

Implementation of a Network Sport Training Platform in E-Learning Information System

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Abstract: -In the earlier study paper, the author uses the corresponding information system technologies to present a newly teaching training method. Based on the E-Learning web-site and the network teaching, we use skilled system to establish the interactive Sport Teaching E-Learning structure. The proposed method provides a newly teaching model and an innovative learning point. In this paper, we implement the E-Learning Information System in the Network Sport Teaching E-Learning Platform and obtain some special features. The positive features of the Network Sport Teaching E-Learning Platform includes 'The convenience of Learning Guide', 'The Characteristics of Individual Course Programs', 'The Multiple-types of Learning Contents', 'The Creation of Sport Groupware' and 'The Instant Interactive Phase'.

Key words: E-Learning, information system, network, skilled system, web-site.

1 Introduction

The E-Learning is a very popular topic in the world. The applications of E-Learning are widely discussed in [1]-[15]. People start concentrating leisure time life while their family life becomes steady. Therefore, the outside sports become popular progressively. And tennis is one of the most popular sports in the world. There are many references explored the corresponding skills in Tennis listed in [16]-[21], but there is few documents use the E-Learning method to this kind of sport training. Due to the limitations of the tennis knowledge and skill resources in Taiwan, in previous research paper [1], the author uses the corresponding information system technologies to present a newly sport teaching method.

Based on the E-Learning platform and the network teaching, we use skilled system to establish the interactive sport teaching E-Learning structure. The proposed method provides a newly teaching model and an innovative learning point. In this paper, we implement the proposed teaching training method in the Network Sport Teaching E-Learning Platform and discuss the associated facilities. The proposed teaching training method in network can be used to help the experience exchanging between beginners and trained sport classes.

Furthermore, the implementation of the teaching training method can help in breaking out the limitations on teaching program used in sport training.

1.1 The Motivation

Sport becomes widely popular worldwide today. Various kinds of sports are attracted by people. Many people want to keep themselves healthy by doing exercise. Many students have to take sport courses at school. But, the first step may feel difficult for anyone who joins a new sport group. Not only the difficult skills but also the

E-learning platform is more and more popular today. Its overall functions lead the knowledge sharing model. Therefore, the use of E-learning platform in sport learning would be a better method for many people.

E-learning platform model also provides interactive function. People who can get the feedback and realize the learning result from the E-learning platform. Even the sport learning program can also add to the E-learning Platform. This new program would expand the sport world.

1.2 Research Purpose

The Purpose of this research is to implement the proposed teaching training method in the Network Sport Teaching E-Learning Platform and discuss the associated facilities. And we build the interactive Network Sport Teaching E-Learning Platform through this research.

1.3 Paper organization

This paper is organized in the following manner. Section 2 describes the literature review of the E-learning. In Section 3, the author presents the research methodology. Section 4 implements the proposed teaching training method in the Network Sport Teaching E-Learning Platform and discuss the associated facilities. Finally, we make a brief conclusion in Section 5.

2 Literature Review

In this section, we depict the corresponding knowledge of the E-learning tennis.

2.1 The E-Learning teaching

E-learning is the channel of digital information transferring. The spirit of E-learning is 'on-line learning' that relies on the network technologies [7].

While the internet network is widely used, the E-learning uses the modern broadcasting technique to transfer knowledge and skill. Finally, E-learning becomes the teaching model [8]. This model breaks through the limitation of time and locations. The students use the computers to connect to the E-learning Platform for receiving the required courses and materials. The learning programs development depends on individual characteristics and requirements.

E-learning can be classified into synchronous network teaching and asynchronous network teaching. 'Synchronous network teaching emphasizes a real-time information transferring. By using the video meeting and multimedia techniques, the teachers and students can implement asynchronous network teaching programs at different time and different locations.

The students are allowed to join the E-learning programs at anytime. The students can also submit their questions through the e-mail, on-line discussion, message board and chat room. These processes create the flexible communication model [9].

2.2 The Characteristics of E-learning

The characteristics of E-learning are as follows: The E-learning provides equivalent educational opportunity. It provides the students equal high-quality learning opportunities. The E-learning

has no time and place limitations and the learning processes are performed normally. The E-learning provides personal education and the learning programs are designed on the basis of individually requirements.

The Independently learning helps the students release the learning pressure and provide the privacy for the students. The students share the learning experience with other students all over the world. Through the self learning process, the students own the abilities of self control, activeness, responsibilities, dependence, and lifelong learning plan [10].

