



The use of orthodontic feedback in the educational process in the secondary schools: an analytical descriptive study of the use of orthodontic feedback in improving the level of motor learning in a sample of secondary schools in Algiers West

مساهمة التغذية الرجعية التقويمية في تحسين التعلم في الطور الثانوي:
دراسة وصفية تحليلية لتحسين مستوى التعلم الحركي لعينة من ثانويات غرب
الجزائر العاصمة

Contribution du Feedback évaluatif à l'amélioration du niveau d'apprentissage moteur des élèves du secondaire: étude analytique descriptive de certains lycées d'Algier ouest

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ملخص

تناول هذه الدراسة مساهمة التغذية الرجعية التقويمية في تحسين مستوى التعلم في الطور الثانوي من خلال دراسة تحسين مستوى الحركي في عينة من ثانويات غرب الجزائر العاصمة، حيث أعتبر هذا الموضوع من المواضيع التي يجب على أستاذ التربية البدنية والرياضية التحكم فيها وإتقانها من أجل حدوث التغيرات المرغوب فيها للتلاميذ، وقد استخدمت الباحثة المنهج الوصفي التحليلي وذلك للملائمة لطبيعة البحث، واشتمل مجتمع الدراسة على عينة مكونة من 60 أستاذة التربية البدنية والرياضية العاملات في 33 ثانوية التابعة لمديرية الجزائر غرب (الشراقة). وقد استخدمت الباحثة الاستبيان الشامل لخمسة محاور أساسية حول مؤشرات التغذية الرجعية المباشرة، ومؤشرات التغذية الرجعية الإعلامية، ومؤشرات التغذية الرجعية ذات عاطفة ومؤشرات التغذية الرجعية التوضيحية، وأخيرا مؤشرات التغذية الرجعية الحيادية. وقد خلصت الدراسة الحالية إلى النتائج التالية:

- التنوع في استخدام أشكال التغذية الرجعية على حسب الحاجة.
- الكشف عن مدى استيعاب التلاميذ للحركات الرياضية وذلك باستخدام أسلوب التغذية الرجعية.
- تعميم استعمال أسلوب التغذية الرجعية على مختلف المستويات.

الكلمات الدالة: التغذية الرجعية؛ التعلم الحركي؛ المراهقة.

Abstract

The current study came to shed light on the use of evaluation feedback in the educational process. Due to its relevance to the nature of the research, the researcher used the descriptive-analytical method. The study included teachers of physical and sports education for high schools in Algiers West, scattered on thirty three secondary schools affiliated to the Directorate of Algiers West (Cheraga). A sample of 60 teachers was randomly selected. The researcher undertook and used her own questionnaire which consisted of five main axes. They are the direct retro feedback indicators, The Media feedback indicators, The Retro feedback indicators of emotion, The Explanatory feedback indicators and lastly The Neutral feedback indicators. The statistical treatment method included percentages and the "K2" test. The study yielded the following results:

- There is a need to diversify the use of forms of feedback according to the situation.
- -There is a need to reveal the extent of the students' understanding of sports movements by using different forms of feedback.
- There should be a generalization of the method of feedback used at various levels

Keywords: feedback; motor learning; teenage.

Résumé

Cette étude est venue mettre en lumière la contribution du feedback évaluatif et sa contribution à l'amélioration du niveau d'apprentissage moteur des élèves du secondaire. En raison de sa pertinence par rapport à la nature de la recherche, la chercheuse a utilisé la méthode analytique descriptive. L'étude a inclus des professeurs d'éducation physique et sportive des lycées d'Alger Ouest, répartis sur trente-trois lycées affiliés à la Direction d'Alger Ouest (Cheraga). Un échantillon de 60 enseignants a été sélectionné d'une manière aléatoire. La chercheuse a entrepris et utilisé son propre questionnaire qui comportait cinq axes principaux. Ce sont: les indicateurs de feedback direct, les indicateurs de feedback médiatique, les indicateurs de feedback d'émotion, les indicateurs de feedback explicatif et enfin les indicateurs de rétroaction neutre. La méthode de traitement statistique comprenait des pourcentages et le test "K2". L'étude a conclu aux résultats suivants:

- Il est nécessaire de diversifier l'utilisation des formes de feedback en fonction de la situation.
- Il est nécessaire de révéler l'étendue de la compréhension des élèves des mouvements sportifs en utilisant différentes formes de feedback.
- Il devrait y avoir une généralisation de la méthode d'utilisation du feedback à différents niveaux.

