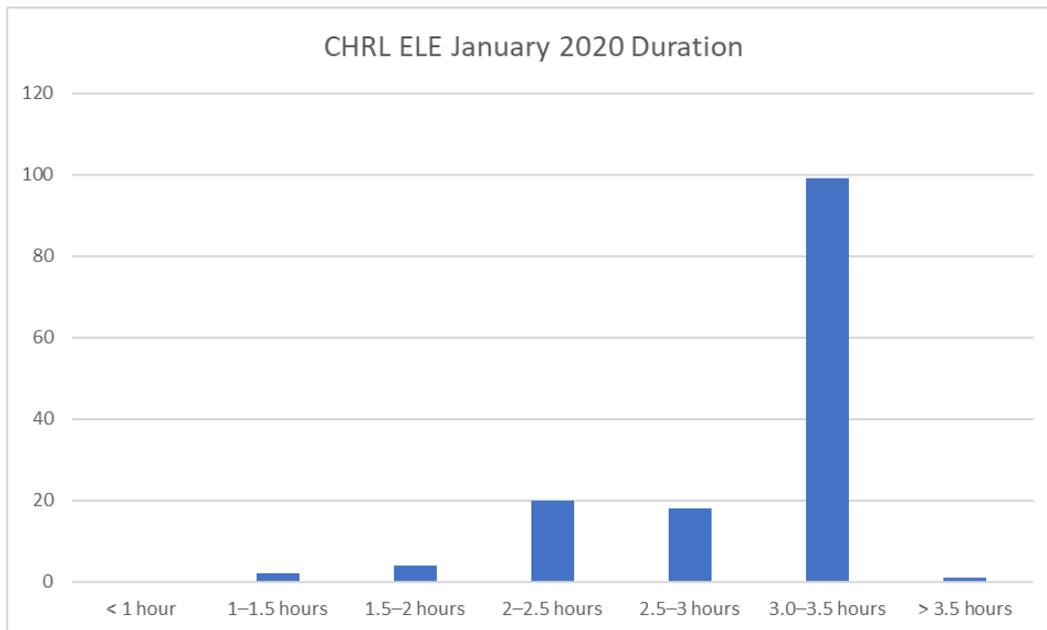
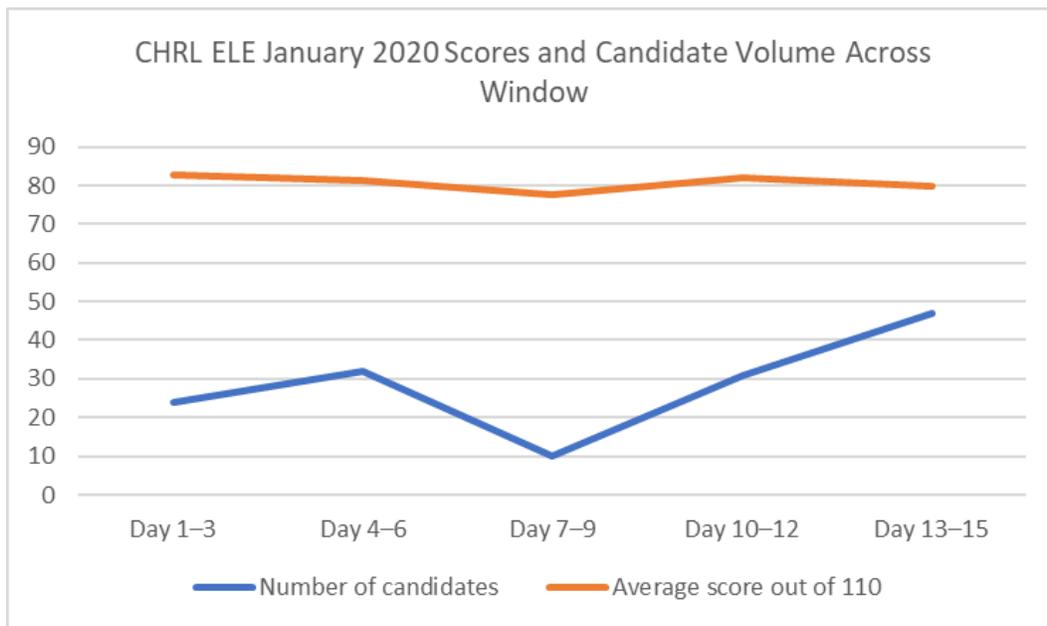


Figure 2: Candidate volume and score trends across testing window



After removing candidates who were administered a previously used test form (who were scored using the same decisions employed at the time that form was originally used), scores were calculated for all remaining candidates based on the full set of 110 items. No candidates were flagged for an abnormally low or high score (z value outside +/- 3.0). Also, the 110 items were arbitrarily broken into 4 blocks of 25 items for each candidate plus 1 final block of 10 items; the 5 resulting subscores for each candidate were evaluated for outliers as well. For candidates

with any subscore more than 3 standard deviations (SD) from their average z-score, the .xml file was examined closely for any issues. All outliers were removed from initial analyses; candidates with abnormal response patterns (such as having 5 or more blanks) were also removed. To be conservative, candidates who had been granted a testing accommodation were also removed from the main analysis (simply because their testing conditions were not the same as those of the main group of candidates, even though each accommodation was granted on the premise that it would make the testing experience equivalent in terms of opportunity to demonstrate competence). As a result of these factors, 3 candidates were removed from analyses.

Candidates who had failed a previous employment law examination (CHRP ELE or CHRL ELE) scored lower than did those who had not (75.2 and 81.7, respectively, on the full exam of 110 items). This difference was statistically significant ($t(18)=3.26, p<.01$), as is typical of repeat test takers. In keeping with standard procedures, all repeat candidates were removed from subsequent analyses. The CHRL ELE analysis proceeded with 125 candidates.