2.3 The Advantages of E-learning

Once the E-learning is implemented, the following advantages appear, such as: various types of contents, channels of learning experience exchanging, the virtual learners' groupware, and the professional network resource providers.

These advantages offer the widen information sources, the rapid learning channel, the lower learning cost, the raise of learning quality and the increase of learners' participation rate. We make the brief introduction of each advantage in the following sections:

i. Multiple-type of Content

The type of the E-learning content is various from the basic format of text, graph, image, extending to the music, animation and video.

ii. Knowledge Exchanging Channel

The knowledge exchanging channel of E-learning includes message board, discussion area and chat room.

iii. Virtual Learning Groupware

No limitation of time and locations is the main characteristic of E-learning, many of the learners can use the resources freely. These people gathered together and become the virtual learning groupware.

iv. Professional Information Providing

In order to satisfy the requirements of the E-learning learners, the professional specialists with different background got together to fulfill the content of E-learning.

3 Research Technique

In our research, the questionnaire investigation method and the literature analysis method are used to support the construction of the Network Sport Teaching E-Learning Platform. Based on the results, we design the Network Sport Teaching E-Learning Platform to provide sport learners a virtual learning environment.

3.1 Research Method

We briefly introduce the research methods in the following:

3.1.1 Questionnaire Investigation

In our research, we first realize the people’s anxiety to learn different kinds of sports by using the questionnaire investigation method. We also present some questions focusing on the possibility of teaching sports through the E-learning Platform. We implement the pre-test first. Then, we mailed 200 questionnaire investigation letters and finally returned 178 valid questionnaires.

3.1.2 Literature Analysis Method

Through the literature analysis method, we learn the detailed skills of different kinds of sports. We also explore the relationship between sport and E-learning model.

3.2 Research procedure

In our study, the research direction should be defined in the beginning. Then, we use the questionnaire investigation method to collect the requirements of the sport teaching. After the analysis of the questionnaires, the research purposes are defined.

Furthermore, the literatures toward the sport knowledge, the sport courses materials and the e-learning knowledge are collected and designed. Finally, the Network Sport Teaching E-Learning Platform is ready to established under the fully preparation process. The research procedures are shown in Fig. 1.

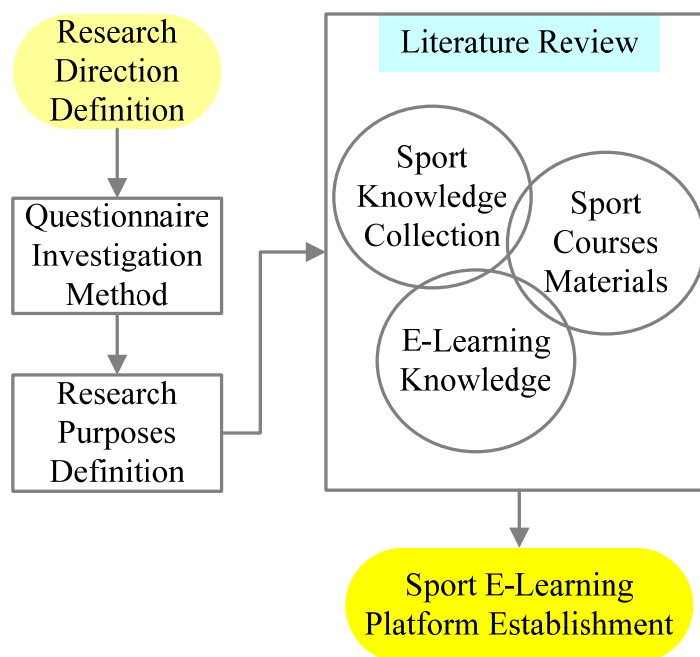


Fig. 1 Research process

4 The Preparation of Network Sport Teaching E-Learning Platform

For the purpose to create a high-quality the Network Sport Teaching E-Learning Platform, our courses are designed by the following guidelines:

4.1 Approach Learners' Requirements & Individual Teaching

Based on the analysis result from the questionnaire, we approach learners' requirements. We have to set multi-levels for the learners in any specific sport. Each learner can select the appropriate level that matches their present status while they log into the E-learning Platform.

The courses are designed by many professional specialists. In order to rise up the learners' attractiveness and efficiency, the design of these courses adopt multi-types of medium. Not only the text format, the graph, the image, the audio and the video formats are also included. As shown in Fig. 2.