Mots-clés: feedback, apprentissage moteur, adolescence.



Introduction

Humans have been concerned with their body, health, fitness and shape since the beginning. They have also learned through their different cultures of the benefits that result from exercising different forms of physical activities. These benefits do not stop at the health and body aspects but also encompass the positive aspects of the psychological and social side and also the mental cognitive and skill motor aspects as well as the aesthetic and artistic ones. These aspects in general make up the individual's personality in a comprehensive, consistent and integrated way.

Due to the importance of physical education, it has become a standard attracting the attention of educators within the educational and learning institutions. As a result, the educator must follow successful educational methods to be able to achieve the goals of learning among which the use of the feedback method in the educational process. Feedback has a great impact on improving the learning process and it allows setting the learned material in the learner's mind. In fact, feedback is the main element in the educational process in general and in motor learning in particular and the learning and teaching processes do not achieve their goals without it and it must accompany the process of practices and training during the learning and come after the daily or monthly tests. Several researchers have tried to clarify the positive role and importance of feedback during the learning process.

Kinetic learning is that aspect of learning in which movement plays a major role. It could be summarized as learning a new movement, refining it, getting it right, then working to establish it. Hence, we see the great role of the motor learning process as a basis for building a strong, balanced individual's personality that is beneficial in society.

Feedback allows the learner to discover his level of learning and the degree of its progress or not. Feedback has also an effect on motor learning according to the situation and how it is used. Therefore, the researcher undertook this study to find out the effect of orthodontic feedback on motor learning in secondary schools.

1. Review of previous studies

1.1. Studies on feedback

Feedback plays an important role in the learning process; it is considered one of the most important educational methods that have a direct and



decisive effect on the learning process. Feedback allows the learner to provide information about the nature of his performance during his repeated attempts to learn the required skill. This information will allow him to know the progress he made before, during and after the performance and any failure to provide this information will impede the learning process as a whole. Starting from this, feedback can be considered representing the various changes that affect the learner, which are given to him through his response to the action to be learned and its implementation for good achievement, improvement of the situation, or correcting the motor path. This information takes different forms in the educational environment and focuses on its essence on achieving educational-behavioral goals during the learning process. Ali Mustafa Taha (1999) believes that "the concept of feedback is summarized in the information that indicates an error or deficiency in motor performance or any result of action".

Jean Williams (1995) refers to the numerous functions and tasks of feedback: he sees that it provides us with special information about movement, and it can be a strong incentive for the learner, change immediate performance and support the learning process.

In addition, during the years 1999-2000 Ait Lounes Mourad conducted a study entitled "An analytical study of feedback included in the state of teaching and learning, and its relationship to the pedagogical experience of the Algerian teacher". This study's goal was to show the effect of the pedagogical experience on the feedback process included in the case of teaching and learning for the physical education and sports class. The study aims also to know whether the nature and rate of feedback change according to the educational level of the students, and the nature of the activity taught.

The researcher relied upon the following tools: the observation to collect data and the Fisher test to measure the significance of differences. The research sample consisted of 20 teachers divided into two samples. The first sample comprised teachers whose field experience ranged from zero to three years while the second sample ranged from six to ten years. The samples were selected randomly. It was concluded that the pedagogical experience has a positive effect on the feedback included in the educational cases. The percentage and nature of the feedback used were different



whether one took into account the level of the pupils and the nature of the activity (collective, individual).

