

Effect of Using Concept Maps on Learning Some Integration Skills in Football

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Abstract: This study aimed to mason concept maps strategy to identify its effect on learning of some integration skills in football. This study was carried on sample of 40 students in second grade, Faculty of Physical Education, Menoufiya University in 2010/2011. The two researchers used the experimental method using the experimental design for two groups: the experimental group used concept maps strategy in football during teaching (n=20). The control group used the traditional method in teaching (n=20) with pre and post-measurements to both of the two groups. The experimental work was carried out through 12 weeks, once a week for 90 minutes (unit time). The results of statistical analysis referred that concept maps strategy in football has more effective and positive influence on learning comparing with the traditional method in teaching of football. It's recommended to use concept maps strategy during learning or teaching. It has a positive effect on learning of some integration skills under research in football.

Key words: Concept maps • Integration skills • Football

INTRODUCTION

Modern trends in teaching methods claim to be away from the traditional methods like explanation and show and to adopt new methods in which the student relies on himself to gain the knowledge, experiences and information needed. This development includes the search for new teaching methods to advance the process of learning in order to reach the best levels [1, 2].

The current age, we live the globalization and knowledge explosion age that due to the appearance of new teaching methods. Other technologies and strategies that we can't expect now will appear soon [3].

There is a huge amount of scientific knowledge of existing curriculums. Curriculums content, lack of coherence and organization, which negatively affects the extent of benefit from it to reach the desired purposes [4].

Concept maps are a way to develop logical thinking and study skills, by revealing connections and helping students see how individual ideas form a larger whole. A concept map is a way of representing relationships between ideas, images or words [5].

A concept map is a diagram showing the relationships among concepts. It is a graphical tool for organizing and representing knowledge. Concepts, usually represented as boxes or circles, are connected with labeled arrows in a downward-branching hierarchical structure [6].

The technique of concept mapping was developed by Novak [7] and his research team at Cornell University as a means of representing the emerging science knowledge of students. It has subsequently been used as a tool to increase meaningful learning in the sciences and other subjects as well as to represent the expert knowledge of individuals and teams in education, government and business. Concept maps have their origin in the learning movement called constructivism. In particular, constructivists hold that learners actively construct knowledge [8, 9].

Researchers used the concept maps strategy with great efforts aimed to use the modern technologies and employing them in education field. The current thoughts desire, according to these technologies, to propose the educational material according to the modern philosophies [10, 11].

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Validity: True differentiation between the two groups (stellar or excellent group and non stellar or non excellent group). Range values between 2.18 and 2.95 (value of spreadsheet at the level of significance $0.05 = 1.78$) which shows the validity of the determined tests under research.

Reliability: Reliability coefficient was calculated by using the method of tests application and the re-applied (test- retest or first application and second application). The values ranged between 0.588 and 0.851 (the value of spreadsheet at the level of significance $0.05 = 0.475$) which shows the reliability of the determined tests under research of the pilot study.

MATERIALS AND METHODS

This study has been carried out on a sample of 40 students of second grade in the Faculty of Physical Education, Menoufiya University for the academic year 2010/2011.

The sample has been divided into two groups. The first group (experimental group) used concept maps strategy in football during teaching ($n=20$), the second group (control or traditional group) used the traditional method in teaching ($n=20$). Skilful tests have been used. These tests were in number repertoires [12, 13]. The work was performed through 12 weeks, once a week and the teaching unit was 90 minutes.

Application and Implementation

The Experimental Group (First Group): Teaching by concept maps strategy in football from data show for 90 minutes.

The Control Group (Second Group): Teaching by traditional method for 90 minutes.

Measurements of the Baseline Study Sample

Homogeneity: Homogeneity was calculated (mean, median, std. deviation and skewness) of variables age, height, weight and skilful tests under research in football. The values of homogeneity ranged between 2.248 and 1.984, which shows the matching of the research sample.

Parity: Parity was calculated between experimental group and control group (mean, std. deviation and t.test values) of variables age, height, weight and skilful tests under research in football. The values of parity (values of T.test) ranged between 0.94 and 1.98 (value of "t" spreadsheet at

the level of significance $0.05 = 2.04$) which shows the parity of the research sample in the measurements tribal research.

Statistical Analysis: Researchers used the Statistical Package for the Social Science (SPSS / PC) for a statistical treatment: Mean, Std. Deviation (+/- SD), Median, Skewness and Correlation Coefficient. Comparisons between initial (pre) and final (post) measurement in each group were analyzed by t test.

RESULTS AND DISCUSSION

The average pre and post measurement was calculated for each group by using T.test in skilful tests under research in football. The values of T.test ranged between 5.024 and 7.376 (value of "t" spreadsheet at the level of significance $0.05 = 2.09$, one group, 2-tailed) and there was improve in average final (post) measurement of the research sample each group in tests under research.

Average Pre-post Measurements of Control Group in Favor of Post Measurements: Improving in the tests under research implementation in this group. This was because of depending on traditional method in teaching with the continuous feedback by teacher and consequently developing the students with feedback that help in building and developing their skilful imagination [14].

Average Pre-post Measurements for Experimental Group (concept maps group in football) in Favor of Post Measurements Average: Improving in the tests under research implementation in this group because of depending on concept maps strategy that lead to improvement and progress in performance level of skills under research. Consequently, there were positive effects on skills performance for the research sample. This agree with Hayword [15] pointed to that using the technologies (as in concept maps strategy) helped in evaluating and presenting the material well in comparing to scientific material that be presented in other forms.

Besides, providing the feedback for right implementation helps students to understand these skills and achieve the best implementation. This progress returned to the amount of information which students have form the similar types of concept maps, beside illustrations diagrams.

Average Post Measurements between two groups (experimental group and control group) in Favor of experimental group (concept maps group in football): T. test was calculated for two research groups

(between experimental group and control group) in post measurements only, The values of t.test ??ranged between 2.547 and 3.578 (value of “t” spreadsheet at the level of significance 0.05=1.69, two groups. One-tailed) And there was improve in average post measurement for the experimental group (concept maps group in football) comparing with the control group (the traditional method in teaching).

This progress resulted from depending on concept maps strategy, illustrated diagrams through data show. This proves that concept maps strategy is better than traditional method in teaching. So, there were differences in statistical data between the two groups in favor of the experimental group (concept maps group in football).

CONCLUSION

- Concept maps strategy has a positive effect on integration skills performance in football for the research sample.
- Traditional method in teaching has a positive effect on integration skills performance in football.
- Concept maps strategy has more effective and positive influence on integration skills performance in football comparing with the traditional method in teaching.

Recommendation:

- Using Concept maps strategy in education process because of it positive effect on integration skills performance in football.
- Implementing researches and similar studies on different materials by using Concept maps strategy and recognition the best methods that improve the level of skills in football.

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