The Effects of Three Teaching Methods (based on W.A- CECS Teaching Guideline) on The Speed of Learning and The Performance Level of Pole Vault's Technical Characteristics for P.E Students

Mohammad Hamdi Abel Rahim Mohammad
Lecturer in teaching methods & Curriculum department, Faculty of Physical Education (Boys), Helwan University.
semomoh9618@gmail.com

Doi: 10.21608/isjpes.2023.192530.1085

Abstract

The purpose of this study is to compare 3 different approaches methods to the teaching of the pole vault. So, this study proposed only three steps as a practical teaching progression, to be introduced in two different teaching methods, one of them starting only with practical demonstration, and the second using the integration of theoretical and practical demonstration, Aiming to compare both of them and W.A-CECS teaching method, to identify the most effective teaching method to make the students being able to learn pole vault quicker and more effectively of the performance level of pole vault's technical characteristics for 24 non-experienced students of physical education faculty, The Experimental design with (post-measurements) has been used two Experimental groups and one control group

the results show that The recommended practical teaching progression of the three steps used in this research for both experimental groups can effectively achieve better teaching results, especially in learning duration time and the best height vaulting, compared with the W.A CECS teaching method.

The recommended teaching method, using the theoretical approach for the second experimental group, as well as, the recommended practical teaching progression of the three steps (grass & sand pit vaulting) has a significant difference in most variables of pole vault technical characteristics (In pole grip, approach and plant phase and takeoff and penetration phase.

Introduction and research problem:

The challenges facing education systems and teachers continue to intensify. In modern knowledge-based technology, where the demand for high-level skills will continue to grow substantially, So, the task in many countries is to transform traditional methods of teaching, which have been effective at distinguishing those who are more academically talented from those who are less so, into customized learning systems that identify and develop the talents of all students.

As well as, the rapid changes and increased complexity of today's world present new challenges and put new demands on our education system. There has been generally a growing awareness of the necessity to change and improve the teaching methods and the preparation of students for productive functioning in the continually changing.

The approaches to teaching can be categorized according to major educational goals that affect teaching strategies and methods. On one hand the goal of education is viewed as the transmission of knowledge by the teachers to the students. On the other hand, the goal of education is viewed as facilitating students' autonomous learning and self-expression. In support of this ,Nikola Aksović et, al, 2021 addressed the important at Questions about the most effective ways of learning in physical education classes that raise the success of learning to a higher level, can be seen in teaching methods and consistent application of teaching principles. (16: 2455)

In recent years, educators have begun to pay attention to the teaching methods in which information is transmitted to students besides paying attention to the information itself. for that, Mohamed Abdel Salam 2021 points out that the teaching method is the teacher's technique and technical touches in addressing the details of the lesson, and that it is the style adopted by the teacher to implement his teaching philosophy as the teaching style varies from teacher to teacher.(13:16)

Yong Chen & Shu Shen 2021, refer to the traditional teaching method which adopts the unified teaching method, which cannot fully pay attention to the students' differences in learning track and field movements, which leads to students' errors in learning track and field movements and affects the teaching effect. (21: 99)

Track and field (athletics), as a major subject of physical education in primary to secondary schools, is the key content of physical education curriculum. Good study of track and field can effectively improve students' physique, cultivate their strength and resilience, and promote their physical and mental health, in addition, Track and field events contain a relatively rich type of movements and skills which are the foundation for other types of sports.

These skills are varied between simple and complex terms, which used to describe a skill. Simple skills are ones that a student finds easy to perform whereas complex skills are ones that the athlete finds more challenging. but what is a simple skill to one student may be complex for another, so as a teacher, you need to determine how each student perceives the skill.

The World Athletics Federation (W.A) has been adopting multiple and innovative strategies in the updating of teaching methods for athletics skills through the CECS program, which may consider as a one of the best education systems in sports, which may require the availability of many equipment and tools that are difficult for many schools to provide, especially for the jumping events, therefore a great challenge to many physical education teachers as well as trainers.

Perhaps the most prominent of these updates is what the World Athletics adopted in the use of teaching methods and the integration of the two methods of the traditional (face to face) method and Online technological education which shares information through the Internet & networks and provided the opportunity for the student to download the contents of lessons in the form of audio and videos of educational programs, which also allowed the student the ability to access the information at anytime and anywhere,

Pole vaulting is one of the most difficult or complex events to master in track and field. Athletes must be able to run fast, be strong enough to elevate their body by holding the pole, and have excellent body control in order to change position while airborne. Analyzing the science behind this sport offers greater insight into the mechanisms that ensure success.

Among the most difficult problems faced by the education system are those associated with teaching effectiveness of complicated practical skills like pole vault skills. SO, the various jumps with the pole are part of the learning situations practiced in the physical education class, especially in physical education faculties.

