

تأثير مستوى العبء المعرفي لفقرات اختبار الرياضيات للصف الثامن على خصائص الفقرة وأداء الطلبة.

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المُلخص

هَدَفَتْ هذه الدَّرَاسَةُ التَّعْرُفَ تأثيرِ مستوى العبءِ المَعْرِفِيِّ لِفِقْرَاتِ اِخْتِبَارِ الرِّيَاضِيَّاتِ لِلصَّفِّ الثَّامِنِ على خِصَائِصِ الفِقْرَةِ وَأَدَاءِ الطَّلِبَةِ، وَاِعْتَمَدَتِ الدَّرَاسَةُ المُنْهَجَ الوِصْفِيَّ الِارْتِبَاطِيَّ، وَتَمَّ بِنَاءُ اِخْتِبَارِ تَحْصِيلِي فِي الرِّيَاضِيَّاتِ عِدَدَ فِقْرَاتِهِ (11) فِقْرَةً مِنْ نَوْعِ حُلِّ المَشْكَلاتِ وَتَتَاوَلَّتْ عَيِّنَةُ الدَّرَاسَةِ (214) طَالِباً وَطَالِبَةً مِنْ مَدَارِسِ لُؤَاءِ الجَامِعَةِ. وَقَدْ أَظْهَرَتْ نَتَائِجُ الدَّرَاسَةِ عِدمَ وَجُودِ فُرُوقِ ذَاتِ دِلَالَةٍ إِحْصَائِيَّةٍ عِنْدَ مُسْتَوَى (0.05 ≤ α) فِي مُعَامَلَاتِ الصُّعُوبَةِ وَالتَّمْيِيزِ لِفِقْرَاتِ اِخْتِبَارِ الرِّيَاضِيَّاتِ لِلصَّفِّ الثَّامِنِ ، بَيْنَمَا وَجَدَتْ فُرُوقَ دَالَةٍ إِحْصَائِيَّةٍ بَيْنَ المَتَوَسَّطَاتِ الحِسَابِيَّةِ لِلتَّحْصِيلِ بِاِخْتِلَافِ مُسْتَوَى العِبءِ المَعْرِفِيِّ وَكَانَتْ الفُرُوقُ لِصَالِحِ العِبءِ المَعْرِفِيِّ المُتَوَسَّطِ وَالمُنخَفِضِ. وَلَمْ تَوْجَدِ فُرُوقَ ذَاتِ دِلَالَةٍ إِحْصَائِيَّةٍ بَيْنَ المَتَوَسَّطَاتِ الحِسَابِيَّةِ لِتَحْصِيلِ الطَّلِبَةِ فِي مَادَةِ الرِّيَاضِيَّاتِ تَعزَى لِمتغِيرِ جِنسِ الطَّالِبِ. وَفِي ضَوْءِ النُّتَائِجِ الَّتِي تَمَّ التَّوَصُّلُ إِلَيْهَا أُوصِيَتِ الدَّرَاسَةُ بِضَرُورَةِ الإِهْتِمَامِ بِخَفْضِ مُسْتَوَى العِبءِ المَعْرِفِيِّ لَدَى الطَّلِبَةِ أَثْنَاءَ عَمَلِيَّتِي التَّعَلُّمِ وَالتَّعْلِيمِ لِيَتَمَّ اسْتِثْمَارُ الجُهدِ المَبْذُولِ فِي التَّعَلُّمِ عَلَى أَفْضَلِ نَحْوٍ مُمَكِّنٍ، وَتَوْفِيرُ بَرَامِجٍ مِهْنِيَّةٍ لِمُعَلِّمِي الرِّيَاضِيَّاتِ حَوْلَ كَيْفِيَّةِ تَهْيِئَةِ البِيئَةِ التَّعْلِيمِيَّةِ الدَّاعِمَةِ وَخَفْضِ مُسْتَوَى العِبءِ المَعْرِفِيِّ لَدَى طُلُوبَةِ المَرْحَلَةِ الأَسَاسِيَّةِ العُلْيَا.

الكلمات المفتاحية: العبء المعرفي ، خصائص الفقرة، التحصيل الدراسي، معامل الصعوبة والتميز.

The Cognitive Load Impact of Eighth Grade Math Test items on Item Properties and Students' Performance.

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Summary

This study aimed at identifying the impact of the level of cognitive burden of math tests for eighth grade on the characteristics of the poor and the performance of the request. The study adopted the associated descriptive approach, and a math test was built with 11 paragraphs of the problem-solving type and examined 214 students from schools in the General Assembly. The results of the study showed that there were no statistically significant differences at the level of (0.05) in the difficulty and distinction coefficients of the math test for the eighth grade, while statistically significant differences were found between the statistical averages of achievement at different levels of the knowledge burden and differences to the medium and low cognitive load. There were no statistically significant differences between the computational averages of students' math intake due to the student's gender variable. In light of the results reached, the study recommended the need to pay attention to reducing the level of cognitive load among students during the learning and teaching processes so that the effort expended in learning is invested in the best possible way. Providing professional programs for mathematics teachers on how to create a supportive educational environment and reduce the level of cognitive load among middle school students.

Keywords: cognitive load, paragraph characteristics, academic achievement, difficulty, and excellence coefficient.