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ORIGINAL TITLE	The Effects of early clinical training on cognitive ability in anatomy and physiology
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ABSTRACT	<p>The main objectives of the study were to determine the effect of early clinical training on the acquisition of cognitive abilities in structure and function of (selected parts of) the human body and on the development of perceptual motor (clinical) skills. Clinical training was provided under controlled conditions to three stratified and randomly matched groups in respect of three instructional topics (cardiovascular, respiratory and nervous systems). For each system, one group had clinical training before the lectures, another had clinical training after the lectures, whilst a third group was exposed to lectures only on that system. The groups were randomised in respect of the instructional method for the three systems. The results show that, in respect of cognitive ability the groups which received clinical training before the lectures, performed significantly better than the group which received lectures only. Two of the three groups which received clinical training after the lectures performed significantly better than the lecture only group. There was no significant difference between the groups which received clinical training though the mean scores of the group that received clinical training before the lectures was higher than the group which received the clinical training after the lectures. With respect to the development of perceptual-motor (clinical) skills the groups that received clinical training performed significantly ($p < 0.001$) better than the control I (lecture only) group. There was no significant difference between the groups which received the clinical training, though the groups which received the training after the lectures had mean scores above that of the group which received the training before lectures. The other purpose of the study was to determine the effects on short and long term retention the former being evaluated immediately after instruction and the latter three months after the conclusion of experimental treatment. With respect to short term retention in cognitive ability all groups showed significant gains ($p < 0.01$) after instruction, on all three system, With regard to long- term retention there were slight gains in cognitive ability in respect of the cardiovascular and respiratory systems, with a slight drop in knowledge in respect of the nervous system. Where perceptual-motor skills were concerned lecture only (control.) groups showed mean score gains over their first performance though their performances were always significantly poorer than the clinically trained groups Adequate long-term retention of skills was observed in the clinically trained groups - there being</p>

no significant change in four of the six groups, over the three month period. One group however recorded significant drops in mean scores ($p < 0.05$) on two occasions with regard to prediction of performance, the result: revealed that post instructional scores cannot reliably be predicted from pre-instructional score in respect of cognitive ability. However, on re-test three months after the post-instructional tests reliable predictions of scores could be made in respect in cognitive ability in the cardiovascular but not of the nervous system. Scores on a second clinical test (three months after the first) cannot be reliably predicted from scores on the first test. The overall analysis revealed that probably about 28 percent of the variance in cognitive ability can be attributed to clinical training while the training would explain nearly 85percent of the variance in respect of perceptual-motor (clinical) skills .