Owing to the modest number of candidates, all subsequent analyses were interpreted with caution.

Post-Examination Survey

Candidates were provided access to the post-examination survey immediately after submitting their responses to the CHRL ELE; 141 candidates responded (response rate, 98%).

Table 3 shows the responses to the administration-related questions. Note that candidates were generally positive about the administration experience. Table 4 shows the content-related questions; there was a tendency to more neutrality on these questions.

Table 3: Administration-related post-examination survey questions*

| | Question | SA | A | N | D | SD | Score | Agreement |
|----|---|----|----|----|----|----|-------|-----------|
| 1. | I was able to book a seat to write the examination at a time that was convenient for me. | 73 | 44 | 5 | 15 | 4 | 4.18 | 83% |
| 2. | I was well informed about what documents to bring to the exam location. | 93 | 39 | 3 | 2 | 0 | 4.63 | 96% |
| 3. | Proctors enforced the exam-day rules and the security procedures at the test centre were what I expected. | 92 | 44 | 0 | 0 | 0 | 4.68 | 100% |
| 4. | Proctors were professional and courteous. | 90 | 39 | 5 | 0 | 2 | 4.58 | 95% |
| 5. | The tutorial helped me understand how to complete the examination on the computer. | 79 | 47 | 9 | 1 | 0 | 4.50 | 93% |
| 6. | The legislation and case texts were easy to access during the examination. | 50 | 52 | 13 | 19 | 2 | 3.95 | 75% |
| 7. | Navigation through the examination was easy and intuitive. | 61 | 69 | 2 | 2 | 2 | 4.36 | 96% |

*Response categories: SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree.

Table 4: Content-related post-examination survey questions*

| | Question | SA | A | N | D | SD | Score | Agreement |
|-----|---|----|----|----|----|----|-------|-----------|
| 8. | The time allotted for this examination was sufficient. | 48 | 52 | 8 | 22 | 6 | 3.84 | 74% |
| 9. | Information available prior to exam day provided me with adequate details about the content and format of the exam. | 41 | 58 | 16 | 20 | 1 | 3.87 | 73% |
| 10. | I feel I was adequately prepared to write this examination. | 16 | 79 | 24 | 14 | 3 | 3.67 | 70% |
| 11. | The questions in the examination were clearly written. | 19 | 69 | 22 | 20 | 6 | 3.55 | 65% |
| 12. | The terminology used in the examination was accurate. | 23 | 91 | 18 | 4 | 0 | 3.98 | 84% |
| 13. | The situations presented in the examination were realistic. | 31 | 92 | 6 | 7 | 0 | 4.08 | 90% |
| 14. | The questions in the examination reflected the Employment Law Examination blueprint. | 21 | 69 | 36 | 7 | 3 | 3.72 | 66% |
| 15. | The examination was a fair assessment of my ability. | 18 | 59 | 39 | 15 | 5 | 3.51 | 57% |

*Response categories: SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree.

Candidates were asked their opinions regarding several structural variables; these results appear in Table 5 through Table 8. Candidates reported no overall preference between case-based and independent items but a strong preference for 3-option multiple choice items. Most indicated that taking the test on a computer likely improved or had no effect on their performance. Most indicated that access to the legislation was necessary, whether they consulted it a few times or often.

Table 5: Preference regarding independent and case-based items

| | Count | % |
|---|-------|-----|
| I preferred the independent items. | 48 | 35% |
| I preferred the case-based items. | 53 | 39% |
| I had no preference between independent and case-based items. | 35 | 26% |

Table 6: Preference regarding number of response options

| | Count | % |
|---|-------|-----|
| I preferred having 3 options. | 101 | 74% |
| I preferred having 4 options. | 9 | 7% |
| It did not matter to me how many options were used. | 26 | 19% |

Table 7: Preference regarding computer-based testing versus pencil-and-paper

| | Count | % |
|---|-------|-----|
| I feel that completing the examination on a computer improved my performance. | 47 | 35% |
| I feel that completing the examination on a computer decreased my performance. | 11 | 8% |
| I feel that completing the examination on a computer had no effect on my performance. | 78 | 57% |

Table 8: Value of access to legislation

| | Count | % |
|---|-------|-----|
| Yes, it was essential to me in completing the examination. | 47 | 35% |
| Yes, but I only consulted it a few times. | 65 | 48% |
| No, I could not find the answers to questions I had. | 17 | 13% |
| No, I did not need to consult it to complete the examination. | 3 | 2% |
| No, it was more of a distraction than an aid. | 4 | 3% |

An open-ended question was also posed to candidates asking for any additional comments. Those comments were provided to HRP A for information and consideration. Nothing actionable with respect to scoring emerged in these comments.

Initial Analysis

The full CHRL ELE examination was 110 items, of which approximately 100 were to be scored. The other 8–12 items were designated as experimental. However, because only 1 new form was administered, all items were potentially available for scoring and the focus of subsequent item analysis and key validation was on determining the best set of approximately 100 items that still reflected the examination blueprint.

The initial analysis summary statistics are presented in Table 9.

Table 9: Initial examination statistics

| Index | CHRL ELE |
|------------------------|------------------------|
| Items | 110 |
| Total candidates | 144 |
| Candidates in analysis | 125 |
| Mean | 81.8 (74.4%) |
| Range | 59–100 (53.6–90.9%) |
| Standard deviation | 7.01 |
| Cronbach's alpha | .67 |
| Disattenuated alpha | .87 |
| Mean r_{pb}^* | .12 |

Standard classical test theory analysis was conducted to identify the following:

1. Item difficulty (percent obtaining correct result, p)
2. Item discrimination (corrected point-biserials, r_{pb}^*)
3. Distractor quality (based primarily on distractor discrimination)

Wickett compiled these statistics, along with any comments made by candidates concerning flagged items, to identify items that may have been keyed incorrectly or that were performing poorly. Most emphasis was placed on the corrected point-biserials as evidence of item quality, after removing items at the extremes of difficulty. Because of the relatively low variance and sample size, items with marginally negative point-biserials were to be expected and these low values were not necessarily indicative of poor item quality. Items were ranked from worst performing to best performing accordingly.

