

Retraction

Retracted: Institutional Teaching Innovation under the Demand of Internet + PE

Mobile Information Systems

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

- [1] D. Na, "Institutional Teaching Innovation under the Demand of Internet + PE," *Mobile Information Systems*, vol. 2021, Article ID 9111924, 7 pages, 2021.

Research Article

Institutional Teaching Innovation under the Demand of Internet + PE

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In order to study the effectiveness of student-based teaching methods, this study uses open-ended and closed-ended questionnaires to collect qualitative results and studies by collecting different types of data, including quantitative data of the body mass index. The results show that the biggest difference from the traditional teaching strategy is that the internet teaching model can help to improve personal communication ability and better develop interpersonal relationship. At the same time, through social interaction in e-learning, learners can cultivate their ability to find and solve problems, collect, analyze, and use information, and learn to share and cooperate. The research of the project can provide some reference ideas and theoretical basis for follow-up research.

1. Introduction

Institutions, especially colleges and universities, have currently embraced distance learning by using the barrage of platforms offered by the internet. With this, a significant influx of students enrolling in these programs makes education take a positive toll as far as its growth and development are concerned [1]. Web-based learning has since been novel in physical education vis-à-vis other fields where it has always been known since physical education requires crucial interaction between the instructor and the trainee [2]. Studies have indicated that indulging in rigorous activities might help relieve the DASS-21 symptoms, especially in the pandemic. The adoption of internet-based learning is thus essential in this era, which is distance learning facilitated by the internet [3]. Educational resources are shared through intelligent interconnection, and teaching efficiency is promoted by using big data analysis. From the cases brought by many representatives and members, it can be found that information technology is changing the traditional teaching mode and creating more convenient conditions for realizing educational equity. Educational equity is not only to break the limitations of regional teaching

resources but also to help each student find their own learning methods and teach students according to their aptitude.

Physical education is where an instructor engages the trainees in rigorous activities intending to maintain their physical, mental, and emotional well-being. With the arrival of the internet and the 21st century pedagogical teaching approaches, this field is likely to be improved, and the model is translated from instructor- to student-centered. Research has indicated a drop in the life expectancy across the globe due to the adoption of a sedentary lifestyle among students in high institutions of learning [4]. Thus, engaging in traditional approaches is not appropriate in redeeming the health status and bringing the LE parameter to normalcy [5]. Adoption of the new innovative practices proves significant in this era. Many institutions have, for instance, adopted the use of pedagogical approaches and assessment criteria. These approaches have improved interpersonal and intrapersonal skills among college and university students across the entire curriculum. Network learning refers to a kind of learning activity through the computer network. It is mainly carried out by means of autonomous learning and negotiated learning. Compared with traditional learning activities,

e-learning has the following three characteristics: first, sharing rich e-learning resources; the second is to take individual autonomous learning and cooperative learning as the main forms; third, it breaks through the time and space constraints of traditional learning.

Figure 1 shows a student-based approach. The student is at the center of not only learning but also the assessment processes. With this comes student ownership, competence, positive identity, real-world relevance, positive relationships, the meeting of foundational needs, and timely and geographical measures.

21st century competencies are very crucial in ensuring a student-based approach in institutional teaching. Some of the strategies used to propagate the student-based framework are project-based, inquiry-based, problem-based, and game-based learning. A project-based approach is where the trainee's autonomy is upheld [6]. It is characterized by collaboration, goal setting, reflection, and communication. This approach helps in enhancing the critical thinking and problem-solving capacities of the trainee. On the contrary, the inquiry-based approach is where the students kick-start with a tone of constructive questions and then deduce the solution from the inquiries. This approach enhances reflection, peer-to-peer collaboration, and critical thinking. For the problem-solving process and game-based procedure, problem-solving capacity increases since it aims to solve a particular problem before the actual solution. Figure 1 shows the technique used by the four aforementioned student-centered approaches. The advantages of e-learning include promoting students to establish their dominant position in the learning process, learning under the network background reflects the real teaching according to their aptitude, and students' learning is not limited by the age of admission; and it can avoid the limitation of time and space under the traditional teaching mode. The network environment is the liberation of time and space for students. A loose learning atmosphere can enable students to give full play to their talents.