The current preparation of teachers for specific age levels, specific subject matter, specific practical skills like pole vault, etc., maybe does not take into consideration sufficiently the complexity of this factors which will face teacher and students in schools. so, there is a strong need to educate or train teachers to adapt instruction to the diverse student abilities, learning styles, and needs by using more differentiated teaching strategies and methods. And accordingly, to Eli Sunquist 2017, refers that the goal of the pole vault is the exact same goal of the high jump, to jump as high as possible, in a safe manner and it needs a lot of time on teaching the fundamentals of the vault. (6: 32:38)

Chawki D, Fathi M and Ali Elloumi , 2019, indicate that teachers must have expectations regarding the teaching of physical skills in general and pole vaulting in particular. More specifically, the educational reform reviews the objectives and contents of the teaching, at all levels and for each discipline, decreeing fundamental objectives and the minimum of the compulsory contents to be achieved by the students (3: 46) .on the other hand, Tim Richey

,2022 refers that teaching pole vault for a special kid, will take a year of boring repetition to learn groove the pole carry, approach, pole delivery, pop up drills , before you ever bend a pole and start to have "fun" .(17)

The progress of teaching process can be identified through the knowledge of the ways, means, methods and theories of modern teaching and education, which are used, therefore, this is what the faculties of physical education in Egypt aim at and what this period is witnessing of serious attempts to develop education at all levels.

Through the researcher's knowledge of many studies and references, noted that the effectiveness of modern and different teaching strategies & methods in physical education and pole vault has been examined in a number of previous studies like, Yong Chen & Shu Shen (2021) about, online intelligent teaching method based on multimedia video (21). also, the study of Chawki Derbali1 et, al 2019, about, the effects of verbal and visual feedback on performance in pole vault practice. (3) also, it was noted that some researchers used special exercises to identify effect of specific trainings and some gym skills on learning pole vault competition for Girl Students of Faculty of Physical Education like Magda Abd Elrahman and Aza. Alemary 2011, (11) while Jornet Liesa et.al 2017 sought to use the method of the Ludotechnik model as an educational alternative to teaching and learning pole vault, which was characterized by the use of many tools such as boxes, mattresses and hope rings, therefor, He has recommended that this method must be adapted to the facilities, tools and equipment available in education of pole vault. (9: 454: 468).

Based on the World Athletics CECS -teaching guideline, which used to start skill learning with practical teaching progression, which consisted of six steps, as an approach, first, then followed by theoretical explanation (multi-media) second.

So, the idea of this research, came to reduce the steps required for teaching and minimizing the learning duration of pole vault to be quicker and more effectively during physical education class, in addition, using simple equipment for teaching pole vault. also trying to find an answer about which is better, easier and faster method to learn pole vault for non-experienced students: starting with practical teaching progression first or starting with online multimedia -theoretical demonstration as an approach first then followed by practical teaching progression?

Research purposes:

The purpose of this study is to compare between 3 different approaches methods to the teaching of the pole vault. So, this study proposed only three steps as a practical teaching progression, to be interduce in two different teaching methods, one of them starting only with practical demonstration, and the second method using the integration of theoretical and practical demonstration, starting with an online multimedia learning demonstration as an approach and then followed by the 3 steps practical teaching progressions. Aiming to compare between both of them and W.A-CECS teaching method, to identify the most effective teaching method to make the students being able to learn pole vault quicker and more effectively of the performance level of pole vault's technical characteristics for non-experienced students of physical education faculty.

Research hypotheses:

1- There are significant differences between averages of post measurements of the Experimental first & second teaching methods and the control one, in the variables of learning pole vault (duration time of learning, height of vaulting and percentage learning level)
2- There are significant differences between averages of post measurements of the Experimental first & second teaching methods and the control one, in the performance level of pole vault's

technical characteristics.

Research Methodology & procedures:

The Experimental design with (post-measurements) has been used due to its suitability of the nature and purpose of the research. An Experimental layout of two Experimental groups and one control group have been adopted in this research.

These three groups applied three teaching methods as following:

1- The Experimental group1: applied the first teaching method of the proposed practical teaching progression first, which aims at and started teaching fundamentals practical skills in three steps only.

2- The Experimental group2 applied the second teaching method which aims at teaching pole vault via an online theoretical multimedia approach first, then followed with applying the proposed practical teaching progression in 3 steps.

The World Athletics' theoretical multi-media such as video & power points transparences were used for this group to explain the teaching methodology emphasizing on explanation the pole-vaulting theory/technique as following phases: the approach and plant, the takeoff and penetration, the rock back and stretch/turn, the bar clearance and landing

3 -The third, or the control group applied the (World Athletics teaching progression of practical first), which aims at teaching pole vault through applying World Athletics (CECS) 6 steps of pole vault teaching progressions.