In Fig. 3, we can see the learner's self-arrange course process. The learners select the appropriate course level to start learning. The learners can also

self-arrange their appropriate courses schedule after on-line self-evaluation. The 'repeat' learning method is the best method for the learners to achieve the better performance.

4.2 Interactive Design & Planning to Increase Learning Efficiency

The interactive function is the most important characteristic on the E-learning model. Therefore, the discussion area, message board, and chat room are planned and finally designed for interactively communicating on the Network Sport Teaching E-Learning Platform.

We also designed the 'Evaluation' function for the learners to make self-evaluation after each learning step in our Network Sport Teaching E-Learning Platform. The interactive function not only helps in solving the problems through the learning process but also implementing the cooperation teaching model by team work.

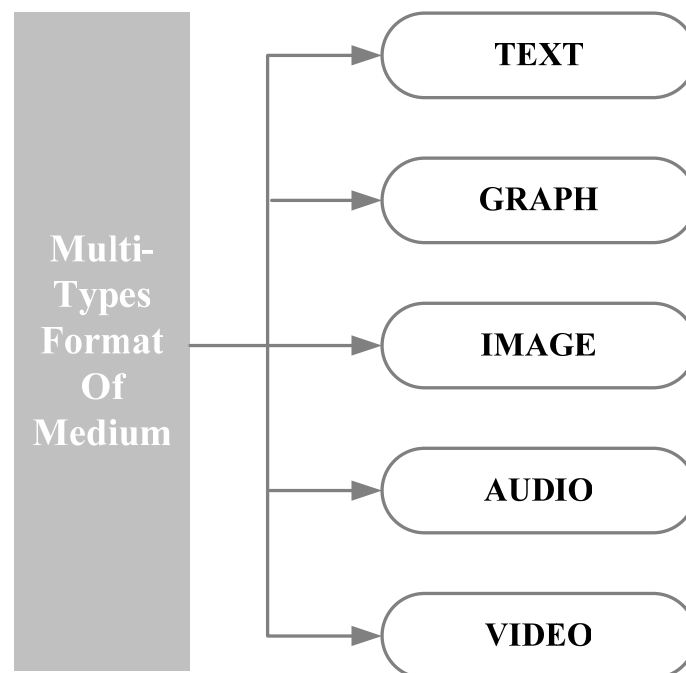


Fig. 2 Multi-types format of Medium

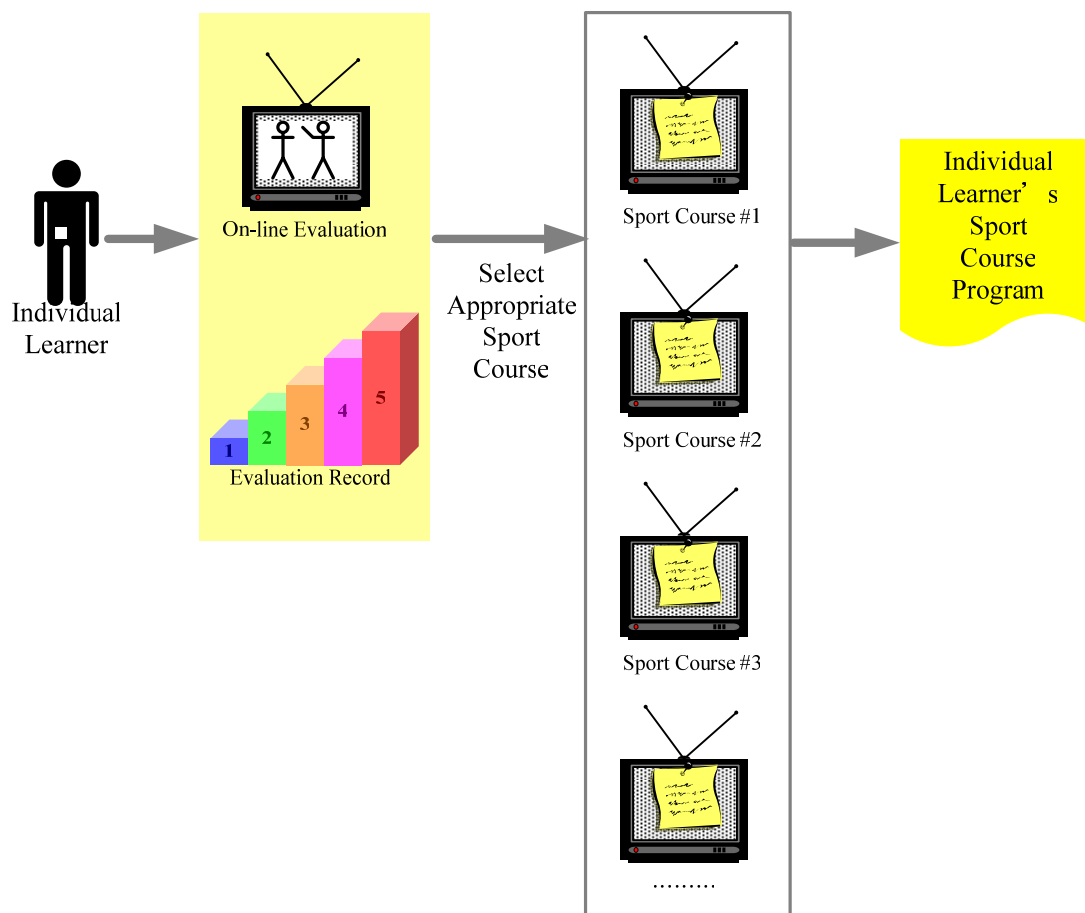


Fig. 3 The Learner's Self-arrange Course Process

4.3 Consistency & Simplicity of Network Sport Teaching E-Learning Platform's Interface

A good Network Sport Teaching E-Learning Platform should be easily operating and learning by the learners. The interface should be consistency and simplicity. The learning flows and materials should be understood by the learners rapidly and conveniently. All those advantages help in creating the learning strategies for the individual learner.

4.4 Overall Functions of Teaching Platform

Based on the above three views points, the Network Sport Teaching E-Learning Platform is as Fig. 4.

The descriptions of each unit are listed below:

- i. Public Board
This public board is to offer Public Messages, Important Issues and Activities News, information updating.
- ii. Lessons