Key Validation

Key validation was conducted via web meeting on January 20, 2020, using members of the CHRL Examination Validation Committee (EVC). The group (Table 10) was first reminded of the methods used for key validation and was oriented to the main statistics used to evaluate the quality of the CHRL ELE.

Table 10: CHRL Examination Validation Committee – Key validation

| Member | Credential | Years of Relevant Experience | Start on EVC | Industry |
|--------------------|------------|------------------------------|--------------|--|
| Valentin Bachner | CHRL | 20–29 | 2019 | Public service |
| Nadine Bellhouse | CHRL | 15–19 | 2019 | Printing |
| Jennifer Borges | CHRL | 10–14 | 2017 | Manufacturing |
| ✓ Annette Dhanasar | CHRL | 15–19 | 2017 | Technology |
| ✓ Debbie Brandt | CHRL | 10–14 | 2017 | Government and public centre agencies |
| Christine Kelsey | CHRL | 5–9 | 2017 | Entertainment |
| ✓ Jennifer King | CHRL | 20–29 | 2017 | Business and professional services |
| ✓ Karen Pantaleo | CHRL | 20–29 | 2019 | Health care and consulting |
| ✓ Nancy Richard | CHRL | 15–19 | 2017 | Regulation/Public sector |
| ✓ Kristin Rivait | CHRL | 15–19 | 2017 | Health care |
| Lisa Scian | CHRL | 15–19 | 2017 | Information & communication technology |
| Laurie Torno | CHRL | 20–29 | 2018 | Post-secondary education |

✓ Participated in the session.

The group was informed that test reliability, as measured by Cronbach's alpha, was .67 based on the set of 110 potentially scored items and that this was below the generally accepted threshold of .80. The group was reminded that restriction of range attenuates this value. They were also informed that part of the goal of the key validation review was to bring this value up if possible.

The group was walked through the flagged items one at a time, with the recommendation that the worst-performing items be removed from scoring but were given less direction on those with borderline statistics. Where available, candidates' comments about the items were also shown. One item was also flagged for review by the group based solely on candidate comments. The group made decisions based on content and the data through discussion; they removed 10

items that they felt were least appropriate to retain for scoring. Panel members' comments about specific items were recorded for future item revision activities.

Not all remaining items were strong-performing based purely on the statistics, and several items were retained that were very easy or very hard or that had a low corrected point-biserial. Most were moderate to strong items, however. The final alpha for the set of 102 scored items was .70. The difficulties ranged from 22.4% to 98.4%, with a mean of 75.0%. The r_{pb}^* values ranged from $-.12$ to $.34$, with a mean of $.13$.

Table 11 shows the scored CHRL ELE's final fit to the domain weighting. Table 12 shows the same for cognitive level, and Table 13 shows the same for item type. The exam fit on all dimensions.

The group endorsed the final set of items for use in scoring the January 2020 CHRL ELE candidates.

Table 11: Domain fit for final scored items

| Domain | Actual Items | Target Range | Target Items | Variance |
|---|--------------|--------------|--------------|----------|
| A Employment Contracts and Terminations | 43 | 46% ± 5% | 41–51 | — |
| B Employer Obligations | 35 | 33% ± 4% | 29–37 | — |
| C Regulations and Legislation | 22 | 21% ± 3% | 18–24 | — |
| TOTAL | 100 | | 100 | — |

Table 12: Cognitive level fit for final scored items

| Cognitive Level | Actual Items | Target Range | Target Items | Variance |
|-------------------|--------------|--------------|--------------|----------|
| Knowledge | 8 | 10% ± 3% | 7–13 | — |
| Application | 48 | 50% ± 10% | 40–60 | — |
| Critical thinking | 44 | 40% ± 10% | 30–50 | — |
| TOTAL | 100 | | 100 | — |

Table 13: Item type fit for final scored items

| Item Type | Actual Items | Target Range | Target Items | Variance |
|--------------|--------------|--------------|--------------|----------|
| Independent | 26 | 25% ± 3% | 22–28 | — |
| Case | 74 | 75% ± 3% | 72–78 | — |
| TOTAL | 100 | | 100 | — |

Establishing the Pass Mark: Equating

Equating, as per Kolen and Brennan (2014),⁵ was used to establish the pass mark for the January 2020 CHRL ELE. The goal of this process was to set a pass mark for the January 2020 CHRL ELE that would be equivalent to that set for past administrations; that is, to set a pass mark that would give each candidate the same probability of passing regardless of which form they took.

The passing standard for the CHRL ELE was last set after the January 2018 offering of the CHRL ELE using the Modified Angoff and Bookmark methods. Specific information on the standard-setting session is provided in the Technical Report issued for the January 2018 administration.

Two equating procedures were conducted back to different administrations (September 2019 and January 2019). The intention following these equating runs was to average them to arrive at a final pass mark for the January 2020 CHRL ELE.

Equating Back to the September 2019 Administration

Multiple equating methods were considered for setting the pass mark and these analyses were conducted once key validation was complete. Linear equating was the primary method under considering owing to both samples having more than 100 candidates; equipercentile equating would have been considered with more than 1,000 candidates. With candidate samples of fewer than 100, mean or circle arc equating is most prudent.