Research community and sample:

24 students from the Faculty of Physical Education for Boys – Helwan University were randomly selected from the community of second-grade physical education students. The selected sample was divided into three equal and homogeneous groups,

Procedures:

The proposed simple three step's teaching progression that were used to teach students how to pole vault, are as follow:

Warmup - Funny approach (keep pole vertical, game)

The warm-up phase works on basic sprint mechanics that emphasize the approach, as well as knee and thigh lift for more effective sprint development. Standing in a circle shape, holding pole in vertical position, 5 m between, when listen to beep sound, run faster to the next pole before fallen down, if fall down you must leave the game

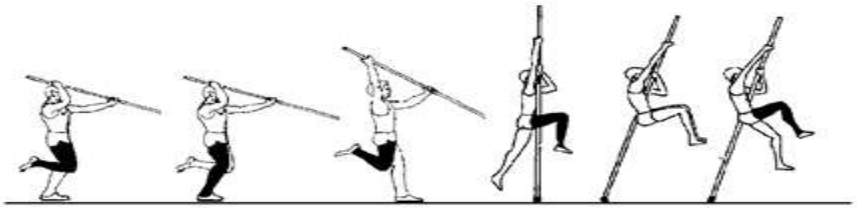
1- **Pole carry**- start with a small or non-bendable (metal or wooden) pole to work on the fundamentals because the stable wooden pole is perfect for helping beginner to learn the technique for pole vault:

A- when first introducing the use of the pole, teachers should teach the correct grip and carry. the students should start by gripping the pole only as high as they can reach with their top hand when the pole is standing vertical with the plug between their feet.

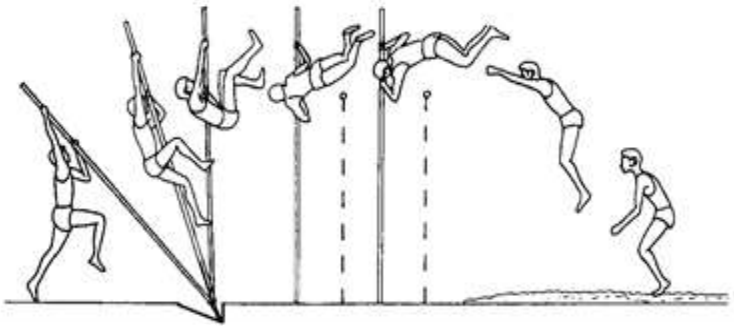
B- Once the vaulter(student) is proficient in a correct pole carry, we then add in walking drills, followed by jogging drills, then sprint drills with a pole. The main goal is to get the student not just comfortable carrying the pole, but also improve their coordination.

2- **Funny Riding the vertical pole& Grass Vaulting** is the second step in the teaching progression which consists of three drills:

A- (Both hands top grip, hanging & riding the vertical pole)
B- Take off tall & high alongside the pole to vault forward, keep facing forward direction. Repeat with walking then jogging.

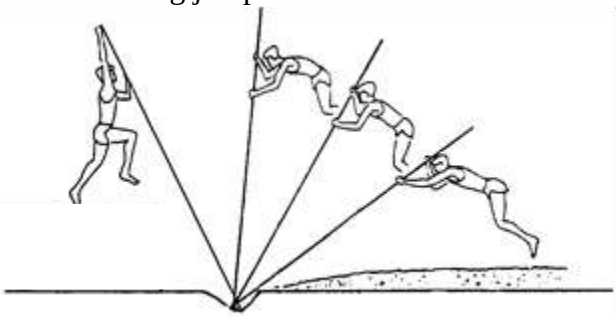


C- Take off tall & high alongside the pole to vault forward, then turn your body to face backward or takeoff point direction. Repeat with walking then jogging.



3 – **Sand Pit Vaulting** is the third step:

A- Repeat step 2/C in the long jump sand Pit.



B- Repeat previous step clearing elastic tape one-meter height
C- Increase the heights gradually.
D- Safety considerations is very important in this step, use mat alongside the pit or coach assistance during landing.

Measurements and tests:

Data collection took place in November,2022. Participants completed a general 10 min warm-up which included dynamic flexibility. And according to the recommendation of Carmen Schluter,2016, the researcher determined and selected the physical variables to make equivalence between the three groups, in strength and power field tests as predictors of pole vaulter, and applied the following tests:

1- **Pull-up for time test:** The pull up test (also called the chin-up test) is widely used as a measure of upper body strength. Participants must grasp an overhead bar and pull up the body so the chin raises above the bar, then return to the position with the arms fully extended, Participants hung by their hands from the pull-up bar. When cued to "go," the stopwatch was started and the participant completed three full pull-ups as quickly as possible.

2- **Push up test**: The push-up test is a basic fitness test used by coaches, teachers, and athletes to assess upper body fitness and to monitor progress during strength and fitness training. This simple test helps you compare your own upper body muscular endurance to others of your age and gender and track your fitness program over time

3- **Throwing 4kg ball backward overhead:** The backward MB throw. Participants' heels were to remain behind the zero-meter mark, but participants were allowed to step over the starting mark after ball release.

4- **Standing long jump:** or Broad Jump, is a common and easy to administer test of explosive leg power

5- **Vertical jump**: The vertical jump test is a test of lower body power. (1:18:23)

Learning Variables:

Expert survey for checklist form was designed and prepared to determine the learning variables technical assessment of pole vault's skill for beginners. The result of survey showed that the checklist form which used in this research is 100% acceptable as all, and approved by 5 experts from Egyptian universities and CECS World Athletics lecturers, the maximum degree is 100 degrees.some recommended changes were made due to that survey, like adding Illustrations.

1 **-The Speed to Learning pole Vaulting**: It was measured via calculating the exact duration of time was spent for learning practice, or which required to simply clear the bar for more than 1.5 m height.

2 **-Personal performance record:** It was measured via the best height of vaulting was achieved gradually for each student during the learning session as an indicator of developing the learning process,which consider the second stage of learning process ,as referred by World Athletics 2018. (20:166-167).

3 **-The learning percentage level:** is calculated through the percentage of the total points of technical assessment for learning pole vault skills obtained by each student out of a total of 100 points as shown in the checklist form of performance level of pole vault's technical characteristics.

4 **-The Performance level of Pole Vault's Technical Characteristics**

So, the performance level of Pole Vaulting was evaluated by using individually Video recording, as well as, the checklist of The Performance level of Pole Vault's Technical Characteristics. (Pole grip, approach and plant/ Takeoff and penetration/swing &rock back/ clearance & landing)

Data Analysis

Statistical Package for Social Sciences Version 28.0 (SPSS Inc., Chicago, IL) was used to

perform all statistics including descriptive statistics and ANOVA (LSD -TUKEY HSD) multi post comparison

Table1: Descriptive data of growth and physical variables of the three groups of research sample

N1=N2=N3=8

Variables & Tests	Units	Experimental group1			Experimental group2			Control group)		
		X	SD	Skewness	X	SD	Skewness	X	SD	Skewness
The Age	yrs.	18.25	1.03	0.39	18.50	0.92	0.00	18.25	1.03	0.39
The Height	cm	174.00	2.50	0.58	174.87	2.23	0.21	174.25	2.05	0.35
The Weight	kg	71.75	3.77	-0.08	71.37	1.68	0.17	71.37	1.68	0.07
Standing long jump	cm	243.25	10.36	0.11	236.25	13.29	0.80	235.00	12.24	1.17
Pull-up for time	sec	2.76	0.43	0.19	2.33	0.18	0.54	2.78	0.41	0.15
Push up. Max	rep	34.00	1.30	0.00	32.50	3.16	1.30	34.25	2.38	0.37
Backward MB throw	m	14.50	1.60	0.00	13.38	1.92	0.90	13.12	1.46	0.08
Vertical jump	cm	37.62	2.69	-0.75	39.00	1.60	-0.83	38.88	3.56	-0.09

Table (1) illustrates the descriptive data of growth and physical variables of the two Experimental and control groups in growth rates (the age, height and weight of the research sample) and physical variables under study. And shows that the Skewness rates are laying between (3±) which refers to, that the dependent variable is normally distributed,

Table 2: ANOVA Significance of differences between the two Experimental groups and the control one in growth rates and physical variables

N1=N2=N3=8

Variables		Sum of Squares	df	Mean Square	F	Sig.
The Age	Between Groups	0.333	2	0.167	0.167	0.848
	Within Groups	21.000	21	1.000		
The Height	Between Groups	3.250	2	1.625	0.315	0.733
	Within Groups	108.375	21	5.161		
The Weight	Between Groups	1.083	2	0.542	0.080	0.924
	Within Groups	142.875	21	6.804		
Standing L. jump	Between Groups	316.333	2	158.167	1.093	0.354
	Within Groups	3039.000	21	144.714		
Pull up For time	Between Groups	0.023	2	0.112	0.086	0.952
	Within Groups	2.786	21	0.133		
Push Up max	Between Groups	14.333	2	7.167	1.239	0.310
	Within Groups	121.500	21	5.786		
Back M.B throw	Between Groups	8.583	2	4.292	1.534	0.239
	Within Groups	58.750	21	2.798		
Vertical jump	Between Groups	4.750	2	2.375	0.316	0.732
	Within Groups	157.750	21	7.512		

The one-way ANOVA (Tukey HSD) in table 2 illustrates that there are no significant differences at (0.05) level between the two Experimental groups and the control one in growth rates (the age, height and weight of the research sample), as well as physical variables under investigation.

The results:

Table (3): The post descriptive statistics of pole vault's learning variables for the three groups under investigation

Learning Variables	Group	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Test of data normality (Kolmogorov-Smirnova)	
						Lower Bound	Upper Bound	Statistic	Sig.
Learning Duration Time	Experimental group 1	8	43.00	2.449	.866	40.95	45.05	0.172	0.200*
	Experimental group 2	8	30.63	2.264	.800	28.73	32.52	0.139	0.200*
	Control group	8	46.88	2.588	.915	44.71	49.04	0.129	0.200*
Best Height vaulting	Experimental group 1	8	180.00	7.559	2.673	173.68	186.32	0.152	0.200*
	Experimental group 2	8	211.25	12.174	4.304	201.07	221.43	0.209	0.200*
	Control group	8	166.25	14.079	4.978	154.48	178.02	0.185	0.200*
Learning percentage level	Experimental group 1	8	52.13	1.356	0.479	50.99	53.26	0.287	0.052
	Experimental group 2	8	60.38	1.996	0.706	58.71	62.04	0.252	0.144
	Control group	8	53.63	1.061	0.375	52.74	54.51	0.222	0.200*

Table 3 illustrates the post descriptive statistics (mean, std deviation, std error, confidence interval for mean and test of data normality) of pole vault's learning variables for two experimental groups and the control one under investigation. And all data are normally distributed.

Table (4): The post descriptive statistics of pole vault's technical characteristics for the three groups under investigation

Technical characteristic	Group	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Test of data normality (Kolmogorov-Smirnova)	
						Lower Bound	Statistic	Statistic	Sig.
Pole grip Approach plant	Experimental group 1	8	14.63	1.061	0.375	13.74	15.51	0.222	0.200*
	Experimental group 2	8	17.13	0.835	0.295	16.43	17.82	0.228	0.200*
	Control group	8	14.50	1.195	0.423	13.50	15.50	0.162	0.200*
Take off Penetration	Experimental group 1	8	14.63	1.506	0.532	13.37	15.88	0.214	0.200*
	Experimental group 2	8	17.50	0.926	0.327	16.73	18.27	0.205	0.200*
	Control group	8	15.13	0.835	0.295	14.43	15.82	0.228	0.200*
Swing Rock back	Experimental group 1	8	5.38	0.916	0.324	4.61	6.14	0.284	0.057
	Experimental group 2	8	4.75	1.035	0.366	3.88	5.62	0.220	0.200*
	Control group	8	6.38	1.061	0.375	5.49	7.26	0.222	0.200*
Clearance Landing	Experimental group 1	8	17.50	1.195	0.423	16.50	18.50	0.162	0.200*
	Experimental group 2	8	21.00	1.604	0.567	19.66	22.34	0.234	0.200*
	Control group	8	18.00	0.926	0.327	17.23	18.77	0.235	0.200*

Table 4 illustrates the post descriptive statistics (mean, std deviation, std error, confidence interval for mean and test of data normality) of pole vault's technical characteristics variables for two experimental groups and the control one under investigation. And all data are normally distributed. On the other hand, for the post comparison between the three groups, the tests of homogeneity of and pole vault learning and technical characteristic's variances showed that Levene statistic significant values are laying between 0,313-0.835. The results of the Kolmogorov-Smirnov test clearly indicate that all variables are normally distributed.

Table(5): ANOVA Multi comparison between the three groups in the variables of pole vault's learning

Learning Variables	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig
Learning Duration Time	Experimental group 1	Experimental group 2	12.375*	1.219	<0.001
		Control group	-3.875*	1.219	0.005
	Experimental group 2	Experimental group 1	-12.375*	1.219	<0.001
		Control group	-16.250*	1.219	<0.001
	Control group	Experimental group 1	3.875*	1.219	0.005
		Experimental group 2	16.250*	1.219	<0.001
Best Height vaulting	Experimental group 1	Experimental group 2	-31.250*	5.799	<0.001
		Control group	13.750*	5.799	0.027
	Experimental group 2	Experimental group 1	31.250*	5.799	<0.001
		Control group	45.000*	5.799	<0.001
	Control group	Experimental group 1	-13.750*	5.799	0.027
		Experimental group 2	-45.000*	5.799	<0.001
Learning percentage level	Experimental group 1	Experimental group 2	-8.250*	0.761	<0.001
		Control group	-1.500	0.761	0.062
	Experimental group 2	Experimental group 1	8.250*	0.761	<0.001
		Control group	6.750*	0.761	<0.001
	Control group	Experimental group 1	1.500	0.761	0.062
		Experimental group 2	-6.750*	0.761	<0.001

**The mean difference is significant at the 0.05 level.*

The one-way ANOVA (LSD) in table 5 illustrates that there are significant differences at (0.05) level between the two Experimental groups and the control one in the variables of pole vault's learning, which only, go to the control group in learning duration time. While in the best Height vaulting and learning percentage level go to the second experimental group.

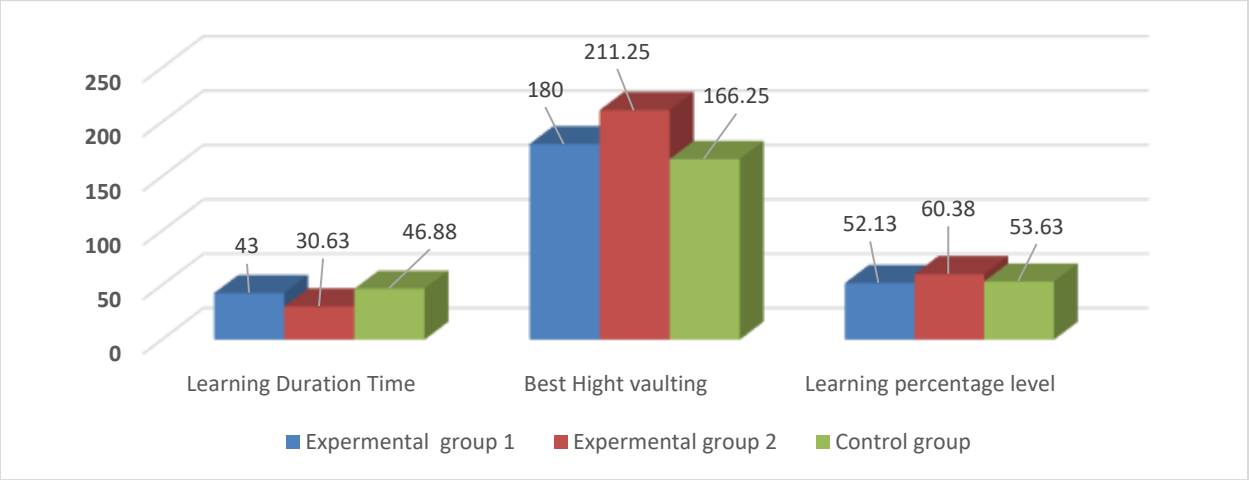


Fig1: comparison between the three groups in the pole vault's learning variables

Table6: Multi comparison between the three groups in the variables of pole vault technical characteristics

technical characteristics Variables	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig
Pole grip, Approach & plant	Experimental group 1	Experimental group 2	-2.500*	0.520	<0.001
		Control group	0.125	0.520	0.813
	Experimental group 2	Experimental group 1	2.500*	0.520	<0.001
		Control group	2.625*	0.520	<0.001
	Control group	Experimental group 1	-0.125	0.520	0.813
		Experimental group 2	-2.625*	0.520	<0.001
Takeoff Penetration	Experimental group 1	Experimental group 2	-2.875*	0.564	<0.001
		Control group	-0.500	0.564	0.386
	Experimental group 2	Experimental group 1	2.875*	0.564	<0.001
		Control group	2.375*	0.564	<0.001
	Control group	Experimental group 1	0.500	0.564	0.386
		Experimental group 2	-2.375*	0.564	<0.001
Swing Rock back	Experimental group 1	Experimental group 2	0.625	0.503	0.228
		Control group	-1.000	0.503	0.060
	Experimental group 2	Experimental group 1	-0.625	0.503	0.228
		Control group	-1.625*	0.503	0.004
	Control group	Experimental group 1	1.000	0.503	0.060
		Experimental group 2	1.625*	0.503	0.004
Clearance Landing	Experimental group 1	Experimental group 2	-3.500*	0.636	<0.001
		Control group	-0.500	0.636	0.441
	Experimental group 2	Experimental group 1	3.500*	0.636	<0.001
		Control group	3.000*	0.636	<0.001
	Control group	Experimental group 1	0.500	0.636	0.441
		Experimental group 2	-3.000*	0.636	<0.001

**The mean difference is significant at the 0.05 level.*

The one-way ANOVA (LSD) in table 6 illustrates that there are significant differences at (0.05) level between the two Experimental groups and the control one in the most variables of pole vault technical characteristics. which go to the second experimental group in pole grip,

approach and plant phase, takeoff penetration and clearance landing. While only it go the control group in swing rock back, comparing with the second experimental group.

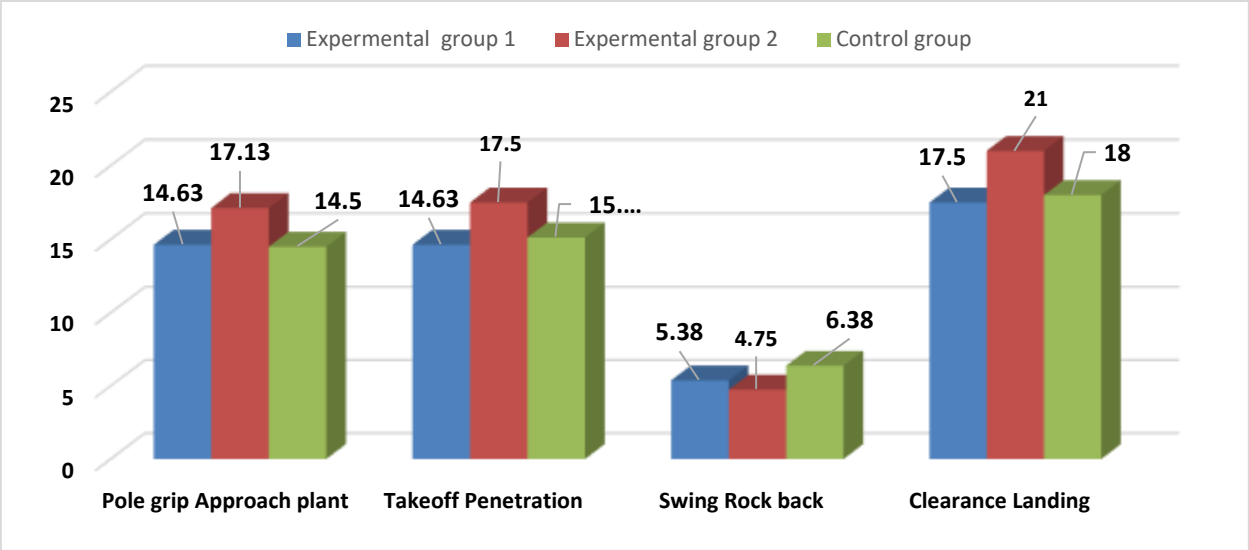


Fig2:comparison between the three groups in the variables of pole vault technical characteristics.

The discussion :

Table 5 shows there are statistically significant differences (3.875*) between the control and the first experimental group in the learning duration time, and (16.250*) between the control and the second experimental group, which go to the control group, which means that learning duration time (46.88 min) is longer for the control group, as showed in table 3 and figure 1, while it is (30.63 min) for the second experimental group, and (43 min) for the first experimental group. So, this finding refers to that the proposed teaching practical progressions method for the two experimental groups is faster in learning how to pole vault compering to the control group. While the second experimental group is the fastest.

It can also be observed that, the results show that there are statistically significant differences of the best height vaulting which is (31.250*) between the second experimental group and the first experimental group, and is(45.000*) between the second experimental group and the control one, with best height average (211 cm) and learning percentage level (60.38%) ,all go to the second experimental group.

On the other hand, there is statistically significant differences in the best height between the first experimental group and the control group, which is (13.750*) goes to the first experimental group. So, this means that the proposed practical teaching progressions for pole vault (the simple 3 steps, grass and sand pit vaulting) used for the first and the second experimental groups is faster, as well as, better than the W.A CECS teaching progressions in best height vaulting

Table 6 and figure 2 show that, there are statistically significant differences between the three groups in the most variables of pole vault technical characteristics which go to the second experimental group as following : In pole grip, approach and plant phase the mean differences between the second experimental group & the first experimental group is (2.500*) and the second experimental group & the control group is (2.625*),for takeoff and penetration phase the mean differences between the second experimental group & the first experimental group is (2.875*) and between the second experimental group & the control group is (2.375*) and for

clearance & landing phase with mean differences between the second experimental group & the first experimental group is(3.500*),and between the second experimental group & the control group is(3.000*) . These findings may return to the simple method of teaching pole vault which depend on grass vaulting and sand pit vaulting used in this research. While the differences go to the control group in swing &rock back phase which return to using landing mattresses for this teaching method which make the vaulter more confidence and feeling safe .

This result showed the important of the online theoretical approach using ppt& video in teaching method which is agreed with what Chir Ping 2022 refers to that online learning has the potential of allowing students to access up-to-date information anywhere and anytime, promoting active and independent learning, and supporting communication between experts and novices and the challenge for schools will be a willingness to consider the ways in which network technologies can provide better learning opportunities. (4:5). Also agreed with what Chawki Derbali et.al 2019 refer to that using video provides elements of motion that, little research has supported the use of video in the context of school physical education. It seems that this tool is only rarely used by physical education teachers. And it is very important to study the reliability of the implementation of the video tool in a cycle of teaching and learning the practice of pole vaulting. (3: 47)

In addition, these results may be returned to the gained knowledge of theoretical approach which used for this group, of how to perform the pole vaulting as a whole then followed by practical progressions which agreed with Edward Derse et.al 2012 recommendation, that the complex technique of the pole vault demands using the teaching "whole -part-whole" method. In other words, young pole vaulters must be taught to understand the pole vault as a whole first, then learn technique through repetition of specific drills that are essential to learning the event. Finally, partial skills should be integrated into a complete pole vault. (5: 372).

So, this result also, may be returned to the funny and simple approach of recommended teaching method, that has been used in this study, which agreed with the recommendation of Wang Hongyu 2020, that the track and field teaching and training, physical education teachers can use the sports game teaching method more than often in such processes as students' warm-up preparation, basic skill teaching, physical quality training, running and jumping sports. Integrating games into track and field teaching can meet the requirements of the new curriculum reform and reflect the meaning of quality education (18:950:952). Also, these results agreed with what Eli Sunquist 2017 refers to, that the simplifying of the vault in teaching and drill selection, will allow pole vaulter to learn quicker, safer. (6 :38). Also, this finding may be returned to applied simple teaching method in this research, which agreed with what Jornet Liesa et.al 2017 has recommended that the teaching method must be adapted to the facilities, tools & and equipment available in education of pole vault. (9: 454: 468).

