The effect of Keller's Strategy to individualize teaching by using Hypermedia on learning the skill of Shooting by jumping high in handball

Dr/ Akram Kamel Ibrahim Abdel Kareem

Summery:

The research aims at designing a suggested educational program with Keller's strategy (individualizing teaching) by using Hypermedia also knowing its effect on the level of performance strength - accuracy) of scoring by jumping high in handball. The researcher has used the experimental method on a sample composed of (36) students in second grade at faculty of physical education Menofyia University, they have been divided into two groups, one of them is experimental, the other is control, each consists of (18) students, each group has been divided into two levels (low level-high level). The tools of research: skill physical tests - pictured intelligence test - educational program suggested in Keller's strategy (individualizing teaching) by using Hypermedia, among the most important results: increasing the effectiveness of Keller's strategy to individualize teaching by using Hypermedia on learning method by order (traditional method) in performance level (strength-accuracy) by jumping high in handball.

Introduction and research problem:

Technological scientific revolution has been considered as a new entrance in both processes of teaching and learning. Also, it has become necessary for us to develop the educational process so as to keep up with this huge scientific progress. Besides, educational technological concept means an integrated system that has and achieves the desired income, it is more than a style and a way by using modern educational means. Keller's strategy is considered an educational system relying that relies on dividing the text scientific material into a series of small units (models) dealt with and discussed separately, each unit includes specific
educational goals so that learner could know them, and know what is expected from them, they would be able to concentrate on week points of material, anxiety from test situation would be excluded through allowing them to reenter the test. But, ability and mastering of material is unavoidable issue, where learners have to achieve a specific level of competency and mastering. Accordingly, he would obtain a self-enhancement where he feels of happiness and self-sufficiency. Besides, in this system he will not face any penalty when failing any test in any unit. Keller's strategy allows learner to walk in learning with a speed that copes with his capabilities and abilities (low-medium-high), his desires a matter that allows him to have control over his progress through his learning of text content material since mastering learning is a basic condition referring to Keller's strategy. So, it is normal that time rate, needed for each learner to reach the requested level and mastering learning content, differs due to difference in self-speed for each learner.

Shooting skill in handball is considered from the important basic skills, in which educators have given it more time in learning and training since it is a skill that decides the result of a match, in addition to what it enjoys of accuracy, strength and suspense for both player and audience.

Through researcher's experience as a lecturer of handball material for students of Physical education faculty at Menofia University, he noticed a decrease of performance level (strength–accuracy) of shooting skill by jumping high for students of second grade at the faculty, where they are taught by traditional means (learning by order) which depends on verbal explanation and practical model for a skill without any minimum effective participation from learners in educational situations. This opposes development in teaching technology from the part of its use for upgrading
educational process currently. In addition to a numerical increase of learners during practical lessons, and what follows as a necessity of an increase of differences among learners, a matter that increases the burden of a teacher, and his need for a big effort to teach skills, simplify them so as to ease perception of its stages, in an attempt to master each stage in order to reach mastering and ability in a skill.


The idea of research has been derived from here in being a scientific attempt to know the effect of Keller's strategy to individualize teaching by using hyper media on performance level of (strength-accuracy) shooting by jumping high in handball for students of second grade at Physical Education Faculty – Menofia University. Research Goal:

This research aims at designing a suggested educational program with Keller's strategy
(individualizing teaching) by using super medias , also knowing its effect on the level of performance (strength - accuracy) of scoring by jumping high in handball, for students of second grade at Physical Education Faculty – Menofia University .

Research Hypothesis:
1- There are significant differences of the two levels (low-high) between the two measurements, pre and post for experimental group at performance level of (strength-accuracy) shooting by jumping high in hand ball, in favor of post measurement.
2-There are significant differences of the two levels (low-high) between the two measurements, pre and post for control group at performance level of (strength-accuracy) shooting by jumping high in hand ball, in favor of post measurement.
3-There are significant differences of the two levels (low-high) between the two Post measurements for the two groups, experimental and controls at performance level of (strength-accuracy)shooting by jumping high in hand ball, in favor of experimental group.