Qualitative results were collected in this study using both open-ended and closed-ended questionnaires [7]. The respondents were divided into three groups, and each group engaged in a different activity. For the first group, student-centered approaches were employed in their day-to-day physical education. In the second group, the physical education lessons were conducted through a traditional instructor-centered process, whereas for the third group, there were no physical education lessons. The results show that there was 98% positive feedback for the student-based approach as they enumerated what they had learned during the entire exercise time. 20% positive feedback was acquired on those involved in traditional practices, where 90% complained of boredom. Only 2% of the 3rd group had positive feedback, and most of them were inactivity and boredom [8]. Note that open questionnaire is a form of questionnaire in which the respondents can answer questions freely without restrictions. Because this questionnaire question does not give a choice of answers, the respondents can answer questions deep or shallow, simple or complex, and various, so they can often answer some contents that researchers have

not considered in advance, which are enlightening and have research reference value. The disadvantage of the open-ended questionnaire is obvious. Because the respondents can answer questions freely, it makes it difficult to classify and summarize statistics. Therefore, it is less used in general research, but only in some special-purpose data collections (Table 1 and Figure 2).

Table 1 indicates the feedback acquired from different groups of participants in the course of the activity.

Anthropometric measurements were also collected on the groups from which body mass index quantitative data were collected. An improvement was realized in groups one and two but with a vast disparity, group one carrying the day. On the contrary, there was no identifiable change in group three. The formula used in measuring BMI is as follows [9]:

$$\text{BMI}(\text{kg}/\text{m}^2) = \frac{\text{mass}(\text{kilograms})}{\text{height}^2(\text{meters})} \quad (1)$$

This study guided out a research study that was mainly involved in investigating the importance of the internet and the use of student-centered approaches in physical education. Moreover, standard weight measurement method, i.e., standard weight (kg) = height (CM) – 105. The actual weight is normal within $\pm 10\%$ of the standard weight calculated according to the formula, more than 20% is obesity, 20%–30% is mild obesity, 30%–50% is moderate obesity, and more than 50% is severe obesity.

2. Method

We conducted a cohort study where probabilistic sampling processes were employed. We specifically employed random sampling methods where the participants were randomly selected for the study. The sample size was determined using the following formula [10]:

$$n = \frac{(S \times S)p(1-p)}{dp \times dp} \quad (2)$$

where n is the sample size, S is the SD for 95% CI, p is the known proportion, and dp is the desired precision level.

$$n = \frac{(1.96^2)0.85(1-0.85)}{0.05^2} = 195. \quad (3)$$

No criteria were directing the selection of the participants. Since the research study was conducted in a college setting and the results intended to improve the PE curriculum in colleges and other higher learning institutions, students were used as participants. The participants were afterward divided into three different groups. The first group was involved in innovative techniques in the course of their physical education lessons. Some of the innovative techniques were the use of modern assessment criteria in the course of the activities. The second group was involved in traditional teaching and assessment criteria, while the third group was to do the entire activity without an instructor's supervision. Random sampling is a sampling survey conducted in full accordance with the principle of equal opportunity, which is called "equal probability."



FIGURE 1: Student-centered approaches for 21st century competencies.

There are four basic forms of random sampling, namely, simple random sampling, equidistant sampling, type sampling, and cluster sampling. The biggest advantage is that when inferring the population according to the sample data, the reliability of the inferred value can be measured objectively in the way of probability so that this inference is based on science.

In a particular activity involving the same sample size, the use of the internet was investigated to gauge the participants' experience. Both qualitative and quantitative data were collected for this exercise. Qualitative data were organized using a questionnaire where the students were asked about their experience and how the internet benefited their learning process. For this exercise, college students from a bunch of courses were enrolled. The participants were then divided into different groups according to their age groups and methods they take. Table 2 summarizes the qualitative results acquired from this activity.