There are three categories in the 'Lessons' Function: Sport Courses by Levels, Sport Courses Film Mode and Sport Courses Game Mode.
- iii. Evaluation
The Network Sport Teaching E-Learning Platform also includes Evaluation types, such as Evaluations by Levels, Evaluation by Game Mode and Evaluation History.
- iv. Members
The Members functions are Personal Data Maintenance, Personal Learning Records and member Activities.

v. Message

The functions of Message include Chat Room, Messages and Contact Us.

vi. Q and A

The Questions and their Answers are provided in our Network Sport Teaching E-Learning Platform.

4.5 The Real Implementation in the Network Sport Teaching E-Learning Platform

In this Section, the author implemented the proposed teaching training method in network web-site. The homepage of the Network Sport Teaching E-Learning Platform is as Fig.5.

The descriptions of each unit are listed below:

i. Public Board

This public board is designed in the right area of the display screen. This is to offer all the users the daily

public messages, important issues and activities news. This function is open to all the public.

ii. Lessons

The design of the courses is based on the knowledgeable teaching. All the users should make a pre-evaluation first. Based on the result, the user will be advised to take the suitable learning program level. The film-mode and game-mode are adopted in this platform. It uses the distinctiveness of the multi-media and combines with the introduction of animation and text to raise the efficiency of learning.

iii. Evaluation

The learners can use the test lessons those are listed on the Network Sport Teaching E-Learning Platform to evaluate their learning efficient. The evaluation is implemented by users' levels and game-mode is also created for the evaluation process. This evaluation can be corrected by the standard learning skills and provide a better connection to the next learning process.