Research Procedures:
The researcher has followed the experimental method by using post and pre measurement for both groups, one of them is experimental that used Keller's strategy (individualizing teaching), the other is control that used method of learning by order in teaching.

Research Sample and Population:
Research sample has been selected by intentional method from students of second grade at Physical Education Faculty , University of Menofia for university year 2012/2013 , they are ( 193) students , the selected research sample has included (46) students , ( 10) students have excluded in order to conduct exploratory study on them. So, basic research sample has become (36) students, divided into two groups, one of them is experimental, the other is control, each consists of (18)students.
Dividing the two experimental control groups into two levels:

Students have been divided into two levels in each of the two groups experimental control (low level–high level) according to the pre measurements for a performance level of shooting by jumping high in handball for individuals of both groups, experimental and control, Tables (1),(2) clarify this:

**Table (1)**

Significant differences between the two groups Experimental and control (low level) in variables, under discussion.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Meas. unit</th>
<th>Experimental group N=10</th>
<th>Control group N=11</th>
<th>T.test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>year</td>
<td>19.25 0.61</td>
<td>19.45 0.54</td>
<td>0.76</td>
</tr>
<tr>
<td>Height</td>
<td>cm</td>
<td>172.96 5.12</td>
<td>171.81 4.97</td>
<td>0.49</td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>70.15 3.68</td>
<td>71.50 4.11</td>
<td>0.75</td>
</tr>
<tr>
<td>Intelligence</td>
<td>degree</td>
<td>42.50 4.94</td>
<td>43.25 5.16</td>
<td>0.32</td>
</tr>
<tr>
<td>Muscle ability Of arms</td>
<td>meter</td>
<td>4.82 0.43</td>
<td>4.75 0.46</td>
<td>0.34</td>
</tr>
<tr>
<td>Muscle ability Of legs</td>
<td>cm</td>
<td>37.36 4.12</td>
<td>36.51 4.29</td>
<td>0.44</td>
</tr>
<tr>
<td>Compatibility between eye and arm</td>
<td>degree</td>
<td>12.50 2.48</td>
<td>12.00 2.31</td>
<td>0.46</td>
</tr>
<tr>
<td>The flexibility of Thigh and torso</td>
<td>Cm</td>
<td>8.92 2.35</td>
<td>8.15 1.97</td>
<td>0.78</td>
</tr>
<tr>
<td>Power of scoring by jumping high</td>
<td>M</td>
<td>20.50 2.17</td>
<td>19.92 1.94</td>
<td>0.62</td>
</tr>
<tr>
<td>Accuracy of scoring by Bouncing high</td>
<td>Degree</td>
<td>0.75 0.50</td>
<td>0.68 0.55</td>
<td>0.29</td>
</tr>
</tbody>
</table>

The value of tabulated at the level of 0.05 = 2.093

It has been clarified through been statistically significant table (1) that there haven’t differences at level 0.05.
between the two groups, experimental and control (low level) in age, height, weight, intelligence and the physical skill variables under discussion, a matter that indicates the parity of the individuals of the two groups in these variables.