All candidates in the analysis (i.e., no repeat candidates or outliers) were used in the equating process. Delta-plot analysis was used to identify anchor items showing substantial deviations (generally, although not exclusively, greater than 3 *SD* units) from expected difficulty values, with an emphasis on establishing an anchor set with difficulty equivalent to that of the full form that adhered to the blueprint. Further, items with very high or low difficulty values and those with low corrected point-biserials were also flagged for potential removal from the anchor set. The goal was a strong midi-test (i.e., moderate range of difficulty, moderate to high discrimination, fit to blueprint) of sufficient length to estimate candidate ability.

The selected set of anchor items had a mean difficulty of 0.74 and a mean corrected point-biserial of .15.

Table 14 shows the fit of the set of anchor items to the blueprint, as percentages. The actual counts are well aligned with the targets and reflect the scope and approximate weighting across the full exam.

⁵ Kolen, M.J., & Brennan, R.L. (2014). *Test equating, scaling, and linking*. New York, NY: Springer.

Table 14: Anchor item fit to blueprint

| | Area | Actual | Target |
|----------|---------------------------------------|--------|--------|
| A | Employment Contracts and Terminations | 47% | 46% |
| B | Employer Obligations | 31% | 33% |
| C | Regulations and Legislation | 22% | 21% |

The mean, Tucker, Levine observed-score, circle arc, equipercentile and Braun-Holland methods were computed to ascertain concordance of solutions. Given the sample sizes, similarities of test parameters and lower equating error, the Tucker method was considered the primary method.

Table 15 shows some of the parameters used to derive the equating estimates, along with other parameters describing the test forms. Of note is that on the anchor items, the sample taking the January 2020 CHRL ELE scored modestly better than the sample taking the September 2019 CHRL ELE (74.5% vs. 73.3%, respectively; $t(292)=0.98$, *ns*). Because the January 2020 CHRL ELE candidates were of modestly higher ability (nonsignificance notwithstanding), they should have a modestly higher pass rate.

The equating analysis bears this out, for the most part (Table 16). All methods show a pass mark of 65 or 66, with the recommended solution showing a 66 which leads to a pass rate that is marginally higher than seen in September 2019.

Table 15: Equating parameter table

| | | Sep. 2019 | Jan. 2020 |
|------------|--------------|-----------|-----------|
| | N | 177 | 125 |
| | Scored items | 102 | 100 |
| Mean score | Total | 73.5% | 75.0% |
| | Anchors | 73.3% | 74.5% |

Table 16: Equating outcome table

| Method | Pass Mark | | Pass Rate | |
|--------------------|-----------|---------|-----------|------------|
| | Precise | Integer | All | First Time |
| Equating Sep. 2019 | 64.97 | 65 | 87.5% | 89.3% |
| Tucker | 65.06 | 66 | 86.8% | 89.6% |
| Levine observed | 64.66 | 65 | 89.6% | 92.8% |
| Mean | 64.15 | 65 | 89.6% | 92.8% |
| Circle Arc 1 | 64.27 | 65 | 89.6% | 92.8% |
| Circle Arc 2 | 64.26 | 65 | 89.6% | 92.8% |

Equating Back to the January 2019 Administration

Multiple equating methods were considered for setting the pass mark and these analyses were conducted once key validation was complete. Linear equating was the primary method under considering owing to both samples having more than 100 candidates; equipercentile equating would have been considered with more than 1,000 candidates. With candidate samples of fewer than 100, mean or circle arc equating is most prudent.

All candidates in the analysis (i.e., no repeat candidates or outliers) were used in the equating process. Delta-plot analysis was used to identify anchor items showing substantial deviations (generally, although not exclusively, greater than 3 *SD* units) from expected difficulty values, with an emphasis on establishing an anchor set with difficulty equivalent to that of the full form that adhered to the blueprint. Further, items with very high or low difficulty values and those with low corrected point-biserials were also flagged for potential removal from the anchor set. The goal was a strong midi-test (i.e., moderate range of difficulty, moderate to high discrimination, fit to blueprint) of sufficient length to estimate candidate ability.

The selected set of anchor items had a mean difficulty of 0.75 and a mean corrected point-biserial of .16.

Table 17 shows the fit of the set of anchor items to the blueprint, as percentages. The actual counts are closely aligned with the targets and reflect the scope and approximate weighting across the full exam.

Table 17: Anchor item fit to blueprint

| | Area | Actual | Target |
|----------|---------------------------------------|--------|--------|
| A | Employment Contracts and Terminations | 46% | 46% |
| B | Employer Obligations | 31% | 33% |
| C | Regulations and Legislation | 23% | 21% |

The mean, Tucker, Levine observed-score, circle arc, equipercentile and Braun-Holland methods were computed to ascertain concordance of solutions. Given the sample sizes, similarities of test parameters and lower equating error, Tucker was considered the primary method.

Table 18 shows some of the parameters used to derive the equating estimates, along with other parameters describing the test forms. Of note is that on the anchor items, the sample taking the January 2020 CHRL ELE scored marginally higher than the sample taking the January 2019 CHRL ELE (74.7% vs. 73.5%, respectively; $t(300)=0.95$, *ns*). Because the January 2020 CHRL ELE candidates were of marginally higher ability (nonsignificance notwithstanding), they should have a marginally higher pass rate.

The equating analysis bears this out in general (Table 19). All methods indicate a pass mark of 63–66, with the recommended Tucker method showing a 66 with a modest increase in the pass rate from 85.9% to 89.6%. Note that the lower values for mean and circle arc methods are due to those methods not incorporating variance information which showed differences across administrations.