There are two different levels of qualitative research. One is pure qualitative research with or without quantitative analysis, and the conclusions are often general and speculative; the second is higher-level qualitative research based on quantitative analysis. In practical research, qualitative research and quantitative research are often used together. Before quantitative research, researchers must use qualitative research to determine the nature of the phenomenon to be studied; in the process of quantitative research, researchers must use qualitative research to determine the quantitative limit of qualitative change and the causes of qualitative change.

According to Table 2, the internet has helped in innovative institutional learning to a higher degree in developing both interpersonal and intrapersonal skills. As indicated, its demerits cannot supersede numerous benefits that it brings to the education sector. Unlike the traditional and insight teaching strategies, it enhances self-motivation in the course of the learning process. The development of skills such as self-discipline, teamwork, conflict resolution, and persuasion skills could not be realized before the advent of the Information Age.

The qualitative results above indicate its benefits not only in the field of physical education but also in other areas as well. This makes the use of 21st century competencies and innovative institutional internet teaching indispensable in developing both interpersonal and intrapersonal skills. The activity results indicated 98% positive feedback for group 1, which engaged in the 21st century pedagogical assessments. On the contrary, 12% of group 2 recorded positive feedback as far as their experience in traditional teaching strategies was concerned. Group 3 reported 5%, with many complaining of boredom and lack of proper direction. For group 1, a game-based approach was employed through which the participants were involved in solving the commonly used 3 × 3 Rubik's cube puzzle. The use of game-based strategy enhances problem-solving capacity because the problem in the question mimics real-life situations that are always inevitable as far as life circumstances are concerned. The participants involved in the game were treated as a Rubik's cube and asked to address the problem as a team. The instructor provided various resources from the internet

TABLE 1: Summary of results acquired on different groups of respondents.

Division	Group 1 Student-centered	Group 2 Traditional approach	Group 3 Inactivity
Feedback	Teamwork, critical thinking, problem-solving, collaboration	Boredom, not helpful, benefits only a subset of students	Inactivity, boredom

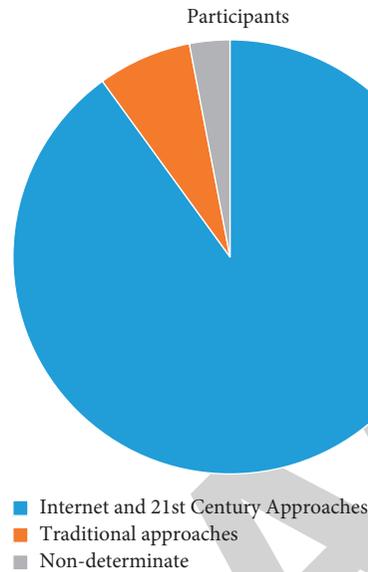


FIGURE 2: Pie chart summarizing the percentage of participants considering a particular approach.

including podcasts, videos, and blog posts from which the participants were to follow through to realize the end solution [11]. Figure 3 shows the 3×3 Rubik's cube structure that was to be employed by the students throughout the activity.

Social interaction includes the interaction between students and teachers, students and students, and students and other experts, friends, and so on. Through social interaction in e-learning, learners can cultivate their ability to find and solve problems, collect, analyze, and use information, and learn to share and cooperate. Using the interactive function of the e-learning support platform to build a virtual collaborative learning environment and explore the strategies and methods of full social interaction in this environment can not only construct the significance of general collaborative learning but also play an important role in promoting the transformation of teachers' teaching methods and the cultivation of students' innovative spirit and practical ability.

The graph in Figure 4 represents the quantitative research summary.

The graphical representation indicates a large number of positive responses to the pedagogical teaching approaches. This contrasts with the traditional techniques, which are instructor-directed more than student-centered.

For activity 2, qualitative results of the activities are represented in the graph in Figure 5.