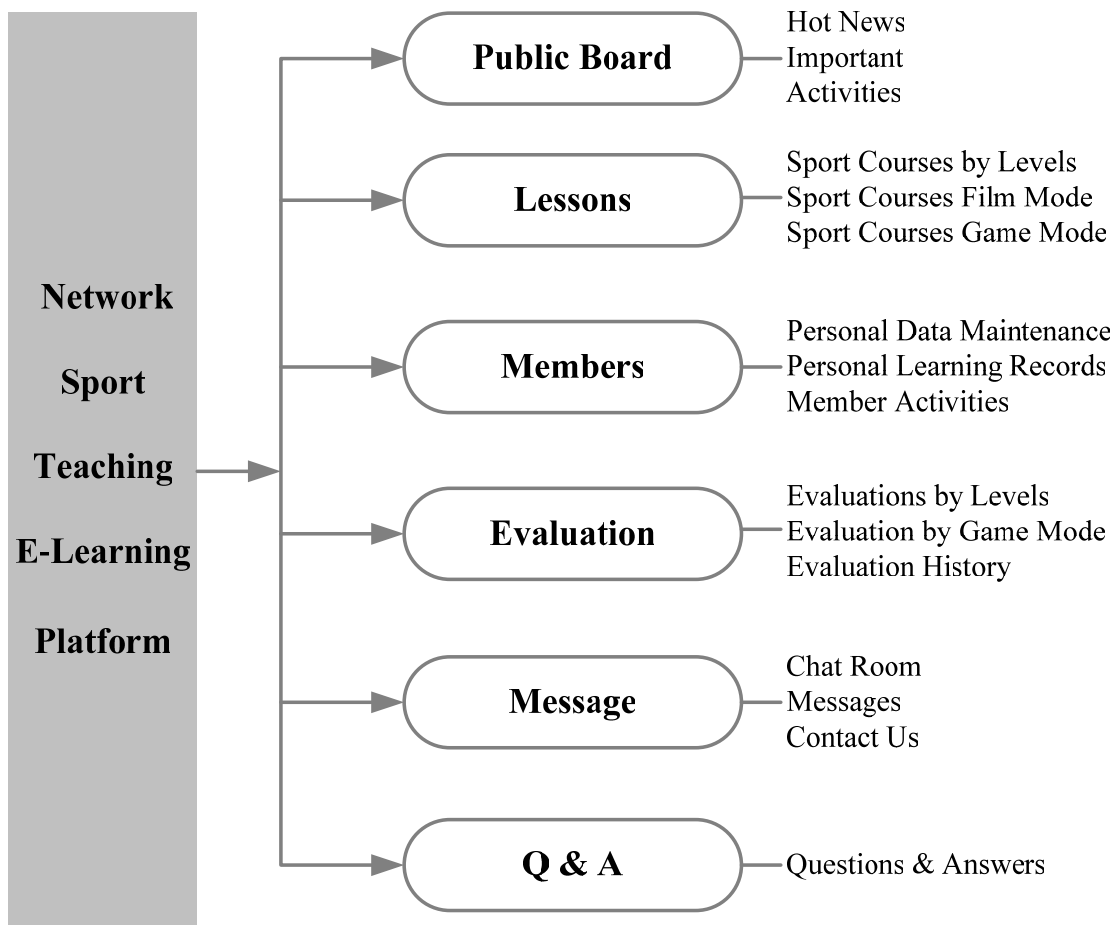


Fig. 4 Sport Teaching E-Learning Platform

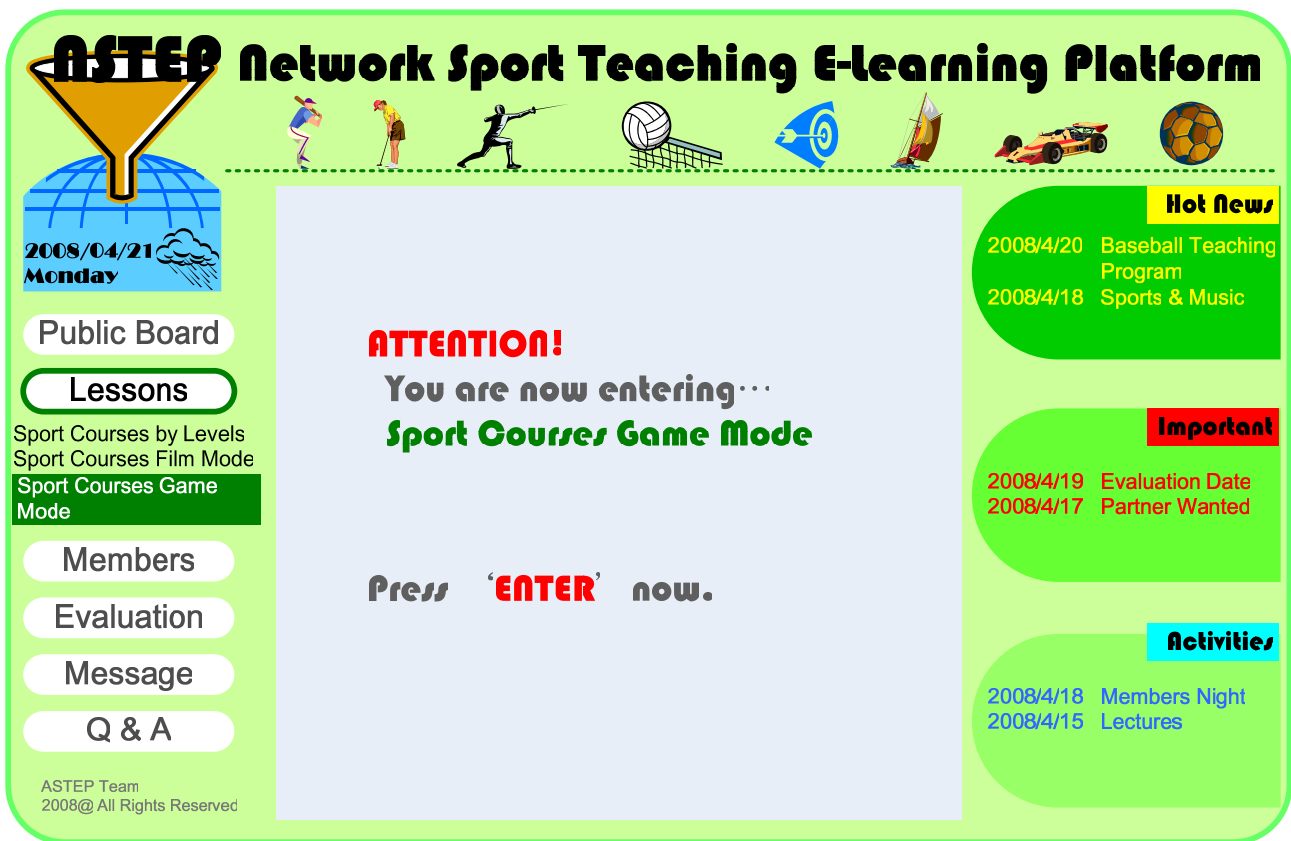


Fig. 5 The Real Implementation in the Network Sport Teaching E-Learning Platform

iv. Members

This E-learning teaching platform keeps the entire learning report those can be used to organize better connection for the next learning process. All the activities records are also kept for the members.

v. Message

The discussion region, message panel, chat room and E-mail provide a ground for the learners sharing the learning experience. These channels act like a two-way communication channel for the learners and professional coaches.

vi. Q and A

This phase includes the operating method, use instructions and limitation. This phase leads the learners to be easily familiar with the platform.

4.6 The advantages of the Implementation of the Network Sport Teaching E-Learning Platform

The Implementation advantages of the Network Sport Teaching E-Learning Platform can be introduced from three viewpoints. The detailed descriptions are shown in Fig.6.

In Fig.6, as the 'Multimedia Content' part, we can see that the contents of the Network Sport Teaching E-Learning Platform include various types of media, such as the basic 'text' content and the 'multimedia' content. The learners gain benefits from the Network Sport Teaching E-Learning Platform.