Table 18: Equating parameter table

| | | Jan. 2019 | Jan. 2020 |
|--------------|---------|-----------|-----------|
| N | | 177 | 125 |
| Scored items | | 98 | 100 |
| Mean score | Total | 73.1% | 75.0% |
| | Anchors | 73.5% | 74.7% |

Table 19: Equating outcome table

| Method | Pass Mark | | Pass Rate | |
|--------------------|-----------|---------|-----------|------------|
| | Precise | Integer | All | First Time |
| Equating Jan. 2019 | 60.74 | 61 | 85.7% | 85.9% |
| Tucker | 65.20 | 66 | 86.8% | 89.6% |
| Levine observed | 64.54 | 65 | 89.6% | 92.8% |
| Mean | 63.24 | 64 | 90.3% | 93.6% |
| Circle Arc 1 | 62.89 | 63 | 93.1% | 96.0% |
| Circle Arc 2 | 62.87 | 63 | 93.1% | 96.0% |

Combined Results

Table 20 shows the pass mark values across the 2 equating runs. The value highlighted in green is the one that would be selected based on sample parameters at each equating run. Overall, the difference between the Tucker values is small, and the optimal solution without clear reason to do otherwise is to take the weighted average across the 2 values (equalling 65.1243 out of 100). Weighting was done by number of anchor items and number of candidates in the previous administration (on the premise that more anchors and more candidates produce a more stable solution). This procedure should serve to lessen the impact of sample-dependent fluctuations.

Using the established convention for this testing program, the mean value would be rounded up to a cut score of 66. The resulting pass rate for first-time candidates (89.6%) is comparable to the values observed on previous administrations, as would be expected barring more extreme changes in candidate performance. It is modestly higher, and this is expected given the higher performance of these candidates on anchor items. The pass rate for all candidates (86.8%) was also similar to that seen in recent administrations. See Table 21 for historical pass rates.

The final pass mark value, and the process used to derive it, was presented to the CHRL EVC (Table 22) via teleconference on February 4, 2020. No concerns were raised regarding the pass mark or pass rate, nor regarding the method used to finalize the value. The panel formally approved the pass mark (which was presented along with the consequent pass rate data) for recommendation to HRP. The HRP Associate Registrar approved the panel's recommendation on the call.

Table 20: Equating outcome table – Combined results

| | Jan. 19 | Sep. 19 |
|-----------------|---------|---------|
| Tucker | 65.2 | 65.1 |
| Levine observed | 64.5 | 64.7 |
| Mean | 63.2 | 64.2 |
| Circle arc 1 | 62.9 | 64.3 |
| Circle arc 2 | 62.9 | 64.3 |

Table 21: Historical pass rates

| | Pass rate | |
|-----------|--------------|--------------|
| | All | First-time |
| Jan. 2017 | 81.1% | 85.2% |
| May | 90.7% | 91.2% |
| Sep. | 88.8% | 91.0% |
| Jan. 2018 | 86.1% | 88.6% |
| May | 78.0% | 82.7% |
| Sep. | 85.7% | 87.4% |
| Jan. 2019 | 85.7% | 85.9% |
| May | 83.5% | 86.0% |
| Sep. | 87.5% | 89.3% |
| Jan. 2020 | 86.8% | 89.6% |

Table 22: CHRL Examination Validation Committee – Pass mark approval

| Member | Credential | Years of Relevant Experience | Start on EVC | Industry |
|-------------------|------------|------------------------------|--------------|--|
| Valentin Bachner | CHRL | 20–29 | 2019 | Public service |
| ✓Nadine Bellhouse | CHRL | 15–19 | 2019 | Printing |
| ✓Jennifer Borges | CHRL | 10–14 | 2017 | Manufacturing |
| ✓Annette Dhanasar | CHRL | 15–19 | 2017 | Technology |
| Debbie Brandt | CHRL | 10–14 | 2017 | Government and public centre agencies |
| Christine Kelsey | CHRL | 5–9 | 2017 | Entertainment |
| ✓Jennifer King | CHRL | 20–29 | 2017 | Business and professional services |
| Karen Pantaleo | CHRL | 20–29 | 2019 | Health care and consulting |
| ✓Nancy Richard | CHRL | 15–19 | 2017 | Regulation/Public sector |
| Kristin Rivait | CHRL | 15–19 | 2017 | Health care |
| ✓Lisa Scian | CHRL | 15–19 | 2017 | Information & communication technology |
| Laurie Torno | CHRL | 20–29 | 2018 | Post-secondary education |

✓ Participated in the session.

Scoring

To finalize the scoring, candidates who were not included in the item and form analyses were reinserted into the dataset. One candidate who wrote the exam on paper due to an administration issue was added to the data at this point in the process (received late due to mailing time). Scores for each of the 3 domain areas were also computed for each candidate. An Excel file with the final candidate results was provided to HRP.

Table 23 provides the means and standard deviations for the domains and for the total score, using all candidates who took the January 2020 CHRL ELE. Table 24 provides the correlations between each domain. Caution should be exercised in interpreting differences between correlations. Variation can be explained largely by the number of items making up each domain score. Figure 3 shows the distribution of scores for all candidates, along with the pass mark.

Table 23: Total and domain scores for all candidates

| Domain | Percentage | Mean | SD* |
|---|--------------|-------------|------------|
| A Employment Contracts and Terminations | 74% | 31.9 | 3.8 |
| B Employer Obligations | 76% | 26.5 | 3.3 |
| C Regulations and Legislation | 72% | 15.8 | 2.3 |
| Total score | 74.1% | 74.1 | 7.5 |

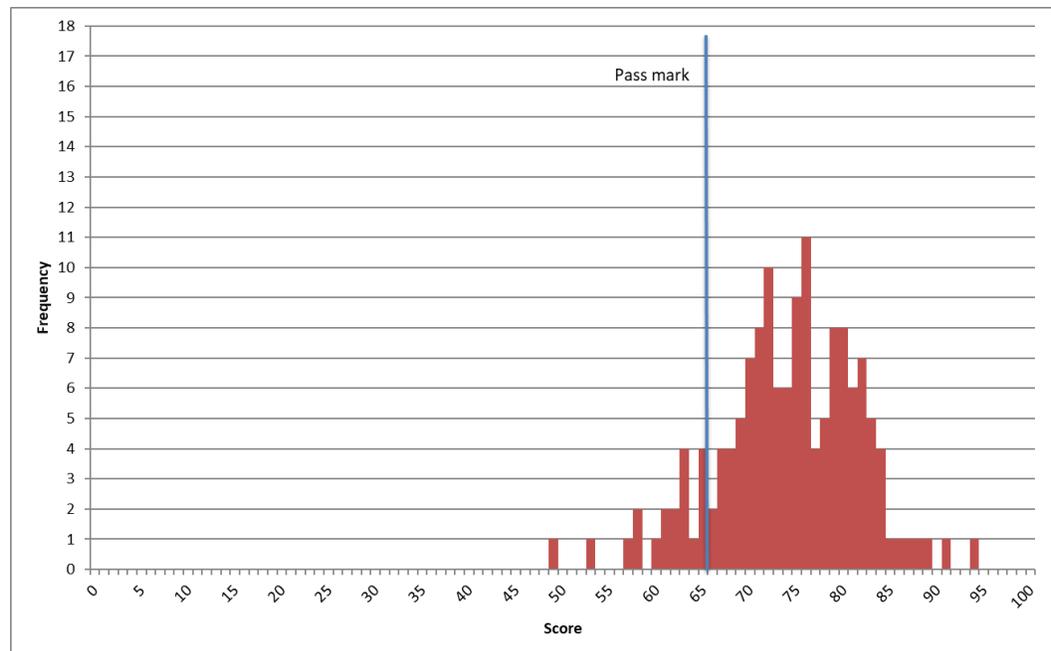
*SD = Standard deviation.

Table 24: Correlations between functional area scores for all candidates

| Domain* | A | B | C |
|---------|---|-----|-----|
| A | | .54 | .41 |
| B | | | .28 |
| C | | | |

*See Table 23 for the full name of each functional area.

Figure 3: Score distribution for all candidates



Key Examination Metrics

Table 25 shows the key examination metrics for candidates included in the main analysis; that is, only first-time candidates, with outliers removed. Past metrics are provided for reference.

Table 25: Key examination metrics – Candidates included in analysis only

| Index | January 2020 | September 2019 | May 2019 | January 2019 | September 2018 |
|--|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Scored items | 100 | 102 | 98 | 98 | 99 |
| Candidates | 125 | 169 | 178 | 177 | 167 ^{iv} |
| Mean | 75.0 (75.0%) | 75.0 (73.5%) | 73.1 (74.6%) | 71.7 (73.1%) | 73.5 (74.2%) |
| Median | 75 (75.0%) | 76 (74.5%) | 74 (75.5%) | 73 (74.5%) | 75 (75.8%) |
| Skewness | -0.261 | -0.595 | -0.421 | -0.469 | -0.446 |
| Kurtosis | 0.274 | 0.486 | 0.258 | -0.212 | -0.584 |
| Range | 53–94 (53.0– 94.0%) | 50–92 (49.0– 90.2%) | 47–91 (48.0– 92.9%) | 46–90 (46.9– 91.8%) | 53–89 (53.5– 89.9%) |
| Standard deviation | 7.12 | 8.11 | 8.20 | 9.20 | 7.65 |
| Cronbach's alpha | .70 | .75 | .78 | .82 | .75 |
| Mean r_{pb}^* | .13 | .15 | .17 | .19 | .15 |
| SEM ⁱ | 3.90 | 4.02 | 3.89 | 3.90 | 3.85 |
| SEM at the pass mark | 4.35 | 4.46 | 4.35 | 4.37 | 4.28 |
| Decision consistency (uncorrected) ⁱⁱ | .88 | .91 | .89 | .91 | .88 |
| Perceived fairness ⁱⁱⁱ | 57% | 59% | 57% | 53% | 52% |
| Pass mark | 65.124 | 64.974 | 63.379 | 60.745 | 63.859 |
| Effective pass mark | 66 | 65 | 64 | 61 | 64 |
| Pass rate | 89.6% | 89.3% | 86.0% | 85.9% | 87.4% |

ⁱSEM = standard error of measurement.

ⁱⁱSubkoviac method.

ⁱⁱⁱBased on responses to the post-examination survey for all candidates.

^{iv}The original September 2018 analysis was run with one candidate missing from the data set. That candidate has subsequently been added back in.

Related Development Activities

Since the last administration of the CHRL ELE in September 2019, the following exam development activities have taken place.

Validation

To renew the validation of items expiring from usability, a validation session was held with the EVC (see Table 26) at the HRPAs offices on November 5–6, 2019. During these 2 days, CKE 2 items were also validated, and that portion of the validation activity is reported in the technical report for that examination.

Table 26: CHRL Examination Validation Committee members – Validation

| Member | Credential | Years of Relevant Experience | Start on EVC | Industry |
|--------------------|------------|------------------------------|--------------|--|
| ✓ Jennifer Borges | CHRL | 10–14 | 2017 | Manufacturing |
| ✓ Annette Dhanasar | CHRL | 15–19 | 2017 | Technology |
| ✓ Debbie Hynes | CHRL | 10–14 | 2017 | Government and public centre agencies |
| ✓ Christine Kelsey | CHRL | 5–9 | 2017 | Entertainment |
| ✓ Jennifer King | CHRL | 20–29 | 2017 | Business and professional services |
| ✓ Nancy Richard | CHRL | 15–19 | 2017 | Regulation/Public sector |
| ✓ Kristin Rivait | CHRL | 15–19 | 2017 | Health care |
| ✓ Lisa Scian | CHRL | 15–19 | 2017 | Information & communication technology |
| ✓ Laurie Torno | CHRL | 20–29 | 2018 | Post-secondary education |

✓ Participated in the session.

The EVC members received advance materials outlining:

- Purpose of the session
- Description of the CHRL credential
- CHRL ELE blueprint
- Criteria for good test items
- Validation process

The committee members received refresh training on the validation activity, and then worked primarily individually reviewing items to make sure they reflected current practice and were suitable to make decisions about who should receive the CHRL credential. Where committee members proposed changes, these were discussed by the group before implementation.

For each item, the committee was asked to either:

- Validate the item for use in the next two years to make decisions about who would be certified as CHRL
- Move the item to the CHRP ELE bank
- Revise the item to make it suitable for use
- Declare the item unsound and send it back for revision or removal from the bank

The bulk of the session saw the committee members reviewing items independently and submitting their assessments in blocks of approximately 15–20 items. Those assessments were tabulated and any items that were not validated as is by the full committee were discussed until there was agreement on changes and the future use of the item.

The committee validated 46 items and 6 case texts as suitable for the CHRL ELE, rejected 1 item, and shifted 1 item for eligibility in the CHRP ELE bank. Nine items were revised prior to validation as part of this exercise. The committee also verified the topic and cognitive level for all items, and added rationales and references where missing, incomplete, or not current.

Item Revision

To fill gaps in the bank and renew content, item revision was conducted in November–December 2019. The purpose of this activity was primarily to revise individual items in case sets so that they would be usable on future exam forms and to add items to case sets where there was an insufficient number of items. A past item writer (see Table 27) was identified by HRP A and trained in a remote session by Wickett on November 11, 2019 (note that 2 past item writers were contracted to complete this activity but 1 did not start work after the training activity). Items written and revised in this process were considered eligible for both the CHRP ELE and the CHRL ELE.

Table 27: Item reviser

| Writer | Credentials | Years of Relevant Experience | Industry |
|---------------|------------------|--|---------------------------|
| Gail Lawrence | CHRL, MSc.Mgt | 15 years teaching in HR, 25 years HR consulting | Profit and Not for Profit |

The item reviser was provided with training via teleconference, and received printable files covering the main elements of the training. The general guidance for writing quality multiple choice items was drawn primarily from Haladyna & Rodriguez (2013).⁶

⁶ Haladyna, T. M., & Rodriguez, M.C. (2013). *Developing and validating test items*. New York, NY: Routledge.

The item reviser had access to the style guide that governs language usage on the HRPAs exams and was provided with recent textbooks and HR legislation as necessary. The item reviser was required to include at least one authoritative source to back up each test item, and also provide rationales for the correct and incorrect answers.

The item reviser worked remotely, sending items to Wickett for review and comment via a secure file share site. Items were exchanged until such time as the item reviser was comfortable with the content and Wickett was comfortable that the item would be successful at review, validation and upon use with candidates. This generally required several iterations per item.

At the end of the process, 144 items and case texts were revised or created. A further 13 items were reviewed but declared unusable on the ELE.

Once all items were finalized, they were sent a certified professional editor for editorial review. Items were adjusted based on this input and comments noted if future reviewers would need to attend to specific content concerns.

Item Review

Following the item revision exercise in November–December 2019 there was need for group review of those items before moving them to formal validation and use on the CHRL ELE. The group had 273 items and case texts for consideration (taken from newly revised items, supplemented with other unreviewed items in the bank and items requiring revision required to fill gaps in the bank). Note that 108 previously validated items were also shown to reviewers if those items were part of a full case set. Though those items were not formally up for review, the group was able to make changes if deemed necessary. The group was not expected to be able to review all items in the time available. Items reviewed in this process were considered eligible for both the CHRP ELE and the CHRL ELE.

The 2½-day review session was held January 14–16, 2020 at HRPAs offices. The panel members who participated are shown in Table 28.

Table 28: Panel for item review session

| Reviewer | Credentials | Years of Relevant Experience | Industry |
|------------------|--------------------|------------------------------|------------------------|
| Janet Brooks | CHRL, CHRE, MBA | 40 | Consulting |
| Graham Craig | CHRL | 33 | Consulting |
| Tanya Dacres | CHRL | 18 | Marketing/Technology |
| Lolita Holden | CHRL | 24 | Regulation, Consulting |
| Lorri Kennis | CHRL | 38 | Health care |
| Heather McCarthy | CHRL | 12 | Financial |
| Michelle Sultan | CHRL | 15 | Private sector |

The panel members received training on the review activity and context on the intent of the CHRP ELE and CHRL ELE. For the newly revised and written items, the members worked primarily individually reviewing items to make sure they reflected current practice. Where panel members proposed changes, these were discussed by the group before implementation. For the items with statistical history or comments from past panels on quality, those items were reviewed as a group with input from Wickett on the nature of the issue with the item and guidance on what type of revision may be helpful to improving the effectiveness of the item. The group formulated and approved changes to these items.

The panel members reviewed and approved 169 items and case texts as suitable for the CHRP ELE and CHRL ELE and rejected 12 items. Of the approved ELE items and case texts, 61 saw text changes to the stem and/or options before approval.

The group reported confidence in the final assessments made by the group and satisfaction overall with the session.

The items were updated in the bank, and those that were approved were deemed ready for validation before use on future examinations.

Appendix

Blueprint

CHRL Employment Law Examination Blueprint

Human Resources Professionals Association

Version 2.0

Approved by CHRL Exam Validation Committee March 13, 2018

Approved by HRP A Registrar March 14, 2018

Effective September 2018 administration

Credential

Passing the CHRL Employment Law Examination is a requirement for certification of CHRL candidates.

Purpose

The CHRL ELE assesses whether a candidate has the ability to make effective decisions when presented with HR situations where comprehension of laws and regulations is centrally relevant, at the CHRL level, in Ontario.

Structure

The structural variables provide high level guidance as to what the examination will look like. These appear in Table 29.