There is a high demand for the adoption of internet teaching in both university and college students. This is because the use of the internet enables distance learning for

both the instructors and the students. This means that there will be an influx in enrollment of the students. Internet- and web-based learning, in general, are essential. For one, internet education is very cost-effective. For instance, anyone can enroll in an aerobics class with just an internet connection. This is because many platforms offer video and audio tutorials for almost any required field. The network-based interaction of China distance education network has a high degree of spatial flexibility and relative time flexibility. Spatial flexibility is reflected in that the communication with the network as the media has nothing to do with the geographical location of learners and teachers, while the relatively flexible time depends on the agreed time range of group learning. Teachers and learners can participate in the discussion in different places and within the agreed time or time frame. Face-to-face communication and discussion must take place at a certain time and place.

On-site education might seem expensive to most people due to the demand for tuition fees and other miscellaneous expenses such as relocation fees. With the use of the internet, many of these expenses can be cut off, which helps maintain costs. There has also been an increase in interactions between the teacher and student and peer-to-peer exchanges. This is because of social media and chatrooms, which help maintain constant communication between the teacher and student or even the parent. E-learning lacks the campus environment of traditional schools and face-to-face communication between students and teachers. However, providing the environment of network teaching and learning guidance requires students to focus on autonomous

TABLE 2: Summary of qualitative results acquired with internet education.

Courses	Engineering courses	Physical education	Biological sciences	Physical sciences
Positive experience	Motivation, creative thinking	Problem-solving capacity	Creative thinking	Problem-solving capacity
Negative experience	Lack of enough practice	No mimicry of real circumstances and experiences	Lack of enough support from the instructors and teachers	Not fit for every student
Interpersonal skills enhanced	Communication skills and teamwork	Conflict resolution skills	Meditation skills	Persuasion and influencing skills
Intrapersonal skills enhanced	Self-discipline	Self-discipline	Self-discipline	Self-discipline

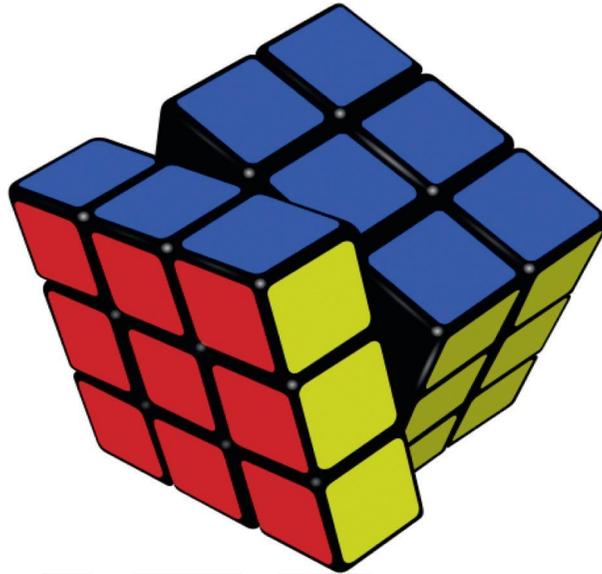


FIGURE 3: Game-based approach, 3 × 3 Rubik's cube.

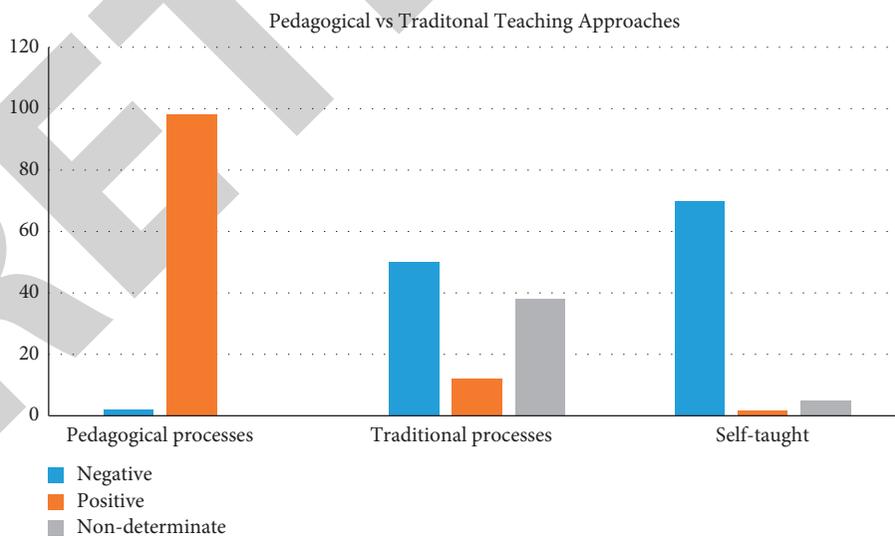


FIGURE 4: Pedagogical vs. traditional teaching models.