**Table (2)**

**Significant differences between the two groups Experimental and control (high level) in the variables under discussion.**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Meas. Unit</th>
<th>Experimental group N=8</th>
<th>Control group N=7</th>
<th>T.test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>St.deviation</td>
<td>Mean</td>
</tr>
<tr>
<td>Age</td>
<td>Year</td>
<td>19.41</td>
<td>0.52</td>
<td>19.52</td>
</tr>
<tr>
<td>Height</td>
<td>Cm</td>
<td>172.55</td>
<td>4.86</td>
<td>173.82</td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>69.82</td>
<td>3.59</td>
<td>71.47</td>
</tr>
<tr>
<td>Intelligence</td>
<td>degree</td>
<td>43.96</td>
<td>4.33</td>
<td>44.62</td>
</tr>
<tr>
<td>Muscle ability Of arms</td>
<td>Meter</td>
<td>4.99</td>
<td>0.31</td>
<td>4.80</td>
</tr>
<tr>
<td>Muscle ability Of legs</td>
<td>Cm</td>
<td>38.50</td>
<td>3.62</td>
<td>38.00</td>
</tr>
<tr>
<td>Compatibility between eye and arm</td>
<td>Degree</td>
<td>13.82</td>
<td>2.19</td>
<td>13.00</td>
</tr>
<tr>
<td>The flexibility of Thigh and torso</td>
<td>Cm</td>
<td>9.57</td>
<td>3.26</td>
<td>9.12</td>
</tr>
<tr>
<td>Power of scoring by jumping high</td>
<td>M</td>
<td>21.33</td>
<td>2.17</td>
<td>20.65</td>
</tr>
<tr>
<td>Accuracy of scoring by jumping high</td>
<td>Degree</td>
<td>0.97</td>
<td>0.85</td>
<td>0.83</td>
</tr>
</tbody>
</table>

The value of tabulated at the level of 0.05 =2.160

It has been clear from the table(2) that there haven’t been statistically significant differences at level 0.05 between the variables of the two groups, the experimental and control (high level) in the variables under discussion, a matter that indicates the parity.
of the individuals of the two groups in these variables.

**Tools of Data Collection:**

**First : Physical Tests :**
1- Test of pushing a medical ball (3) kg for a maximum distance.
2- Test of the vertical jumping from the status of persistency.
3- Test of throwing and receiving balls
4- Test of Bending the trunk forward from status of standing.

**Second : The skill tests :**
1- The test of throwing hand ball for a maximum jumping distance.
2- Test of the accuracy of shooting from the status of jumping high (10) balls.

**Third : Test of photographed intelligence :** prepared by /Ahmed Zaki Saleh (1987)

(2) Educational program by using Keller's strategy :

1- **General goal of program :**
   1- This program is aimed at teaching the students of the second grade –batch – at the faculty of the physical education –university of Menofia (sample of research)
   2- The correct performance of the skill of scoring by jumping high in the sport of hand ball.

2- **The basis of program :**
   The researcher has given consideration to the following educational basis when putting the program:
   - The compatibility of logical sequence of contents of the program, with its goals and features of age stage, under discussion.
   - The content of program has to challenge the capabilities and abilities of learners with consideration to the individual differences and evoking their motivation to learning.
   - Availability of opportunity for all learners to practice and work at same time, and progress in their learning so as to achieve the goal at a sequence method.
   - Giving consideration to the availability of the suitable place, the needed capabilities, safety and security factors to implement the program.
   - Giving consideration to the gradation of the program from the simple to the difficult, in
accordance with the level of each student.
-That are presented all charges and the photos and videos by computer next to cognitive text.
-The feature of program has to be diversity, comprehensiveness, simplicity, to meet the kenotic desires of the student.
-The information including the educational program has to be presented in a complete connected effective frame by using all senses of a learner.
-Consideration to the presentation of all photos and drawings, and video snapshots, also the cognitive text that suit the size of the screen.
-That are presented all charges and the photos and videos by computer next to cognitive text.
-The learner has to work on a computer and the selection of the list of contents to give full time and sail inside the program itself in a way that suit the level of learning required to be achieved.
-The learner has to be able to specify the ways and the paths that he will follow and the size of information that he retrieves, in addition to controlling the speed of his learning inside the program.
-Creating interesting environment for learning and teaching from the side of the learner leading him to the mastering over what he has learnt, that will increase the effectiveness of learning from the side of understanding, analyzing and evaluation.

3-Specifying the level of Programming—software-
The process of selecting the content has been the most difficult step of building the programming, this difficulty is represented in selecting facts, concepts, information related to skill of shooting by jumping high in handball, in addition to specifying the snapshots, video, clarifying photos, music exposition, and other materials and educational tools that have been selected and organized in an educational manner, and specifying the method of moving with it in a way that contributes in achieving the goals of programming.
4- The stages of Producing programming:
In addition to the scientific studies that have dealt with the method of the super media like the study(4) ,(5) , (19) , (21) , (26) (30), (36), so as to put the suggested educational program.

