Appendix Working Case Lenext 2: Tables 3 and 6

This section includes the calculations of the **wa** for each level of the set of intervals in Lenext 2 *last course accredited*. Two histograms are presented, one showing the frequency of the number of students placed in each level, and another for the CI of the **wa.** The last part of the section describes the calculations of the **wa** that corresponds to the set of courses 1A to 4 and to the set of courses 1A to 6.
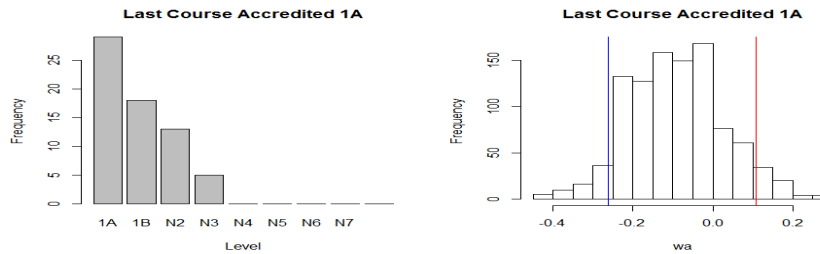
Last course accredited: 1A

Figure A1. Number of students per level and histogram of **wa,** 1A.

$$wa = \frac{0(-2) + 29(-1) + 18(0) + 13(1) + 5(2)}{65} = -0.09$$

The graph shows a histogram with the weighted average of all 1000 samples. The 90% confidence interval is built with the percentiles 5 and 95, (-0.27, 0.09) which is marked with the vertical lines. Each time that a new 1,000 sample is generated, a new confidence interval will be obtained, but it will be approximately equal.
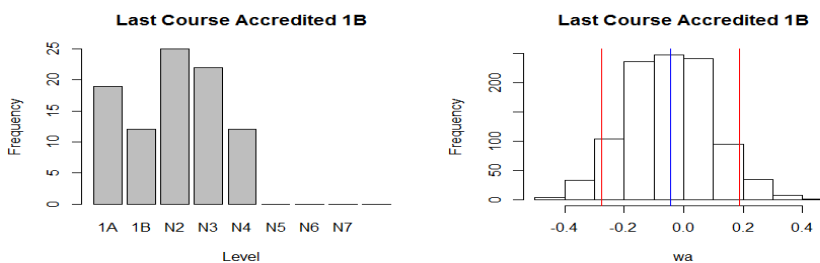
Last course accredited: 1B

Figure A2. Number of students per level and histogram of **wa**, 1B.

$$wa = \frac{19(-2) + 12(-1) + 25(0) + 22(1) + 12(2)}{90} = -0.04$$

The graph shows a histogram with the weighted average of all 1000 samples. The 90% confidence interval is built with the percentiles 5 and 95, (-0.26, 0.17) which is marked with the vertical lines.
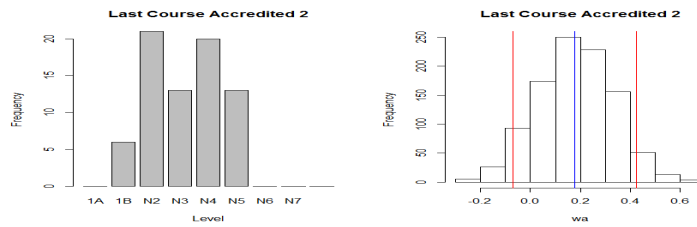
Last course accredited: 2

Figure A3. Number of students per level and histogram of **wa,** 2.

$$wa = \frac{6(-2) + 21(-1) + 13(0) + 20(1) + 13(2)}{73} = 0.17$$

The graph shows a histogram with the weighted average of all 1,000 samples. The 90% confidence interval is built with the percentiles 5 and 95, (-0.08, 0.41) which is marked with the vertical lines.
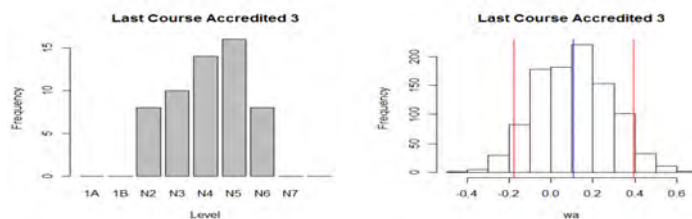
Last course accredited: 3