1.2. Studies on learning and motor learning

Physical activity, in its educational term, has a special and important character in building societies because of its importance in preparing individuals healthily, socially, physically, mentally and emotionally. To the point that it became a science in itself that has its own philosophy, regulations, laws, foundations and rules to follow. It is an educational method that comprises guided practices through which the needs and motives of the individual are satisfied by preparing the situations that the individual faces in his daily life, and at the level of educational institutions that bear the responsibility of creating effective and valid generations in society.

That is implemented through teaching them and providing them with scientific and practical knowledge by teachers. Learning is the process of receiving knowledge, values, and skills, which leads to a permanent change in the behavior which then redirects the person and reshapes the structure of his thinking. All this has a goal: make the educational process a success, as specialists have linked the education process with kinesthetic learning. Research has concluded that there are important foundations that must be taken into account at the beginning and during the learning process, in addition to practice, which is one of the most important prerequisites for learning motor skills. Regarding this, Derri (2007) says, "The practice is not merely a repetition of the movement, but rather a repetition accompanied by reinforcement and modification, which means in other words, the emergence of a gradual improvement in performance as a result of correcting mistakes and promoting correct performance". Kinetic learning is considered as one of the branches of the general educational process that distinguishes the learner during his entire life. One could say that no single human activity of all kinds is devoid of learning and motor learning, which is the process of obtaining the initial information of movement and initial experiences of performance, improving it and then improving it, and this process is part of the general development of the personality. (Abd Al-Dulaimi, 2016, p. 31)

Beckett (2007) adds that "the diversity and comprehensiveness of motor learning should use the numerous and different types of educational aids



that directly affect the educational process". And in order to achieve the goal pursued by this process, namely, to allow the learner reaching the best level in performance, the effective educational process depends on the extent of communication between the learner and the teacher, because when the means of communication are appropriate, the learning process taking place is better, faster and saves greatly the effort that is needed.

1.3. Determining the subject

Starting from the points above and due to the importance of the subject of motor learning, the main objective of the current study is to verify the effectiveness of orthodontic feedback in improving the level of motor learning among secondary school students. We, therefore, ask the following main question:

Does the use by the physical education teacher of orthodontic feedback improve the motor learning level of secondary school students? This main question is divided into the following subsidiary questions:

- Does the use by the teacher of physical education and sports of direct feedback improve the motor learning level of secondary school students?
- Does the use by the teacher of physical education and sports of media feedback improve the motor learning level of secondary school students?
- Does the use by the teacher of physical education and sports of affective feedback improve the motor learning level of secondary school students?
- Does the use by the teacher of physical education and sports of explanatory feedback improve the motor learning level of secondary school students?
- Does the use by the teacher of physical education and sports of neutral feedback improve the motor learning level of secondary school students?

And to answer these questions, the following hypothesis has been formulated:

- The use by the teachers of physical education and sports of orthodontic feedback contributes to a great extent to improve the level of motor learning among secondary school students. Therefore, the formulation of the partial hypotheses came as follows;



- -The use by the teacher of physical education and sports of direct feedback contributes effectively to improving the level of motor learning among secondary school students;
- -The use by the teacher of physical education and sports of media feedback contributes effectively to improving the level of motor learning among secondary school students;
- -The use by the teacher of physical education and sports of affective feedback contributes effectively to improving the level of motor learning among secondary school students.
- -The use by the teacher of physical education and sports of explanatory feedback contributes effectively to improving the level of motor learning among secondary school students;
- -The use by the teacher of physical education and sports of neutral feedback contributes effectively to improving the level of motor learning among secondary school students.

2. Research's methodology

In our study, we relied on the descriptive and analytical method, as it is the most appropriate method in the social and educational sciences while it allows also testing the quality of our hypothesis. In addition, this method is the most appropriate in gathering information related to the problem at hand, then studying and analyzing it, finding appropriate solutions and clarifying the reasons that led to that problem.