5- Specifying the general frame to use the programming:
- The total number of weeks (6) weeks, as the period of the application of the experiment.
- The specified time for each lecture is (90) minutes as the total practical lectures time at faculty, (45) minutes have been taken to implement the suggested educational program, and the rest of the time of the lecture (45) minutes' to teach the rest of the skills, decided for the students.
- Number of the educational units (2) units weekly

- The total time of the application of the experiment of research is (9) hours.

Pre measurements:
The researcher has conducted the pre measurements for the individuals of the two groups, the experimental and the control in the period from: 03/03/2013 to 05/03/2013.

Applying the Basic Experiment:
The research basic experiment has been applied for a period of (6) successive weeks in the period from 06/03/2013 to 16/04/2013 the strategy of Keller has been implemented (individualization of instruction) with the individuals of the experimental group, attachment number (5), The method of learning by order has been used with the control group, attachment (6) clarifies a model for an educational lesson by using the method of learning by order for the control group.

The Post Measurements
Having finished the application of Keller strategy individualization of instruction by using the super media, then performing the post measurements in the period from: 17-18/04/2013 for both groups, the experimental and
the control in the skill variable under discussion at the same gradation and same conditions of the pre measurements.

**Displaying Results:**

**Table (3)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Meas. unit</th>
<th>Experimental group N=10</th>
<th>Control group N=11</th>
<th>T.test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>ST.DEVIATION</td>
<td>Mean</td>
</tr>
<tr>
<td>The strength of scoring in</td>
<td>Meter</td>
<td>26,91</td>
<td>1,18</td>
<td>24,77</td>
</tr>
<tr>
<td>bouncing high</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The accuracy of scoring</td>
<td>Degree</td>
<td>4,00</td>
<td>0,73</td>
<td>3,00</td>
</tr>
<tr>
<td>in bouncing high</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant differences between the two groups Experimental and control (low level) in the variables under discussion.**

The value of tabulated T at level 0,05 =2,093

**Significance at level 0,05**

It has been clear from the table (3) the existence of differences with statistically significance at level 0,05 between the post measurements for both, experimental groups and control (low level) in the skills of variables under discussion and in favor of the experimental groups.

**Table (4)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Meas. unit</th>
<th>Experimental group N=8</th>
<th>Control group N=7</th>
<th>T.test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>ST.DEVIATION</td>
<td>Mean</td>
</tr>
<tr>
<td>The strength of scoring in</td>
<td>Meter</td>
<td>28,15</td>
<td>1,22</td>
<td>26,29</td>
</tr>
<tr>
<td>bouncing high</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The accuracy of scoring</td>
<td>Degree</td>
<td>4,90</td>
<td>0,74</td>
<td>4,00</td>
</tr>
<tr>
<td>in bouncing high</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Value of T–tabulated– at level 0,05 2,160 *significance at level 0,05
It has been clear from table (4) the availability of Significant differences at level 0.05 between the post measurements of the experimental groups ,and control (the high level) in the skill variables under discussion and in favor of the experimental group.

Second : Discussion of conclusions :

A- The discussion of the results of the first hypothesis of research

The results have indicated that there have been Significant differences at level 0.05 between the two pre and post measurements of the experiment group (low level-high level) in the skill variables (strength and accuracy in shootin by jumping high in the handball) and in favor of the post measurement.