Figure A4. Number of students per level and histogram of **wa,** 3.

$$wa = \frac{8(-2) + 10(-1) + 14(0) + 16(1) + 8(2)}{56} = 0.10$$

The graph shows a histogram with the weighted average of all 1,000 samples. The 90% confidence interval is built with the percentiles 5 and 95, (-0.16, 0.37) which is marked with the vertical lines.
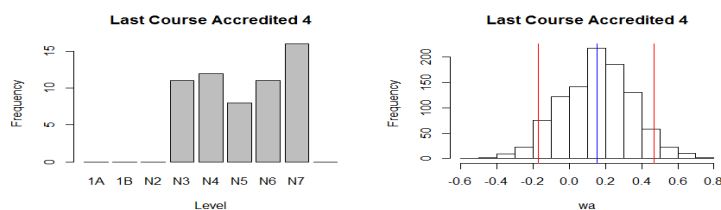
Last course accredited: 4

Figure A5. Number of students per level and histogram of **wa**, 4.

$$wa = \frac{11(-2) + 12(-1) + 8(0) + 11(1) + 16(2)}{58} = 0.15$$

The graph shows a histogram with the weighted average of all 1,000 samples. The 90% confidence interval is built with the percentiles 5 and 95, (-0.17, 0.46) which is marked with the vertical lines.
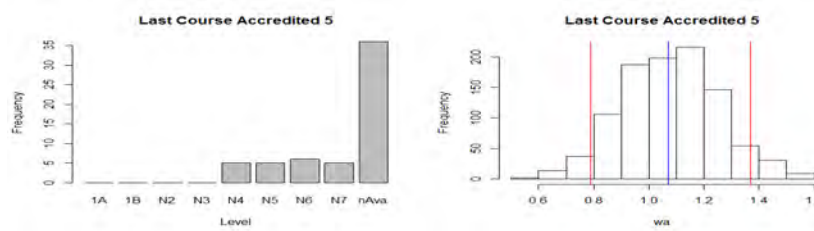
Last course accredited: 5

Figure A6. Number of students per level and histogram of **wa**, 5.

$$wa = \frac{5(-2) + 5(-1) + 6(0) + 5(1) + 36(2)}{57} = 1.09$$

The graph shows a histogram with the weighted average of all 1,000 samples. The 90% confidence interval is built with the percentiles 5 and 95, (0.79, 1.38) which is marked with the vertical lines. Note that this CI does not contain the number zero.
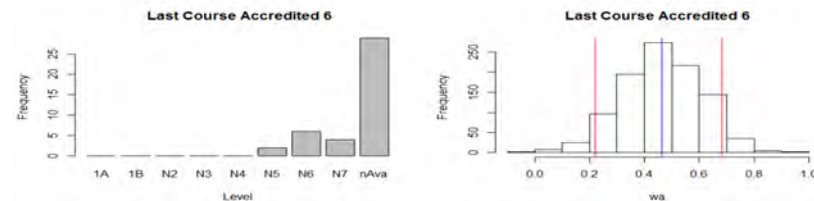
Last course accredited: 6

Figure A7. Number of students per level and histogram of **wa,** 6.

$$wa = \frac{2(-2) + 6(-1) + 4(0) + 29(1) + 0(2)}{41} = 0.46$$

The graph shows a histogram with the weighted average of all 1,000 samples. The 90% confidence interval is built with the percentiles 5 and 95, (0.22, 0.68) which is marked with the vertical lines. Note that this CI does not contain the number zero.

Weighted average for levels from 1A to 4 and for 1A to 6

Calculations of the **wa** that correspond to the set of courses 1A to 4 and to the set of courses 1A to 6 are presented in this section. The first set corresponds to level 4 which is mandatory for degree attainment for any student enrolled in a program of study at the University of Sonora. The second set corresponds to the course levels of the General English Program in the Foreign Language Department.

Last course accredited	1A	1B	2	3	4	5	6
Number of students	65	90	73	56	58	57	41

Table A1. Lenext 2 and number of students for last course accredited.

$$wa(1A - 4) = \frac{65(-0.09) + 90(-0.04) + 73(0.17) + 56(0.10) + 58(0.15)}{342} = 0.05$$

$$wa(1A - 6) = \frac{65(-0.09) + 90(-0.04) + 73(0.17) + 56(0.10) + 58(0.15) + 57(1.08) + 41(0.46)}{440} = 0.22$$