Among the most important features of the descriptive approach is that the study uses sampling and that the study reveals the causal relationship between two or more variables. And we implemented this approach to a sample made up of physical education and sports teachers in high schools in the Directorate of Algiers West District spread in thirty three secondary schools affiliated with the Directorate of Algiers West.

These institutions were chosen providing the appropriate conditions for conducting the field research after the approval of the Director of Education for the Algiers West Sub-District and the following secondary school principals (Mohamed Issiakhem High School , Cheraga - Colonel Bachir Mentouri High School, Cheraga- Motqan Dely Ibrahim -Dely Ibrahim, Mohammad Khodja High School ,Douera- Hocine Ait Ahmed High School, Souidania –Didouche Mourad High School, Bir Mourad Rais-Colonel Lotfi High School Ouled Fayet- Said Ait Messaoudene High School



Draria- Tessala El Merja High School Birtouta – Zoubida Ould Kablia High School Drariaetc.....).

There were 60 teachers chosen in a simple random way and responses were received after a week of the sending. To achieve more accurate, objective and realistic results, we chose a simple random sample without restrictions or characteristics. This sampling relies on the principle of a random selection of the items. In this case, all the units of the community under examination have the same opportunity or possibility to choose and from it, the results of the research reached can be generalized. We have, for this purpose, relied on the questionnaire that represents feedback in terms of its function, and also through reference to books, educational frameworks, and previous related studies. Description of the tool could be summarized in the following table:

Table n°1:shows the axes of the questionnaire and the phrase numbers

Axes	Orthodontic feedback indicators
Axis 1	Direct feedback indicators
Axis 2	Media feedback indicators
Axis 3	Affective feedback indicators
Axis 4	Explanatoryfeedback indicators
Axis 5	Neutral feedback indicators

To strengthen the validity of the study tool, we used the validity of the arbitrators as a tool to ensure that the questionnaire measured what it was prepared for. For this matter, we distributed the questionnaire to a group of teachers. Relying on the observations and directions the arbitrators made, we introduced the changes agreed upon by most of them:some phrases were deleted and the wording of others changed. The reliability coefficient of the questionnaire was calculated using the Vacronbach method.

$$\alpha = \frac{K}{K - 1} \left[1 - \frac{\sum S_i^2}{S_T^2} \right]$$

Where:

K= Number of elements



$$\sum S_i^2 = \text{Total variations of elements}$$

$$S_T^2 = \text{Overall score variance}$$

The product of the constant coefficient was 0.71, which is a degree indicative of its stability.

3. Results

3.1 Results of the study of direct feedback indicators

Table n°2: Extent to which direct evaluation contributes to increasing students' motor performance

Proposal	Repetition	Percentage	Calculated K ²	Scheduled K ²	Significance	Significance level	Degree of freedom
Always	49	81.60 %	64.6	5.99	Significant	0.05	2
Sometimes	09	15 %					
Never	02	03.30 %					
Total	60	100 %					

The table shows the following results: there are statistically significant differences in favor of the greater value at the level of significance (0.05) and the degree of freedom (2) where the calculated value of the K², which was (64.6), is greater than the value of the scheduled K², which amounted to (5.99). This means that the majority of the teachers or 81.6%, pointed out that the direct evaluation of the pupils leans towards increasing the motor performance, as this increases their enthusiasm and motivation in their psyche, improving themselves and raising their educational level effectively and thus improving their motor learning level.



3.2 Results of the study of informational feedback indicators

Table n°3: Knowledge of the importance of informing students about the increase in motor performance achieved

Proposal	Repetition	Percentage	Calculated K ²	Scheduled K ²	Significance	Significance level	Degree of freedom
Always	47	78.30 %	55.9	5.99	Signifiant	0.05	02
Sometimes	10	16.60 %					
Never	03	05 %					
Total	60	100 %					

The results of the table show that there are statistically significant differences in favor of the greater value at the level of significance (0.05) and the degree of freedom (2) where the calculated value of the K² was (55.9), which is greater than the value of the scheduled K², which was (5.99). This means that most of the teachers or 78.3% insisted on the necessity of informing students of the increased movement performance achieved. In other words, the role of information directed to students in the media feedback makes a good repeat to the motor activity after the first attempt acting as a catalyst to stimulate the righteousness of the students' motor performance and beyond that improve it.

3.3 Results of the study of the emotional feedback indicators

Table n°4: Knowledge of the importance of using oral communication (encouragements and motivations) to correct the movement performance of students.

Proposal	Repetition	Percentage	Calculated K ²	Scheduled K ²	Significance	Significance level	Degree of freedom
Always	55	91.67 %	72.5	5.99	Significant	0.05	02
Sometimes	05	08.33 %					
Never	00	00					
Total	60	100%					



The results of the table show that there are statistically significant differences in favor of the greater value at the level of significance (0.05) and the degree of freedom (2) where the calculated value of the K^2 which was 72.5, is greater than the value of the scheduled K^2 , which amounted to 5.99. This means that the vast majority of the teachers, or 91.67%, indicated that they use oral communication (encouragements and motivations) to correct the movement of students and therefore improve it. From the point of view of encouragement, feedback is either a reward or a punishment. This comes from the fact that information that it provides about behavior would lead to strengthening or confirming that behavior had it been correct and also makes the possibility of its occurrence more likely in the future.

3.4 Results of the explanatory feedback indicators study

Table n°5: Showing whether the errors decreased when hearing the explanatory evaluation during implementation and discussing the causes of the error.

Proposal	Repetition	Percentage	Calculated K^2	Scheduled K^2	Significance	Significance level	Degree of freedom
Always	37	61.66 %	28.9	5.99	Significant	0.05	02
Sometimes	20	33.33 %					
Never	03	05 %					
Total	60	100 %					

The results of the table show that there are statistically significant differences in favor of the greater value at the level of significance (0.05) and the degree of freedom (2) where the calculated value of the calculated K^2 , which was 28.9, is greater than the value of the scheduled K^2 which amounted to 5.99.

This means a slight majority of the teachers (61.66% which represents around or little less than 2/3) acknowledged the decrease in errors when hearing the explanatory evaluation during implementation and discussing



the causes of the error on the part of the students because they deal with the situation directly after the errors happen.

The teachers indicated also that the pupils increase their motor activity when hearing the explanation, because with it (the explanation) and the teacher adding information during the movement of the students, the pupils discover their capabilities and interact with the situation byincreasing the movement activity and responding to the explanatory phrases presented to him.

3.5 Results of the study of neutral feedback indicators

Table n°6: Knowledge of whether the teacher undertakes a neutral behavior that makes studentswait to continue, especially in group activities.

Proposal	Repetition	Percentage	Calculated K ²	Scheduled K ²	Significance	Significance Level	Degree of freedom
Always	24	40 %	11.2	5.99	Significant	0.05	2
Sometimes	28	46.66 %					
Never	08	13.33 %					
Total	60	100 %					

The results of the table indicate that there are statistically significant differences in favor of the greater value at the level of significance (0.05) and the degree of freedom (2) where the calculated value of the K², which was 11.2, is greater than the value of the scheduled K², which amounted to 5.99.

This means that 46.66% of teachers (which represents less than 1/2) acknowledge that when performing a neutral behavior, the students wait sometimes a long time before continuing this especially true in group activities.

When the teacher fails to give any evaluation about the motor performance, this makes the student confused about the presence or absence of operational errors about the said performance. This is what makes them wait.



4. Results discussion

It is clear and according to the answers given by the interviewed teachers for the questions 01 to 04 that most of them (81.60 %) perform the immediate evaluation process (Table 02) while 73.30 % of the teachers do a positive direct evaluation after the motor performance. On the other hand, 86.60 % of the teachers do a negative direct evaluation after the motor performance to modify the behavior while 85.66% of the teachers declare that the direct evaluation of pupils tends towards increasing the motor performance which in turn increases the enthusiasm and motivation in the student's psyche and this leads to self-improvement and effectively raises his educational level.

Therefore, it can be said that the first partial hypothesis has been achieved, that is, the use of direct feedback during physical education and sports contributes effectively to improving the level of motor learning among secondary school students. Hence, it can be said that the first partial hypothesis has proven right, that is, the use of direct feedback during physical education and sports contributes effectively in improving the level of motor learning among secondary school students.

This is confirmed by the fact that the term feedback comes from a mechanical nature, that is, electronic device, meaning a method that organizes inputs and links them to outputs ... in other words, retrieving direct information. It appears following the correct answers given by the interviewed teachers to the questions 01 to 08 that most of the teachers or 78.30 % (almost 8/10) or insisted on the need to inform students of the increase achieved in motor performance while 68.30 % of the teachers insisted on informing the pupils about the accuracy of their motor performance. This information indicates the accuracy of movement and its goal is to make the pupils aware of the individual's response to the assigned duty. Another 88.30 % of teachers inform pupils about their ability to achieve positive motor performance. This is to say that informing the learner that a given response is correct satisfies his cognitive drive and self-improvement, and increases the volume of material that he remembers during the examination.

Most of the teachers, to the extent of 70% (07 /10), provide the pupils with information about negative motor performance, which means they inform them of the result of their learning by providing them with information that helps them to modify their motor performance and reach



good achievements. Hence, it can be said that the second partial hypothesis has been fulfilled, meaning that the use of a professor of physical education and sports for media feedback contributes effectively to improving the level of motor education among secondary school students.

Hence, we can affirm that the second partial hypothesis has been fulfilled and that the use by the teacher of physical education and sports of media feedback contributes effectively to improve the level of motor education among secondary school pupils. Several people working in the education system have emphasized the importance of informing learners about the results they achieve in the tests and in all appointments and duties that are assigned to them whether inside or outside the institution, regardless if these results are correct or wrong, positive or negative.

It is clear according to the answers given by the interviewed teachers for questions from n°. 09 to 12, whereby the teachers with a clear percentage of 91.67% (over 9/10) clearly indicated that they use oral communication as encouragements and incentives to evaluate the movement performance of pupils. On the other hand, 60% of the teachers pointed out the use of the non-verbal communication such as the use of the movement of the hands or the head to evaluate the movement performance of the pupils, where the teacher makes signs expressing what the pupils presented. Another 70% of the teachers indicated that they express a judgment about the bad achievement compared to the movement performance of colleagues or groups, and the teacher declares and prefers a particular student or group over others. Most of the teachers or 80% (8/10) encourage the pupils or the group whose movement performance is ideal. It has been proven that praise increases the ability of the individual and has positive effects on the student's behavior through learning and achievement.

Hence, it can be said that the third partial hypothesis has been fulfilled and the use of the teacher of physical education and sports of emotional feedback contributes effectively to improving the level of motor learning among secondary school students.

This was confirmed by Abbas Ahmad Al-Samrani who says: "The correct use of the accompanying feedback in comparison to the correct sources or models means that the educational process is performed in a good and effective way reaching the targeted goal in the easiest and shortest time". It



can be presented in an oral symbolic way (smile or applause) on the ground of physical education and sports. Feedback can be either verbal (word use) or visual (head and body movements). It aims mainly at enhancing learning or the movement performance of students, and the reinforcement may be positive or negative.

It appears from the correct answers given by the interviewed teachers to questions No. 13 to 15, that a little over half (55 %) noticed that the pupils increased their motor activity upon hearing the explanation and that 80% of the teachers clarify and explain to reach the required motor performance. For this, the pupils' learn and continue to learn to reach the established goals, whether actually or in the future, in order to achieve the required levels of performance and 61.66% of the teachers emphasized the small number of mistakes made by pupils when hearing the explanatory evaluation during implementation and mistakes' discussion.

Starting from these data, one can say that the fourth partial hypothesis has been fulfilled, which means that the use by the teacher of physical education for explanatory feedback contributes effectively to improve the level of motor learning among secondary school pupils. And in order for the teacher or trainer to be able to give feedback to the pupils in the correct way, he must know how to present or give this information in a manner that is sufficient and accordingly. In order to avoid boredom as well as the accumulation of information in the student, the best way to enhance feedback is to increase the percentage of its presentation, in other words, it must contain useful information of high value and good meaning (Al-Samrani, 1991, p. 124).

From the correct answers given by the interviewed teachers to questions No. 16 to 18, a little over half of them (51.66%) observe the pupils' movement without making any movement or explanation whereas the teacher does not give any evaluation about the pedagogical performance of the student. For 40 % of the teachers, when performing a neutral behavior, they often find that pupils organize themselves to continue, especially when they are in group activities. Lastly, half of the teachers (50%) tend to give a neutral point of view regarding the movement of the students, so when the teacher observes the achievement of the pupils, he does not give nor express movement, explanation, or guidance.



It can be then said that the fifth partial hypothesis has been fulfilled or that the use of the teacher of physical education and sports for neutral feedback contributes effectively to improve the level of motor learning among secondary school pupils.

In light of this study's data and the results obtained from the use of the questionnaire submitted to teachers of physical education and sports at secondary schools in the Algiers West Directorate, we can conclude that the use by the teachers of physical education and sports of orthodontic feedback contributes effectively in improving the level of motor learning among secondary school pupils and from it the general hypothesis is fulfilled.

And in light of the scientific references from which our study started, and which represents the fertile ground on which we have chosen this subject of our study, and specifically the problematic and the subject of our research and also the fact that most of the previous studies we have viewed on the basis of their problems and also the scientific results that have been reached, one can safely say the importance of feedback from a biological point of view is undeniable and it has effectively been able to improve and raise the educational level of pupils.

This subject was well dealt with in the study of Labane Karim titled "The educator's feedback and its relationship to the degree of motivation of pupils during the physical education and sports class in the secondary stage: between the pedagogy of goals and the approach to competencies". This study is based first on the existence of a large difference between the types of feedback in terms of stimulation and motivation of the pupils towards learning motor performance. Differences that are evidenced by the difference in the nature of the teacher's activity as well as the different periods of implementation of the movement of the pupils, especially the different approach used, which forms the pedagogical framework for the educator and that saw the competency approach dominate. Secondly, one notices a difference in motivating students during classes, as this is evidenced in a difference in their pedagogical behavior.

The dimensions of the latter do appear in terms of their motivation (the extent of the motivation to appear) and this varies according to the nature of the teacher's activity, as well as the periods of implementing any given movement. Thirdly, there is a difference between the relationship existing



between the feedback's dimensions and the pedagogical behavior's dimensions of the students and these results from the difference between the nature of the activity and the period its implementation. It was based first on the assumption that training cardiac feedback helps reduce the trait of anxiety in the players.

Secondly, that cardiac feedback training helps reduce cognitive anxiety in players during competition. Thirdly and lastly, that cardiac feedback helps increase the players' self-confidence during competition.

There have been also other studies that dealt with motor learning at different levels: intermediate education, secondary education and university education. In a third study by Tiyab Mohame titled "Evaluating the reality of teaching performance among professors of physical education and sports in intermediate education" the author tried to investigate the aspects or reasons that would affect the effectiveness of the teaching performance of physical education and sports teachers as they define them themselves in terms of their importance. Add to that, the provision of an evaluation tool to determine the teaching practices of physical education and sports teachers at that stage, a tool which can be a back up to scientific research. The author also found that the most practiced skills in terms of performance level are the implementation and classroom management skills, while the level of performance or practice lessens when it comes to planning and evaluation skills, according to the research backgrounds and data.

Further, he found out the presence of statistically significant differences in the level of teaching performance between teachers due to the gender variable (males and females), the existence of statistically significant differences in the level of teaching performance among the professors due to the scientific qualification variable (Bachelor, Competency Certificate), and finally the existence of statistically significant differences in the level of teaching performance among the teachers that was due to the variable of teaching experience.

Other studies went the same way emphasizing the importance of using feedback in different learning processes, especially motor learning. This is what Ismat Ibrahim and Madiha Omar dealt with in a study titled "The effect of using feedback using the visual recorder to correct errors in the shot-put competition". This study investigated the necessity of using the



visual recorder by displaying performance and comparing it with a good model performance in addition to implementing an error correction program as an aid in raising the level of performance. It also dealt with providing feedback for equipment in physical education and sports institutes as means for teaching motor skills in general and accuracy and speed of achievement and learning in particular.

One common aspect in all the studies we looked at is that they did not specify the type of feedback used, because not every type of method is compatible with all types of feedback. There is an important point in the research that must be taken into consideration and taken into account. The researcher relied on her choice of the type of orthodontic feedback to prove its great importance in teaching. Previous studies that dealt with the subject of research on feedback and its types and a comparison between them have shown that each type of feedback differs in effect one from the others. It has become important and rather imperative to renew the type of feedback that the teacher uses in the method and to check it so that it would not be an embarrassing variable affecting the results of the research. Also, most of the studies that used feedback and compared their types did not specify the type of method they used, especially in the educational process, and this is necessarily something that the researcher should pay attention to in its quest to control all the variables of his research.

Conclusion

Motor learning could be considered as the development of various sports skills linked to new cognitive growth and maturity linked to kinematic, mechanical, anatomical and functional foundations. Kinetic learning is an aspect of learning in which movement plays the main role. It could be summarized in learning a new movement, refining it and working to stabilize it. As a result, the educator must follow successful educational methods to be able to achieve the scheduled goals of learning, including the use of the feedback method in the educational process. Feedback is considered one of the most important subjects in the educational sciences, especially in the physical activity and sports field. It is also one of the most important methods used in the process of motor learning for sports skills. And it means all the information the teacher receives during and after the motor performance that guides him towards knowing the result of his motor performance. Based on this, feedback is of great importance in the motor learning process and therefore helps the learner to improve and



develop his motor performance for the better it greatly contributes to increase the effectiveness of learning and making the pupil combine it with educational approval. In light of the results we have reached, we can answer the question posed in our study, which is:

"How can the teacher of physical education and sports use feedback (orthodontic) that contributes to improving the level of motor learning among secondary school pupils?". The answer to this questioning came after the fulfillment of all the hypotheses put forward that say:

The use by teachers of physical education and sports of direct feedback contributes effectively to improve the level of motor education among secondary school pupils. Likewise, the use by the physical education and sports teacher of media feedback contributes effectively to improve the motor learning level of secondary school pupils. Also, the use by the teacher of physical education and sports of emotional feedback contributes effectively to improve the motor learning level of secondary school pupils. In addition to the fact that the teacher of physical education and sports use of explanatory feedback contributes effectively to improve the level of motor learning among secondary school pupils. Also, the use of by the teacher of physical education and sports of neutral feedback contributes effectively to improve the level of motor learning among secondary school pupils.

Based on the aforementioned, we have formed a more cognitive and clearer opinion on our topic and were able to prove the necessity for the teacher's assessment of the pupil's motor performance. By the same token, we have proven the need to give information to the learner about the accuracy that enables him to accomplish the required performance and adding information about his performance as well as the need for the teacher to express his opinion about the performance and this could be done either through encouragement and motivation, or resentment and dissatisfaction. Finally, there could be the need to give the learner information about the accuracy of his answer, correct the wrong answers, discuss the reasons for the error, and sometimes the need not to give the teacher any evaluation about the student's pedagogical performance. We hope to have completed our research knowing that research in the scientific field does not end and it is always renewed, but we stop at this point because of the pandemic that we are passing through, hoping that it will be used as the start of a new study.



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