This has been referred to by the researcher to the effectiveness of the suggested educational programming in keeping the effect of learning for the students of the experimental group and maintaining the information and knowledge, and calling them when in need since the variety of the various different media through the computer has helped in acquiring the form of the performance and the correct kinetic gradation of the skill under discussion, and the details of the skill is mentioned a matter that helps in keeping the knowledge and information without feeling bored , so it will be an effective role in the educational process, and increases their motive for learning, this result agrees with what has been indicated by: Abdelhameed Sharaf (2000) (2) that the use of technology of education in all tits different forms and multiple, will increase the effectiveness of learning the kenotic skills where each learner finds what is suitable for him and copes with him and with his capabilities , in addition to his readiness , so there are the (Animation Pictures- serial pictures texts video-displaying slow video-colors-music-) where he selects from them what he needs , and this will increase the effectiveness of
learning, and allows using each frame in an individual picture to advance in the level of learners and in a form of the correct performance of the skill. By this, the correctness of the first hypothesis has been achieved.

B-Discussion of the second hypothesis of research:
As shown by the results, there have been significant differences with statistically implications at level of 0.05 between the two measurements post and pre for the control group (low level-high level) in the skill variables under discussion and in favor for the post measurement, this result agrees with what has been mentioned by: Mohamed Saad Zagloul, Makarem Abu Hargh and Hani Said (2001) (28), the traditional method that has been followed (verbal explanation) in instruction must be changed to meet the modern goals of education and with the necessity of its responding to the situations and the stages of physical kinetic psychological growth and meeting the quantity increase of the learners preparation.

By this, the correctness of the second hypothesis of research has been achieved.

C: The discussion of the results of the third hypothesis of research:
As indicated by the results, there have been statistically indication significance at level 0.05 between the two post measurements for the groups, experimental and control (high-low) in the skill variables under discussion and in favor of the experimental group. This result agrees with what has been indicated by: McLaughin (1999) (18) Zencius (2002) (40) the strategy of Keller as one of the individuals of teaching based on the basis of studying of the learner to the scientific material, based on his capabilities and his speed, therefore, the basic principle that this strategy based on in learning is that the learner comprehends all concepts of the educational unit, its skills, mastering, before shifting to the next unit, this will require
that each learner should be a contributory effective member in the educational process instead of being negative in future, only for information that is transformed to him, So, the learner has to be an effective sharing element in all activities, so as to master the specific educational goals.

The results have indicated the superiority of the experimental group in their levels (low-high) in the percentages of improvement of the post measurements over the pre in the skill variables under discussion. This result agrees with what has been implicated by: Wafiqa Mustafa Hassan (2007) (37) that the individualization of instruction has contributed in the improvement of the educational processes with the timing suitability for each learner.

Therefore, the learner learns according to his self-speed and in accordance with the rate of his learning. Furthermore, this allows the learner to move forward in the process of learning according to his personal capabilities, so the learner is transferred from a step to the following educational step based on his ability and his readiness.

So by this the correctness of the third hypothesis is achieved

**Conclusions:**

1- The strategy of Keller for education individualization affects positively with statistically significance on the level of the performance (strength-accuracy) the shooting by jumping high in handball.

2- The method of learning by the order (the traditional method) positive effect statistically significance on the level of the performance (strength-accuracy) the shooting by jumping high in handball.

3- An increase of the effectiveness of the strategy of Keller for individualization of instruction by using the super media over the method of learning via order (traditional method) in the level of performance (strength-accuracy) the shooting by jumping high in handball.

4- The superiority of the members of the experimental group (low level-high level) on
the members of the control group (low level-high level) in
the percentages of the improvement of the post
measurement over the pre in
the level of performance (strength- accuracy) the
shooting by jumping high in handball.

Recommendations:
1- Applying the strategy of
Keller for the individualization
of instruction by using the
Hypermedia in learning the
skill of shooting by jumping
high in handball for the
students of the second batch-
group- at the faculty of
physical education –Menofia
University so as to meet the
individual differences between
the learners and overcome
them.
2- Taking care of the initial
evaluation so as to classify the
learners from the beginning to
groups with common or similar
level.
3- Specialised experts in the
field of technology techniques
have to design programs to
learn the different sides.
(applied –cognitive) in the text
material of handball.
4. The need to encourage
faculty members to use modern

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Second: Foreign References:


