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Innovation Research of the "Internet plus" Volleyball Teaching System in the Context of the Information Age

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Abstract: Due to the rapid development of internet technology, big data, artificial intelligence, multimedia and other new technologies are updated rapidly, and all walks of life have an increasingly urgent demand for information technology. As a base for teaching and cultivating talents, schools should adapt to the development of the times and make full use of information technology to carry out educational activities. For example, "Internet plus" can be used for innovation in school teaching mode. This paper mainly talks about the innovation research of "Internet plus" volleyball teaching system in the context of the information age. This paper analyzes the influence of "Internet plus" on the teaching mode in universities and colleges, and studies how to use the "Internet plus" to change the teaching mode of Volleyball in universities. The results of this paper show that the "Internet plus" volleyball teaching is a new teaching system that is united and common. It helps to break the traditional volleyball teaching mode in universities and colleges, and improve the single teaching form, the limitation of time and space, and so on. The confidence interval of SPSS17.0 is 0.96. The use of multimedia in the "Internet plus" volleyball teaching system improves the volleyball performance of students, and promotes the smooth progress of Volleyball Teaching in Colleges and universities.

Keywords: Internet Information, Internet Plus, Volleyball, Volleyball Teaching, Course Scheduling Model

1. Introduction

Innovation-driven development strategies, industrial structure restructuring and upgrades are the mainstream. It changes the traditional industry's appearance and will change the traditional teaching mode. With the development of science and technology, the traditional teaching system of school has gradually transformed into modern information technology. Nowadays, colleges and universities in China generally have volleyball elective courses in the physical education curriculum arrangement. As far as volleyball teaching in colleges is concerned, volleyball sports technology is difficult and the change law is complex. If college physics teachers simply explain the theoretical knowledge of volleyball, students' understanding of the intrinsic value of volleyball may be biased. Only the combination of theoretical knowledge and practical proof can meet the teaching requirements of volleyball colleges and universities. For example, the change of volleyball tactics and the sense of position can not be described in theory, but must be completed with specific volleyball practice.

Deren Li argued that "'Internet plus'" represented a new social form and provided a broad platform for reform, innovation and development. Given the continued convergence of the Internet in various fields, "'Internet plus'" there are serious changes and impacts on various traditional industries. For example, "'Internet plus'" has set favorable conditions for transforming earth observation and satellite navigation into smart real-time geospatial information services. In order to realize continuous,

43 all-weather, and all-terrain services, Deren Li had found the disadvantages that the existing volleyball
44 education system has a finite cover, slow response speed, and poor operability. In addition, to meet the
45 volleyball teaching service requirements in the field about big data, namely, "Internet plus volleyball
46 teaching", we must establish a service system that is inherent of the school family network. For
47 reference only, for the development of volleyball teaching system, this paper discussed three
48 dimensions of structure and suggestions for "Internet plus volleyball teaching" service system. Finally,
49 we recognize the needs of "Internet plus" volleyball teaching service system, examine the teaching and
50 important supporting technologies. However, the cost of this research method is high [1]. Kim I. used a
51 hybrid approach design, which included qualitative teaching data from a male physical education
52 teacher and quantitative learning data from his 24 eighth graders. In the five days before and after the
53 content knowledge seminar, two kinds of volleyball teaching classes (a total of 1/20 classes) were
54 observed, and each class was recorded and videotaped. Descriptive and continuous comparative
55 analysis methods were used to analyze the data. The results show that after teaching content knowledge,
56 teachers use more oral teaching methods, such as task progress, comprehensive skills practice, small
57 games, content adaptation and so on. These changes in teaching methods ultimately affect students'
58 classroom performance, participation and cognitive understanding of the content. The results show that
59 there is a stable relationship among teachers, content and students' learning by showing that other
60 elements also change when teachers' content knowledge level changes. Research on teaching related
61 work can guide the development of teachers' professional work, so as to enrich the professional
62 knowledge and professional level of teachers. This method has many processes and is not conducive to
63 the study[2]. Dao SD has developed a new random volleyball course scheduling model for virtual
64 course scheduling system, which is an uncertain scheduling model. Two subproblems, course selection
65 and tutor selection, are completely combined to explore opportunities to improve the efficiency of
66 course selection in the system. Dao SD first gives the explicit mathematical formula of the proposed
67 model, then proposes an innovative method based on Monte Carlo simulation and optimization solver
68 to finish the problem, and then the effectiveness of this model was verified through comprehensive case
69 analysis. However, this research method is relatively complex, which is disadvantageous for
70 dissemination in universities[3].

71 In the volleyball teaching system, "Internet plus" technology can be combined with various
72 audio-visual forms to complete and achieve the teaching effect. Students can improve their
73 understanding of volleyball by observing volleyball technology, physical exercise, sports competition
74 and routine training and other related resources. This is conducive to improve the efficiency of
75 volleyball teaching in colleges, and can mobilize the enthusiasm of students to learn volleyball.

76 This paper analyzes the beneficial effect of "Internet plus" on the way of teaching in universities
77 and colleges in the information age. It is concluded that "Internet plus" volleyball contributes to the
78 development of the volleyball teaching system in colleges and universities. The novelty of this paper is:
79 (1) to analyze the application of "Internet plus" in the volleyball teaching system in colleges and
80 universities; (2) to analyze the application of volleyball teaching and training facilities in universities;
81 (3) to analyze the application of the network; (4) to analyze the application of the APP to the volleyball
82 teaching system in colleges and universities.

83 **2. Innovative Research Methods of "Internet Plus" Volleyball Teaching System in the Context of** 84 **the Information Age**

85 *2.1 "Internet Plus" in the Era of Internet Information*

86 "Internet plus" refers to the Internet in innovation 2 (information age, form of innovation in the
87 knowledge society) and in the development and creation of a new form of economic and social
88 development based on innovation 2, in the knowledge society. "Internet plus" is "Internet plus
89 traditional industries". With the development of science and technology, the use of information
90 technology and internet platform unifies the internet and traditional industries, and the advantages and
91 characteristics of the internet create some new growth opportunities [4]."Internet plus" uses its own
92 advantages to optimize and upgrade traditional industries so that traditional industries can adapt to its
93 new growth [5]. The practice of internet thinking has promoted the continuous development of
94 economic forms, thereby promoting the vitality of social economic entities, and providing a broad
95 network platform for reform, innovation and growth. Add various traditional industries", but this is not
96 a simple supplement. However, the internet and traditional industries are expanding with the use of
97 information and communication technologies and internet platforms [6], which represents a new kind
98 of society form, the internet is fully utilized in the field of optimizing and integrating the distribution of
99 social resources, the deep integration of internet innovation achievements in the economic and social
100 fields, and the improvement of the innovation ability and productivity of the entire society; taking the
101 internet as the infrastructure and implementation tool, it forms a broader new mode of economic
102 development [7].