In addition, agreed with what Jan Johnson 2016 refers to, the important of simplicity of all drill and technique like "Grass vaulting", as a series of beginning drills and exercises may be performed on nearly any smooth playing surface for the beginner pole vaulter. (8:2:5)

Conclusion

The recommended practical teaching progression of the three steps (grass & sand pit vaulting) used in this research for both experimental groups, can effectively achieve better teaching results specially in learning duration time and the best height vaulting, compared with the W.A CECS teaching method.

The recommended teaching method, using theoretical approach for the second experimental group, as well as, the recommended practical teaching progression of the three

steps (grass & sand pit vaulting) has a significant difference in the most variables of pole vault technical characteristics (In pole grip, approach and plant phase and takeoff and penetration phase.

References:

1. Carmen Schluter, (2016): Upper extremity strength and power field tests as predictors of pole vault performance in female collegiate athletes, A Thesis, Eastern Washington University.
2. Chawki Derbali, (2020): Relationships between The Components of Physical Fitness and Athletic Performance in Youth Pole Vaulters: A Prospective Study in a Tunisian Secondary School Setting" Journal of Physical Education & Health, vol. 9 (16), pp48-55.
3. Chawki Derbali, Fathi Matoussi and Ali Elloumi, (2019): "Teaching Strategies to Enhance Motor Skills Learning for Groups of Students: The Effects of Verbal and Visual Feedback on Performance in Pole Vault Practice", Journal of Education and Practice Vol.10, No pp45-59.
4. Cher Ping Lim (2022): Online Learning in Schools: Some Lessons from Pole-Vaulting, Educational Technology Magazine Feb, 2022 USA.
5. Edward Derse et.al (2012): Track and Field, Coaching Manual, LA84 Foundation,USA.
6. Eli Sunquist 2017: Simplifying the Pole Vault, Simplifying the Pole Vault - A Non-Vaulter's Approach to Success Techniques for track& Field and Cross Country , USTFCCCA,V11,N2,PP31-39.
7. Georgios Kyriakidis et.al (2022): The Effect of Blended Learning New Technologies and Direct Video Feedback on the Long Jump Technique in Primary School Students. International Journal of Human, V38, Issue 6.
8. Jan Johnson 2016: Basic Skill instruction Methodology, Wisconsin Track Coaches Clinic, Feb2016, pp 2-28.
9. Jornet Liesa, S; Gómez-Mármol, A & Valero, Alberto. (2017):" Ludotechnic Model as a Didactic Alternative for Teaching and Learning for Pole Vault", FRANCES: Revista de Transmisión del Conocimiento Educativoy de la Salud; 9(3).
10. MACKENZIE, B. (2004): Pole Vault [www] Available from https://www. brianmac.co.uk/polevault/index.htm.
11. Madawi M. Fahid Al-Matiry(2019):" Effect of Using Blended Education on the Level of Performance of some Athletic Skills for Children", Assiut Journal For Sport Science Arts, pp204-218
12. Magda M.E. Abd Elrahman and Aza M.A. Alemary (2011): "Effect of Specific Trainings and Some Gym Skills on Learning Pole Vault Competition for Girl Students of Faculty of Physical Education, Minofeya University", World Journal of Sport Sciences 4 (4): 405-409.
13. Mariusz Klimek, (2021): "Model Characteristics of Special Fitness of Pole Vault Jumpers Aged 12-17," Baltic Journal of Health and Physical Activity, Academy of Physical Education and Sport in Gdansk, Poland, Volume 3, No 3, pp 161-171
14. Mohammed Abdel Salam(2021): Modern Teaching Strategies, Successful Teacher's Guide, Noor Library,Cairo.
15. Nashwa Ahmed Al-Sayed (2013):" Effectiveness of using blended learning on teaching spin shot put for girls of Faculty of Physical Education for Girls", Zagazig. Ph. D. Thesis, Faculty of Physical Education for Girls, Zagazig University.
16. Nikola Aksović, Bojan Bjelica, Ljubica Milanović, Ljubinko Jovanović &Milan Zelenovic (2021): Teaching methods in teaching physical education, Italian Journal of Sports

Rehabilitation and Posturology , ; 10 (24); 3; 3; PP 2452 – 2464 .
17. Tim Richey (2022): Teaching the pole vault, Lawrence Central High school, http://www.iatccc.org/notes/polevaulttimrichey.htm.
18. Wang Hongyu (2020): "Effective Application of Game Teaching Method in Track and Field Teaching and Training", Advances in Social Science, Education and Humanities Research, Volume 496. Atlantis Press SARL, pp950-953.
19. World Athletics: CECE Teaching progression guidelines (Run. Jump. Throw) second edition, 2018. AADC, Cairo.
20. World Athletics: CECE Introduction to Coaching. The official guidelines second edition, 2018. AADC, Cairo.
21. Yong Chen & Shu Shen (2021): "Online Intelligent Teaching Method of Track and Field Error Avoidance Based on Multimedia Video", ICST Institute, Springer Nature Switzerland AG, LNICST 389, pp. 99–109.