Table 29: Employment Law Examination Blueprint Structural Variables

| | |
|---------------|--|
| Item types | 75% Case-based 3-option multiple choice (15-20 single scenarios tied to 4-6 test items each) |
| | 25% Independent 3-option multiple choice |
| Length | 110 total items |
| | 8–12 experimental items |
| Duration | Up to 3½ hours |
| Delivery mode | Computer based testing in proctored test centres |
| Frequency | 3 windows per year |

Content Weighting

The topic weights were set through a survey of employment lawyers on the most typical situations where employment-related issues are escalated to legal proceedings.

Categories are:

- A. Employment Contracts
- B. Employer Obligations
- C. Regulations and Legislation

Within each Category, the Topics are:

- A. Employment Contracts
 - A1 Termination
 - A2 Contracts
 - A3 Employee Benefits and Perquisites
- B. Employer Obligations
 - B1 Duty to Accommodate
 - B2 Misconduct in the Workplace
 - B3 Common Law
 - B4 Sale of Business
- C. Regulations and Legislation
 - C1 Employment Standards Act
 - C2 Occupational Health and Safety Act
 - C3 Jurisdiction
 - C4 Pay Equity Act
 - C5 Canada Labour Code

The full blueprinted list of Categories, Topics and Subtopics, along with their weighting, appears in Table 30.

Table 30: Employment Law Examination Blueprint Content Weights

| Category Weight | Topic Weight | Topic | Subtopic Weight |
|-----------------|--------------|---|-----------------|
| 46% | A. | Employment Contracts and Terminations | |
| | 28% | A1. Termination | |
| | | A1.1 Termination with or without cause | 8% |
| | | A1.2 Termination pay, termination notice, and pay in lieu of notice | 6% |
| | | A1.3 Continuation of benefits to employee after termination | 5% |
| | | A1.4 Severance pay entitlements | 5% |
| | | A1.5 What type of income is considered part of terminated employee's salary | 2% |
| | | A1.6 Whether or not it is legal to lay off an employee | 1% |
| | | A1.7 When and how to lay off an employee | 1% |
| | 11% | A2. Contracts | |
| | | A2.1 Contracts and employment agreements | 9% |
| | | A2.2 Collective bargaining contracts | 2% |
| | 7% | A3. Employee Benefits and Perquisites | |
| | | A3.1 Vacation time, vacation pay and bonuses | 5% |
| | | A3.2 Overtime exemptions | 2% |
| 33% | B. | Employer Obligations | |
| | 16% | B1. Duty to Accommodate | |
| | | B1.1 Mental health or physical disabilities | 9% |
| | | B1.2 Discriminatory grounds (such as family status, age, marital status, etc.) | 5% |
| | | B1.3 The duty to accommodate until undue hardship (the threshold) | 2% |
| | 9% | B2. Misconduct in the Workplace | |
| | | B2.1 Dealing with harassment and violence in the workplace | 5% |
| | | B2.2 HR professional approach to dealing with discipline | 2% |
| | | B2.3 Workplace investigations | 2% |
| | 6% | B3. Common Law | |
| | | B3.1 Including consideration of Common Law principles | 5% |
| | | B3.2 Employers' obligations under Common Law | 1% |
| | 2% | B4. Sale of Business | |
| | | B4.1 The effects of the sale of the business | 2% |
| 21% | C. | Regulations and Legislation | |
| | 10% | C1. Employment Standards Act | |
| | | C1.1 How to properly interpret the <i>Employment Standards Act, 2000</i> | 5% |
| | | C1.2 Probation period under <i>Employment Standards Act, 2000</i> | 2% |
| | | C1.3 Different leaves permitted under the <i>Employment Standards Act, 2000</i> | 2% |
| | | C1.4 Employers' obligations under <i>Employment Standards Act, 2000</i> | 1% |

| | | |
|-----------|--|----|
| 4% | C2. Occupational Health and Safety Act | |
| | C2.1 Making policies that are compliant with the <i>Occupational Health and Safety Act, 1990</i> | 2% |
| | C2.2 Ministry of Labour's rights under the <i>Occupational Health and Safety Act, 1990</i> | 2% |
| 4% | C3. Jurisdiction | |
| | C3.1 The difference between federal and provincial legislations | 2% |
| | C3.2 Determining governing legislation when the organization is interprovincial | 2% |
| 2% | C4. Pay Equity Act | |
| | C4.1 Application of <i>Pay Equity Act, 1990</i> | 2% |
| 1% | C5. Canada Labour Code | |
| | C5.1 Employers' obligations under <i>Canada Labour Code, 1985</i> | 1% |

Note: Reasonable ranges around the Topic weights are employed.

Cognitive Level

The cognitive level weights are based on Bloom's taxonomy. The purpose of this weighting is generally to ensure that an examination does not unintentionally over-focus on specific types of items, and to provide candidates with a range of items (in approximate proportion) that reflects the cognitive operations they must apply on the job. The weights appear in Table 31.

Table 31: CHRL Employment Law Examination Blueprint Cognitive Level Weights

| Level | Weight | Range |
|-------------------|--------|---------|
| Knowledge | 10% | +/- 3% |
| Application | 50% | +/- 10% |
| Critical Thinking | 40% | +/- 10% |

Miscellaneous Guidance

Guidance is not considered binding on the examination, but is used in item development and form development to help create balanced forms.

1. Where scenarios or test items include a workplace, the workplace allocation will be as follows:
 - a. For profit enterprise, 60% (+/- 10%)
 - b. Government, 20% (+/- 5%)
 - c. Not-for-profit, 20% (+/- 5%)
2. 20% (+/- 10%) of workplaces mentioned in scenarios and test items will be unionized.
3. 10% (+/- 5%) of employers mentioned in scenarios and test items will have physical locations in more than one Canadian province.
4. 10% (+/- 5%) of employers mentioned in scenarios and test items will have physical locations both inside and outside of Canada.