103 The word "Internet +" is the core word, and it is the starting point of the "Internet plus" project [8].
104 The "Internet plus" project can be expressed from two levels. On the one hand, the word "Internet" and
105 the symbol "+" in the term "Internet +" can be understood separately [9]. The sign "+" indicates the
106 sign "addition", and indicates addition and union. Thus, the "Internet plus" project covers the traditional
107 industries such as the internet, which is a new project for different industries. The implementation
108 means is the combination and deep integration of internet and traditional industries [10]. On the other
109 hand, the "Internet plus" is a whole, and its profound significance lies in the integration of in traditional
110 industries through the internet [11]. The internet uses network functions such as openness and equal
111 interaction of traditional industries, to change the production and industrial structure of traditional
112 industries through analysis and integration to enhance the driving force of economic growth, thereby
113 improving efficiency and promoting the rapid growth of the national economy[12].The process is
114 shown in Figure 1:

115 2.2 "Internet Plus" Volleyball Teaching Research Method

116 (1) Literature retrieval

117 Through the internet data resource website, such as CNKI, Wanfang Data, Du Xiu, SpringerLink
118 and so on, we searched a large number of documents and materials, classified, summarized and
119 analyzed them, providing the first and basic theoretical support for the "Internet plus" volleyball
120 teaching.

121 (2) Questionnaire survey

122 The questionnaire survey is divided into two parts: before and after the implementation. The
123 questionnaire before the implementation mainly raised questions from the aspects of student mobile
124 terminal equipment holding, student exercise habits and network uploading and downloading [13].It
125 was carried out after applying the questionnaire. The research results were mainly carried out from the
126 systematic teaching results and volleyball "Internet plus" teaching methods, as well as students'
127 satisfaction with the "Internet+" teaching methods[14].

128 At the end of the questionnaire survey, the reliability of the questionnaire was tested. For example,
 129 the questionnaire survey was conducted again after a few weeks. The statistical software SPSS17.0 was
 130 used to calculate the correlation coefficient before and after the basic situation and the satisfaction of
 131 students after class. The correlation coefficient was $r = 0.93$, $P < 0.01$. The reliability was high, the
 132 reliability of the questionnaire results was high, and the questionnaire results met the requirements
 133 [15-16].

134 (3) Establishment of course scheduling model

135 When dealing with the unilateral constraint volleyball course scheduling problem, if it is assumed
 136 that students' preference for volleyball course can be fully quantified, it will naturally associate with the
 137 auction model of market economy [17]. As an educational resource, volleyball lessons are auctioned to
 138 students through the education management system, and the degree of preference is reflected in the
 139 behavior of the students in the offer. Of course, the price in the auction process is virtual, and the initial
 140 capital of each student is basically the same, so as to ensure the fairness of the process [18]. Inspired by
 141 the competitive equilibrium from equal incomes (CEEI), Eric Budish proposed a dynamic clearing
 142 model in 2009 to solve the unilateral constrained course scheduling problem [19]. The traditional CEEI
 143 problem requires participants to have the same original capital and to clear their positions perfectly at
 144 the end of the auction [20]. Budish modified the condition of the problem, students no longer have the
 145 same initial capital, but there are subtle differences. In this case, the solution with small clearance error
 146 can be realized, and the fairness is guaranteed to a certain extent, and the algorithm efficiency is
 147 improved [21-22].

148 Input: students provide personal course preference function, write $(\hat{u}_i)_{i=1}^N$, and provide budget b_i^*

149 for each student i , b_i^* obey the uniform distribution of $[1, 1 + \beta]$, and satisfy $0 < \beta \leq \min\left(\frac{1}{N}, \frac{1}{k-1}\right)$

150 [23]. Output: complete timetable X^* , clearance price p^* and clearance error α . Calculate the clearance
 151 price $(p_j)_{j=1}^M$, arrange the class schedule $(x_i)_{i=1}^N$, and calculate the student preference function, so as to
 152 achieve the most efficient under the condition of cost restriction [24].

153
$$\forall i : x_i = \arg \max_{x_i \in \phi_i} [\hat{u}_i(x_i) : \sum_j x_{ij} p_j^* \leq b_i^*] \quad (1)$$

154 Calculation the minimum clearance error α .

155
$$\alpha = \sqrt{\sum_j \xi_j^2} \quad (2)$$

156 When $p_j^* > 0$.

157
$$\xi_j = \sum_i x_{ij}^* - q_j \quad (3)$$

158 When $p_j^* < 0$.

159
$$\xi_j = \max\left(\sum_i x_{ij}^* - q_j, 0\right) \quad (4)$$

160 **3.Experiment of "Internet Plus" Volleyball Teaching System in the Context of the Information**

161 **Age**

162 The purpose of "Internet plus" volleyball teaching experiment is to apply the "Internet plus"
163 technology teaching mode to the volleyball course, and verify the effectiveness of the teaching mode
164 through experiments. Through the experimental intervention, volleyball "Internet plus" technology
165 teaching mode is applied to volleyball teaching courses. The teaching effect of volleyball "Internet
166 plus" technology teaching mode and traditional teaching mode on students' Volleyball theoretical
167 knowledge learning, skill learning and learning interest is compared, and the learning situation of
168 "Internet plus" volleyball technology teaching mode is also studied. Satisfaction analysis [25].

169 *3.1 Selection and Test of Experimental Indexes*

170 According to the final examination standard of volleyball course in colleges, and according to the
171 advise of volleyball teachers, the test indexes of volleyball teaching experiment are determined. Before
172 the experiment, the test indexes are special physical fitness index and skill test index. The physical
173 fitness index includes height quality, run-up touch height and shot put, and the skill test index includes
174 the technical evaluation and standard of volleyball practice. After the experiment, the test indexes are
175 skill test index, volleyball theory achievement index and students' learning situation and
176 satisfaction. Here is shown in Table 1:

177

Table 1.Experimental test items

Before the experiment		After the experiment
Special physical fitness index	Height	Special physical fitness index
	Run up to touch height	
	Shot put	Volleyball theoretical achievements
Skill test indicators	Volleyball technical evaluation	Students' learning situation and satisfaction
	Volleyball up to standard	

178

179 *3.2 Setting of Experimental Objects and Control Groups*

180 Through screening and eliminating the interference factors, the subjects of the experiment were
181 selected as 30 students of volleyball special class and 30 students of physical education department of a
182 certain university. The physical fitness of the two types of students was tested before the experiment.
183 On the basis of the same number of students, the students are divided into two groups, the experimental
184 group is volleyball students, and the other group is selected volleyball students. According to the group,
185 the test space and time are the same.

186 At the same time, the volleyball experimental group and control group were tested on the special
187 quality index. The data in the table are the final data after eliminating the invalid data, and the invalid
188 part are the data of the students who fail to participate in the pre-test. By using SPSS17.0, before the
189 experiment, use independent sample t to test the height of the experimental group and the control group,
190 and place the height and height distance data. The confidence interval was 96%. The data results and
191 correlation analysis are shown in Table 2:

192

Table 2.Relevant test data

	Height(cm) $\bar{x} \pm s$	Run up to touch height(m) $\bar{x} \pm s$	Shot put(m) $\bar{x} \pm s$
control group (n=30)	181.46 \pm 6.28	3.15 \pm 0.13	12.56 \pm 2.79
study group (n=30)	178.25 \pm 5.11	3.17 \pm 0.57	13.71 \pm 2.73
T	0.538	-0.282	-0.857
P	0.530	0.783	0.549

193 Note: there is significant difference when $p < 0.05$, but there is no significant difference when $p > 0.05$.

194 3.3 Experiment Related Organization Process

195 The experimental intervention is mainly reflected in the "Internet plus" volleyball teaching method,
196 which is mainly used for volleyball teaching. The main part of the teaching method is self-study on the
197 volleyball learning website before class. The experimental group is to learn the volleyball webpage
198 before class and receive the task list. In this paper, we first determine the test indicators before the
199 experiment, select the participants, through preliminary understanding, exclude the group of irrelevant
200 variables that will affect the experiment (there are many people who have the basis of learning
201 volleyball), and finally determine two groups. The specific physical fitness and vaccination level of the
202 individuals before the experiment were tested, and they were randomly divided into an experimental
203 group and a control group. The statistical analysis of the test results showed that there was no
204 significant difference between two groups. The teaching method of "Internet plus" volleyball
205 technology is adopted, while the control team adopts the traditional teaching method. At the end of the
206 experiment, the experimental indexes were tested. After eight weeks of experiment, the volleyball skill
207 indexes and volleyball theoretical knowledge indexes were tested in the experimental group and the
208 control group. Finally, the results of the pre test and the post test data are compared and analyzed, and
209 the shortcomings and advantages of the "Internet plus" volleyball technology teaching mode applied in
210 smash skills are found. The difference between the traditional teaching mode and the "Internet plus"
211 volleyball teaching mode is compared. The flow chart is shown in Figure 2:

212 4. Innovation Analysis of the Internet Plus Volleyball Teaching System in the Context of the 213 Information Age

214 4.1 Analysis of Students' Basic Situation

215 As the main role of the "Internet plus" volleyball teaching system, students' basic situation will
216 have a direct impact on the teaching effect of "Internet plus" volleyball. Therefore, the "Internet plus"
217 volleyball teaching mode needs to be designed effectively based on the students' basic conditions. The
218 first thing we need to understand is the student's interest in learning, and the strong interest in learning
219 is the motivation to promote students' active learning.

220 Students' interest in learning will directly affect their learning initiative and enthusiasm. Therefore,
221 the author conducted relevant interviews and surveys on the students. Among them, there are some
222 differences in interest in the "Internet plus" volleyball teaching system between male and female
223 students, as shown in Figure 3:

224 4.2 Students' Learning Needs

225 Through the investigation of students, the students' preferences for different teaching methods are
226 obtained, as shown in Figure 4. It can be concluded from the figure that the students' favorite teaching
227 method is multimedia courseware, followed by dynamic video teaching and text teaching. A little
228 number of students like audio teaching or other teaching methods. Course wares and textbooks are
229 generally the most direct learning materials for students in the classroom. Multimedia can not only
230 insert the appropriate image, audio and text materials, but also present the teaching content with
231 pictures and texts. As the basic learning materials of students, textbooks, namely text resources, have
232 the characteristics of complete system and strict logic, which is an important way for students to
233 acquire curriculum knowledge. Compared with other resources, text resources can make students calm
234 down, read carefully and deeply understand the content of knowledge between lines. Video teaching
235 combines text, audio and video information to present dynamic and rich course content, mobilize
236 students' multiple consciousnesses, improve teaching effects, and attract students' many interests and
237 hobbies. Therefore, the presentation of the "Internet plus" volleyball teaching system should pay
238 attention to the multimedia courseware, dynamic video teaching and the close connection between
239 textbooks, make full use of multimedia courseware, enhance the effectiveness of volleyball teaching,
240 reasonably present video resources, achieve high efficiency in teaching, and break through the
241 traditional volleyball teaching mode in universities.

242 *4.3 Application of "Internet Plus" Volleyball Teaching in the field of Network Information Age in* 243 *Colleges*

244 (1) Application of multimedia in college volleyball teaching

245 The development of multimedia technology and the development of the internet are interrelated.
246 As the background of the internet age, the new type of technology incorporates text, sound, animation
247 and visual effects and other related functions. In fact, multimedia teaching has existed since ancient
248 times. Teachers teach with the help of text, sound and pictures. However, in the 1980s, the use of a
249 variety of electronic media, such as slide, projection, recording, video and other comprehensive use and
250 classroom teaching, this teaching technology is also known as multimedia combination teaching or
251 audio-visual teaching. Since the 1990s, with the rapid development and spread of information
252 technology, the multimedia computer has gradually replaced the total use of various teaching aids in
253 the past. Therefore, what we usually call multimedia teaching is a teaching process that uses multimedia
254 computers and pre-built multimedia teaching software, which can also be called computer-assisted
255 education. The multimedia computer completely edits and controls symbols, language, text, sound,
256 graphics, images, images and other media information. According to teaching requirements, it
257 organically combines and presents the various elements of multimedia through a screen or projector. At
258 the same time, According to needs, with the cooperation of sound, through the interactive operation
259 between human and computer, the teaching or training process of user and computer can be completed.
260 It uses computer technology, network technology, communication technology and scientific and
261 standardized management to integrate, integrate and digitize all information resources related to
262 learning, teaching, scientific research, management and life services, so as to form a unified user
263 management, unified resource management and unified authority control. Emphasizes that students can
264 access the university network and the Internet via WiFi at any time to access learning resources
265 conveniently. Teachers can use wireless network to monitor the learning situation of students, to
266 complete the preparation of lessons and conduct scientific research work anytime, anywhere. Its core
267 lies in the application of paperless teaching and the expansion of the wireless network at the

268 university. Through the comprehensive operation to complete high school volleyball class, The
 269 application of this technical form in volleyball teaching in colleges and universities can promote the
 270 processing of educational information and present teaching multidimensional, integration and
 271 interaction, specialization, etc. after the fusion of various characteristics, the presentation rate of
 272 teaching information can be comprehensively improved. As far as volleyball teaching in schools and
 273 universities is concerned, volleyball technology is almost of great significance to volleyball teaching,
 274 and the technical difficulty is high and the tactical changes are very complex. If the college physical
 275 education teachers simply explain the theoretical knowledge of volleyball, the students' understanding
 276 of the intrinsic value of volleyball may have deviation. Only by combining theoretical knowledge with
 277 demonstration practice can we realize the requirements of volleyball teaching in schools and
 278 universities. For example, the change of tactics and the sense of position in volleyball can't be
 279 described only by theory, but must be combined with volleyball sport and practice. The emergence of
 280 multimedia technology can be combined with a variety of audio-visual forms to achieve audio-visual
 281 teaching effect, which is intuitive and understandable. Students can deepen their understanding of
 282 volleyball by watching volleyball technology, sports training, sports competition and routine training
 283 and other related resources. And then achieve the goal of college volleyball teaching. For example,
 284 teachers collect information and network teaching resources from relevant professional websites before
 285 class, and use multimedia to familiarize students with volleyball skills and essentials on the way to
 286 class. SPSS17.0 was used for paired sample t test before and after the application of multimedia
 287 teaching, and the confidence interval was 96%. The change data of students' volleyball technical test
 288 results before and after the application of multimedia teaching are shown in Table 3:

289 **Table 3.** Students' Volleyball test results before and after the application of multimedia teaching

Item	Group	Before the experiment	After the experiment	T	P
Skill 1	control group	3.15 ± 0.18	3.14 ± 0.14	-14.253	0.000
Skill1	study group	2.85 ± 0.29	3.16 ± 0.69	-16.326	0.000
Skill2	control group	1.57 ± 0.34	3.15 ± 0.18	-15.751	0.000
Skill2	study group	1.74 ± 0.49	3.15 ± 0.18	-9.256	0.000
Up to standard	control group	1.68 ± 2.03	3.15 ± 0.18	-6.215	0.000
Up to standard	study group	1.81 ± 2.49	3.15 ± 0.18	-2.697	0.005

290 In order to see the results more intuitively and analyze them, the table is drawn into a column
 291 chart, as shown in Figure 5:

292 (2) Application of information technology in school volleyball venues

293 Training place is the basis of volleyball teaching development in colleges and universities. With
 294 the continuous deepening and development of intelligence technology, volleyball facilities are
 295 gradually developing in the direction of informatization and intelligence, such as the construction of
 296 automatic control system, automatic office system, intelligent system, network system, access control
 297 system and competition information system. But in the construction of college volleyball venues, its
 298 main goal is to promote teaching. Using appropriate information technology to equip venues with

299 intelligent system will further improve the problems that may exist in the mutual adaptation of sports
300 venues and modern education. For example, a video recording device is installed in the gymnasium to
301 record the teaching process from various angles. The process of physical education teaching is different
302 from the teaching content of other courses. We can only sum up the experience in practice and find the
303 shortcomings of volleyball. The video recorded by the video monitor can be transmitted to the campus
304 website by teachers, and students can look at it. On the one hand, this method can stimulate the
305 enthusiasm of primary school students to take part in volleyball, so that they can devote themselves to
306 volleyball; on the other hand, it can also provide information for teachers, so that teachers can find out
307 the shortcomings of teaching in students' volleyball, and help teachers constantly improve their
308 teaching methods.

309 (3) Development of volleyball learning website in colleges and universities

310 It is a window and platform for the construction of volleyball education in colleges and
311 universities to develop a special college volleyball learning website. Its content should cover all aspects
312 of college volleyball teaching, forming a diversified, three-dimensional, multi-functional network
313 system. This system can include: the design and implementation of volleyball teaching information
314 module, the design and implementation of volleyball teaching plan, summary and feedback teaching
315 evaluation, volleyball related equipment management, monitoring and improvement of physical fitness
316 monitoring system, diagnosis and rehabilitation of primary school students' sports injury. Information
317 units related to volleyball education, such as scientific selection, technical analysis, scientific training,
318 etc. Organization and management units of off campus activities and volleyball competitions, such as
319 organizing and implementing mass volleyball activities and competitive volleyball activities, and
320 arranging foreign exchange and volleyball cooperation.

321 (4) Development of "Internet plus" volleyball teaching exclusive APP

322 In recent years, sports exercise APP is favored by people who like to do exercise. The APP for this
323 kind of exercise often has a high download volume, as shown in Figure 6:

324 Colleges and universities can imitate such APP organization technicians to develop a software
325 specially designed for volleyball teaching, conform to the trend of some times, and truly achieve
326 "Internet plus Volleyball".

327 5. Conclusions

328 With the rapid development of computer intelligence technology and the continuous expansion of
329 network coverage, it promotes the rapid development of all steps of life. Contemporary senior students
330 are in the era of digital economic knowledge, and the society has a growing demand for high-quality
331 talents. "Internet plus" teaching breaks in the traditional teaching mode. It takes the convenience of
332 resources, the richness, openness, advanced and sharing of teaching resources, and the advanced nature
333 of teaching ideas change the relationship between teaching methods, teaching methods and teachers
334 and students. The renewal of teaching technology in the era of education will bring about the reform of
335 teaching concepts, and then the teaching form and teaching mode will also enter change. Physical
336 education is a branch of the education industry, which is also of great significance to the development
337 of education. From the current perspective, the physical education teaching mode in China basically
338 stays in the traditional teaching mode, and in the context of the "Internet plus" strategy, it is in line with
339 the emergence of "Internet plus" big data and mobile intelligent terminals. The reform of the physical
340 education teaching mode has become the general trend of the development of physical education
341 teaching. Volleyball course, as the main course of college physical education major curriculum system

342 and the primary choice course of cultural students' physical education elective course, occupies an
343 important position in college physical education and plays an important role in volleyball talent
344 training.

345 This paper selects the innovation of the Internet plus volleyball teaching system under the
346 background of the internet information age to study. The SPSS17.0 can calculate the confidence
347 interval of 0.96. The way of using multimedia in the "Internet plus" volleyball teaching system can
348 improve the volleyball performance of students. In the context of "Internet plus", "Internet plus"
349 volleyball teaching mode has been built, and volleyball technology learning platform are established by
350 multimedia information technology, network volleyball learning resources and computer aided tools is
351 operable and effective. "Internet plus" volleyball technology teaching mode applied in volleyball
352 teaching can actively arouse students' enthusiasm and interest in classroom learning, and improve
353 students' ability of explaining and demonstrating and autonomous learning.

354 By studying "Internet plus"of internet application in volleyball teaching system and establishing
355 volleyball timetable model in colleges and universities, we can conclude that "Internet plus" can be
356 applied in the teaching process, volleyball teaching and training venues in universities, volleyball
357 website development and "Internet plus" volleyball APP development.

358

359 **Abbreviation**

360 No abbreviations

361 **Competing Interests**

362 These no potential competing interests in our paper. And all authors have seen the manuscript and
363 approved to submit to your journal. We confirm that the content of the manuscript has not been
364 published or submitted for publication elsewhere.

365

366 **Declarations**

367 Ethical Approval and Consent to participate: Approved.

368 Consent for publication: Approved.

369 Availability of supporting data: We can provide the data.

370

371 **Author's Contributions**

372 All authors take part in the discussion of the work described in this paper.

373

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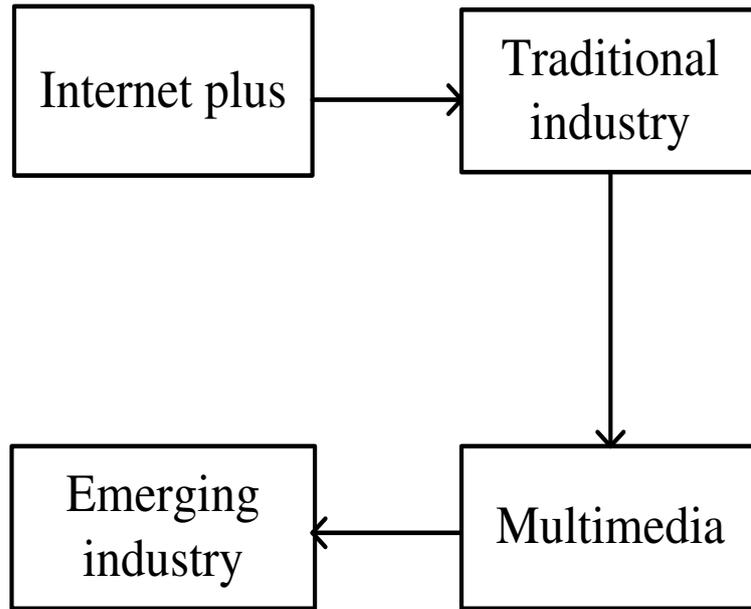
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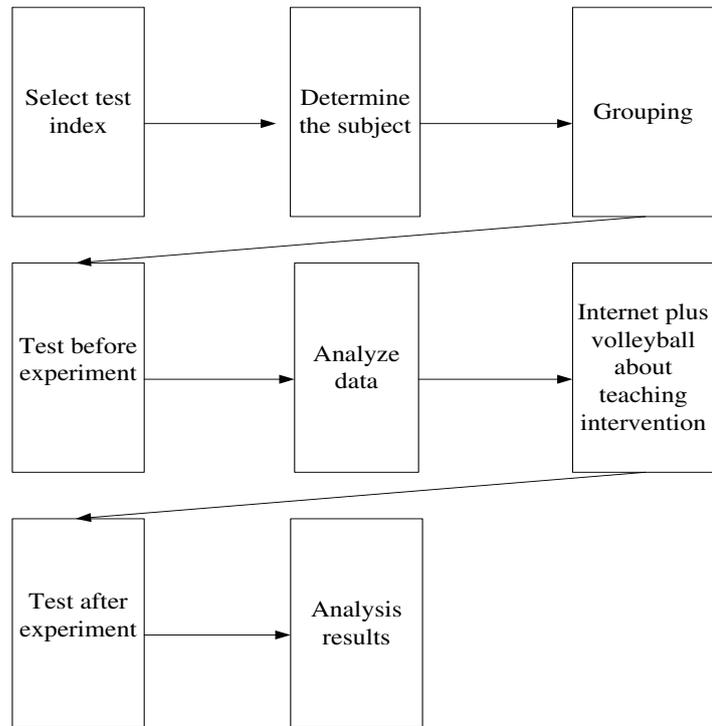
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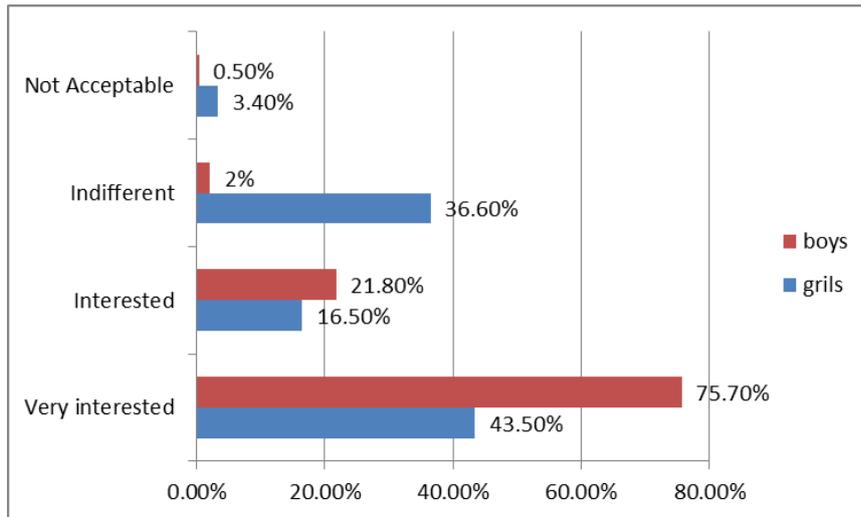
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Figure 1.The Internet plus application process



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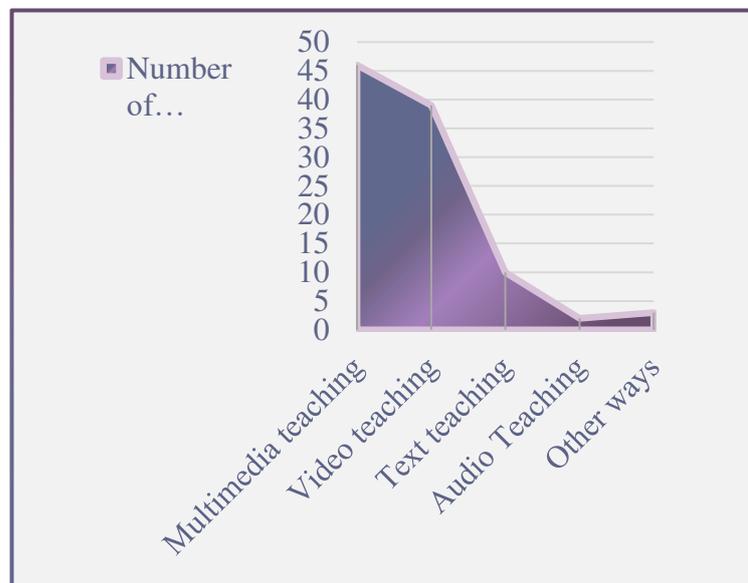
Figure 2.Experimental organization process



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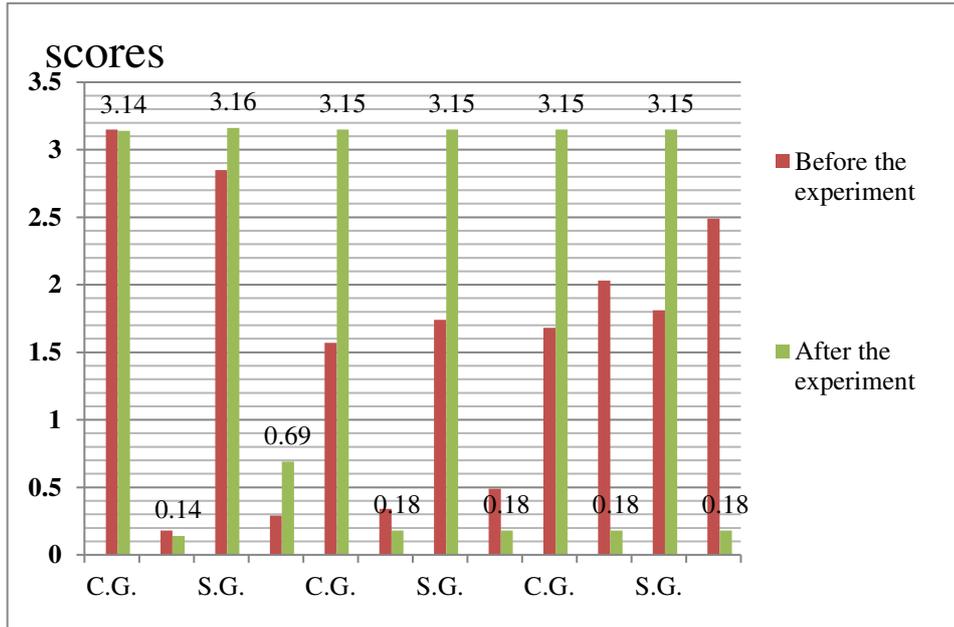
Figure 3.Students' interest



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Figure 4.Students' preference for different teaching methods of Teachers



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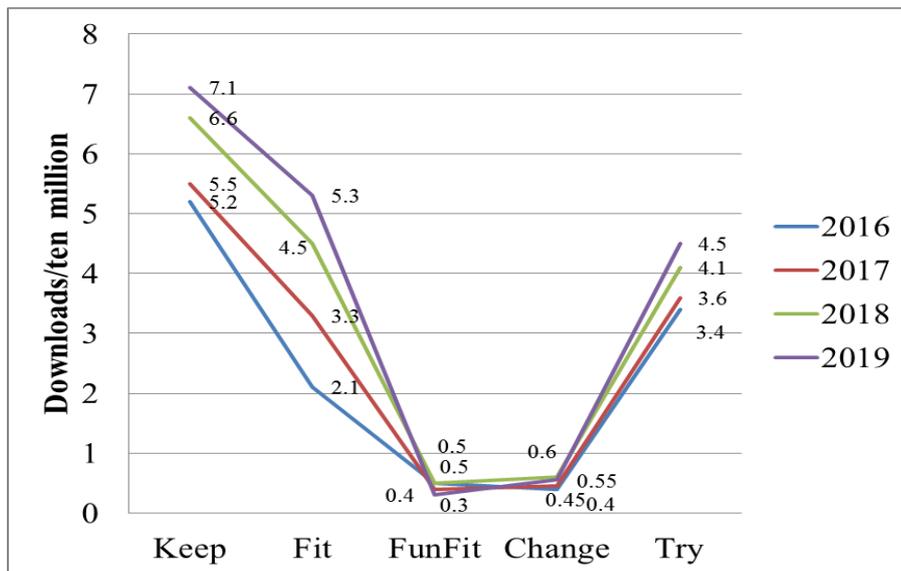
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Figure 5. Students' volleyball test results before and after the application of multimedia teaching

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(Note: C.G. is control group , S.G. is study group)

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Figure 6. Sports app downloads

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Figures

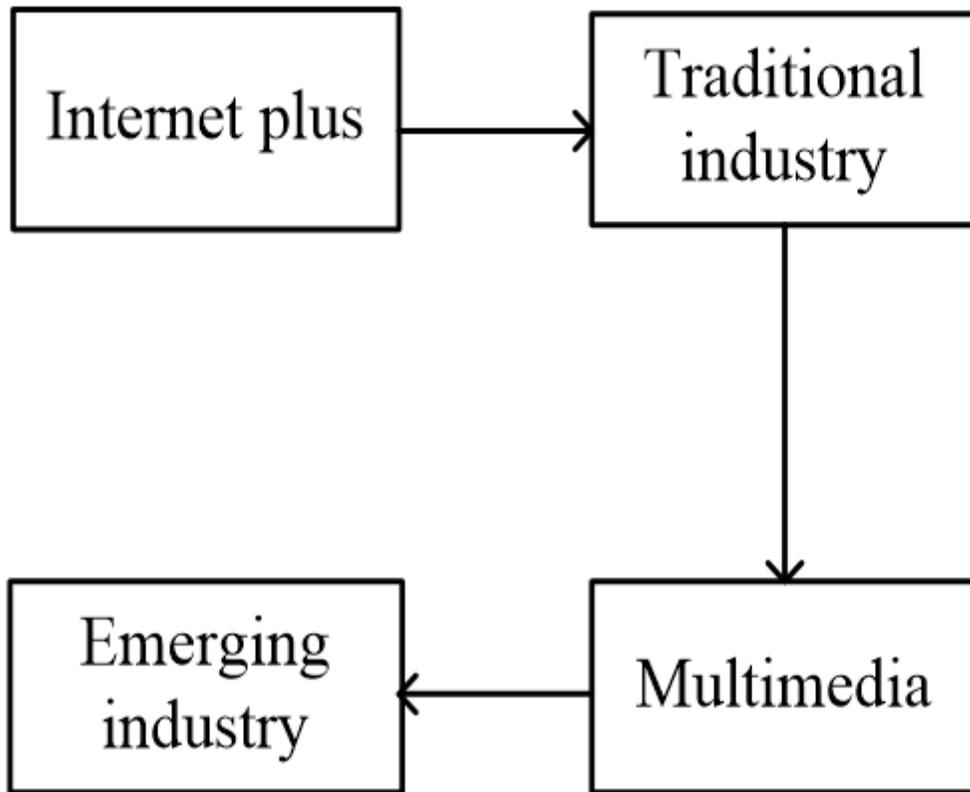


Figure 1

The Internet plus application process

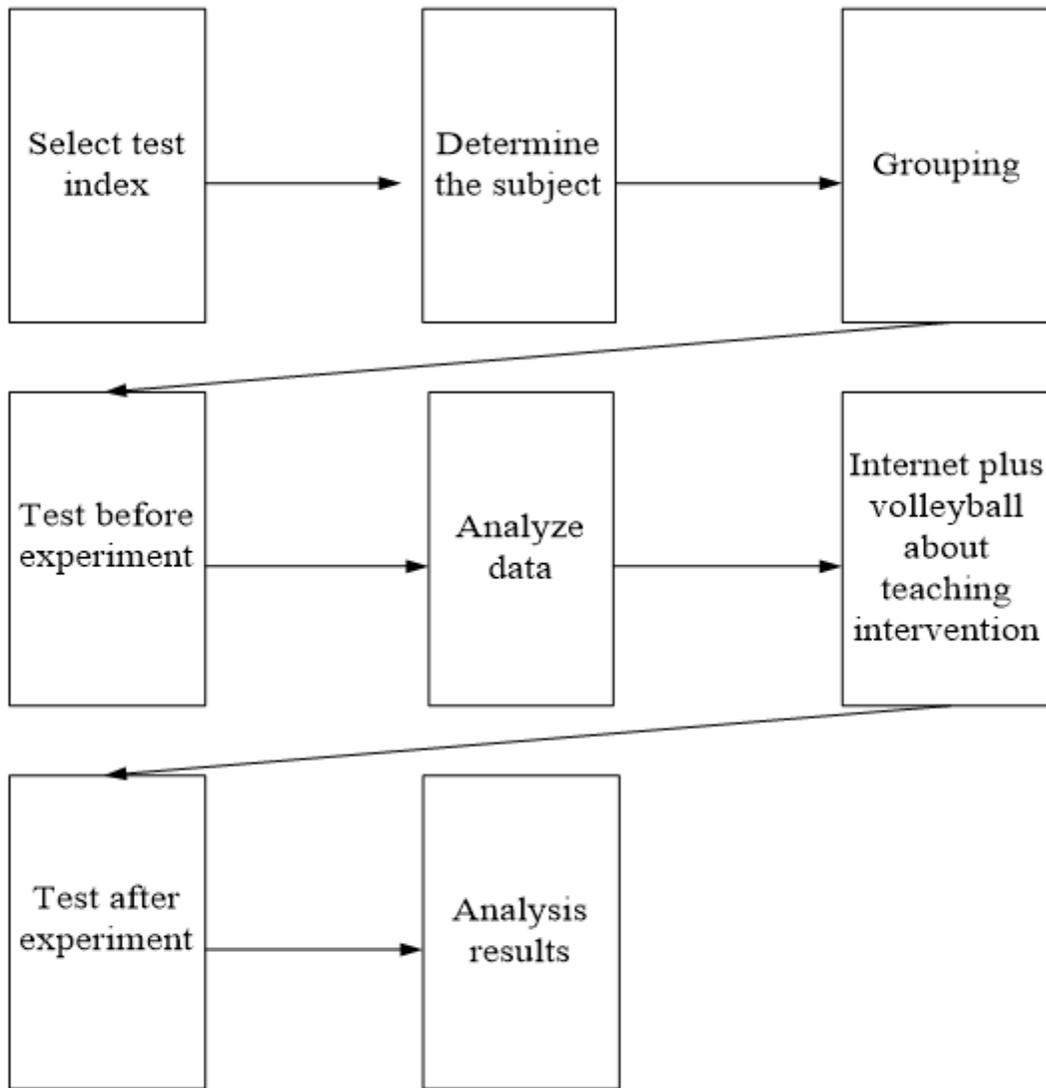


Figure 2

Experimental organization process

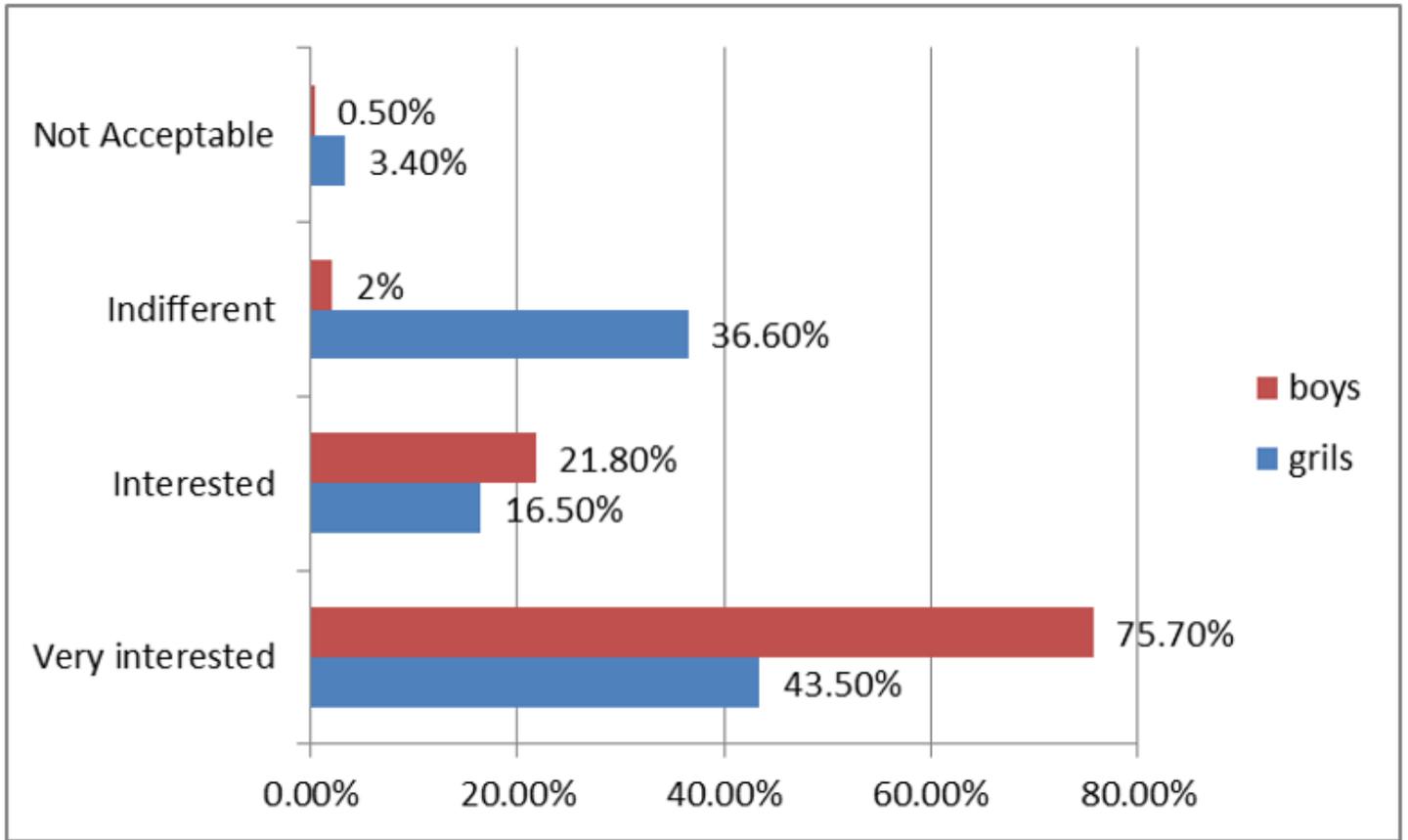


Figure 3

Students' interest

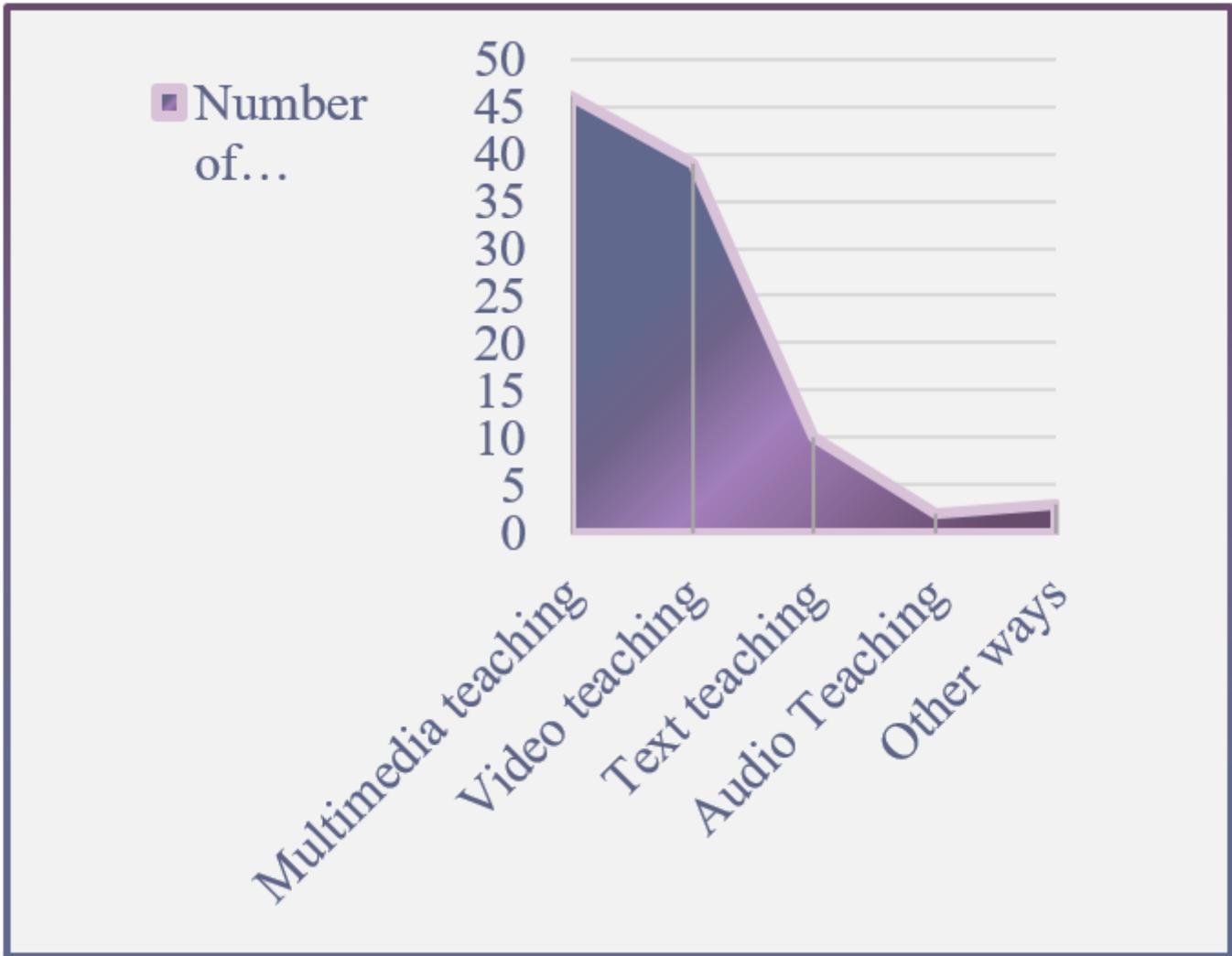


Figure 4

Students' preference for different teaching methods of Teachers

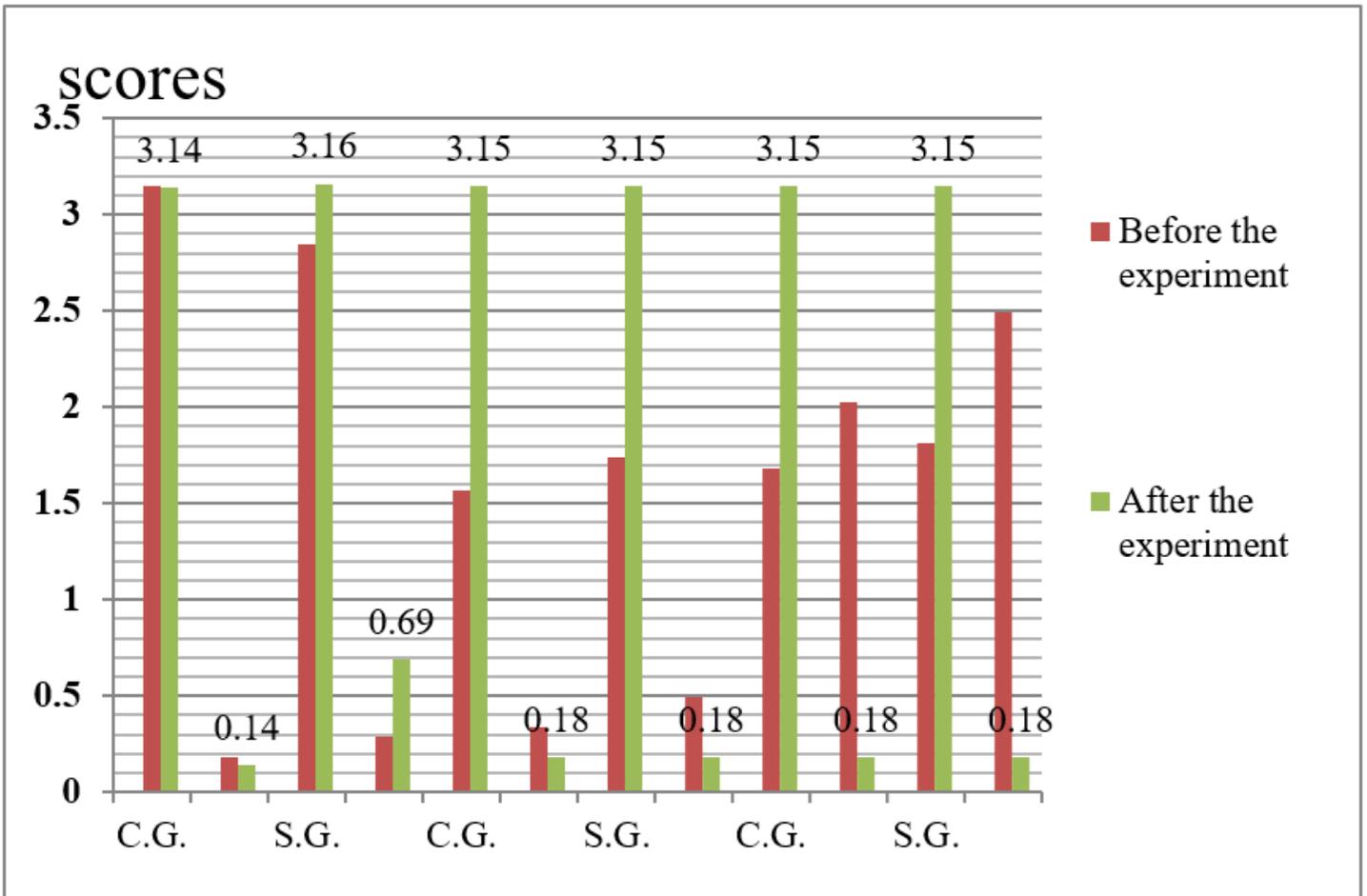


Figure 5

Students' volleyball test results before and after the application of multimedia teaching [Note:C.G. is control group S.G. is study group]

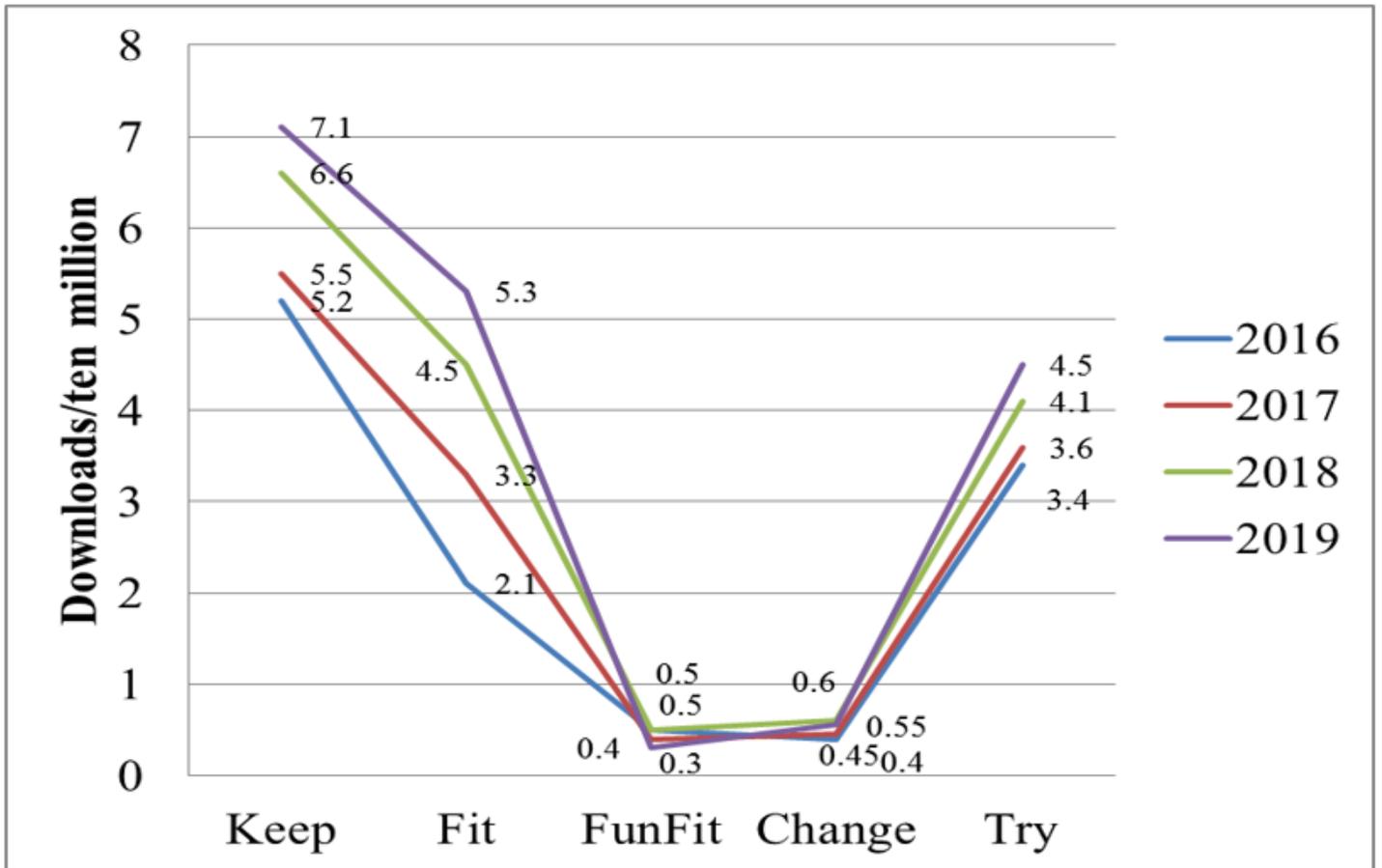


Figure 6

Sports app downloads