In Fig.6, as the 'Learners' Benefits' part, we also see that the individual learner can design the 'individual program' depends on self-evaluation status. The learners can join the courses without space and time limitations. The learner's learning records are also kept for further evaluation and future course design.

In Fig.6, as the ‘Learners’ Implicit Knowledge’ part, all the learners who joined the Network Sport Teaching E-Learning Platform gathered and became the ‘Sport Groupware’. These learners share their experience and implicit knowledge by using the ‘Messages’ function of this platform. The precious implicit knowledge would become the new source of the creation of the Sport Courses.

5 Conclusion

In this paper, we implement the proposed teaching training method in the Network Sport Teaching E-Learning Platform. The construction of the Network Sport Teaching E-Learning Platform shows its efficiency in the flexible sport courses and learning time. The positive features of the Network Sport Teaching E-Learning Platform includes ‘The convenience of Learning Guide’, ‘The Characteristics of Individual Course Programs’, ‘The

Multiple-types of Learning Contents’, ‘The Creation of Sport Groupware’ and ‘The Instant Interactive Phase’. The detailed descriptions are stated in the following:

5.1 The Convenience of Learning Guide

The Network Sport Teaching E-Learning Platform is constructed by web-site model. All the learners can use their electric equipments to connect to the platform. This Network Sport Teaching E-Learning Platform owns no time and space restrictions.

5.2 The Characteristics of Individual Course Programs

The sport courses are designed by the professional specialists in our Network Sport Teaching E-Learning Platform. Each learner can self-organize

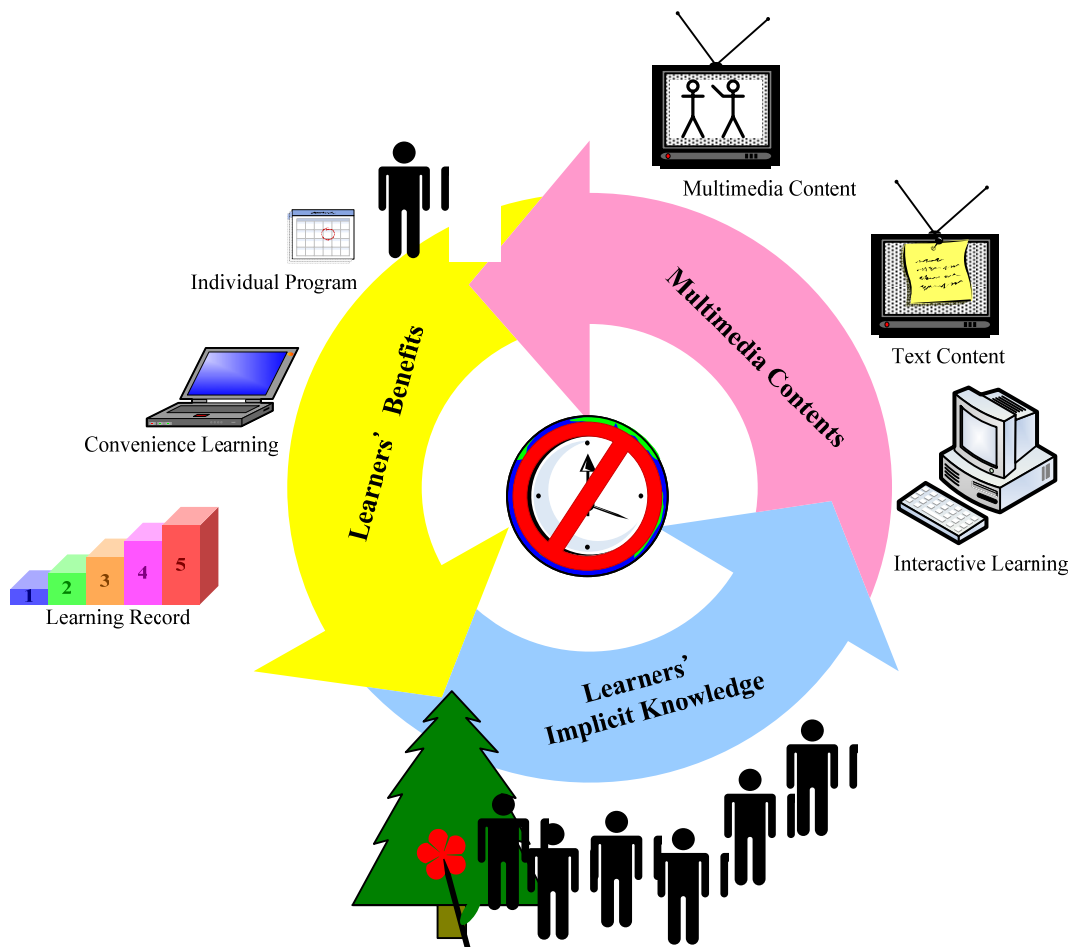


Fig. 6 The Implementation advantages of the Network Sport Teaching E-Learning Platform

individual learning program on the basis of the learner's evaluation result.

5.3 The Multiple-types of Learning Contents

In order to attract the learners' learning motivation, the mediums those are used in the Network Sport Teaching E-Learning Platform are not only the traditional text or graphs, but also include the images, audio lessons and video lessons.

5.4 The Creation of Sport Groupware

After we implement the Network Sport Teaching E-Learning Platform, the members who logged into the Platform are well acquainted day by day. And we found out the Sport Groupware is created gradually. People share their early sport experience in the Network Sport Teaching E-Learning Platform, and then people exchange their practical skills in the Network Sport Teaching E-Learning Platform, too. This Sport Groupware makes the society more exciting and knowledgeable.

5.5 The Instant Interactive Phase

We also provide the Network Sport Teaching E-Learning Platform. Therefore, people can submit their questions freely and got the answers from different view of points. This interactive activity increases the discussion depth and also expands the sport knowledge category. This Interactive Phase catches strong attraction in the network world.

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