learning. Therefore, learners should establish the concept of autonomous learning and cooperative learning, gradually improve their self-learning ability and adapt to the methods and habits of distance learning, and give full play to their own personalized learning characteristics.

The internet has also been used as a learning tool through which the instructor can post lecture notes to their students or even create autograded assessments [12]. This has mostly helped technology students as they mostly use the internet to surf other peers' project repositories.

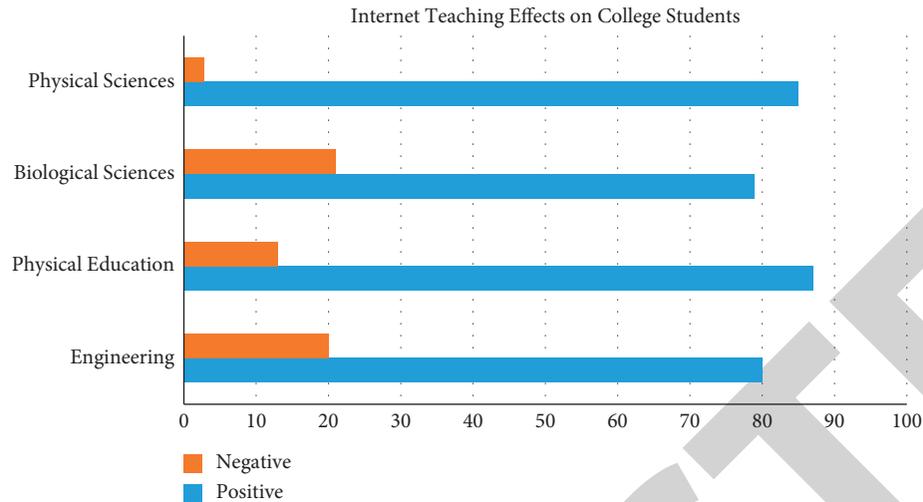


FIGURE 5: Improvements based on the internet and new PE teaching model.

3. Conclusion

The internet has proved critical in teaching, more so in higher institutions of learning. There is a barrage of platforms that can be employed to pursue any form of education from any particular field. With this, many benefits have come. This study aimed to investigate the use of innovative pedagogical learning and assessment methods and their influence on developing interpersonal and intrapersonal skills. Some of the innovative approaches discussed in the study are problem-based, game-based, inquiry-based, and project-based approaches. The advent of the internet has holistically complemented all these approaches. Thus, there is a need to increase the use of these innovative strategies in physical education and all the curricula existent in higher learning institutions.

Data Availability

The data underlying the results presented in this study are available within the article.

Disclosure

The author confirms that the content of the manuscript has not been published or submitted for publication elsewhere.

Conflicts of Interest

The author declares no conflicts of interest.

Authors' Contributions

The author saw the manuscript and approved it to submit to the journal.

References

- [1] R. E. Baker, W. Yang, G. A. Vecchi, C. J. E. Metcalf, and B. T. Grenfell, "Susceptible supply limits the role of climate in the early SARS-CoV-2 pandemic," *Science*, vol. 369, no. 6501, pp. 315–319, 2020.
- [2] R. S. Fox, T. A. Lillis, J. Gerhart, M. Hoerger, and P. Duberstein, "Multiple group confirmatory factor analysis of the DASS-21 depression and anxiety scales: how do they perform in a cancer sample?" *Psychological Reports*, vol. 121, no. 3, pp. 548–565, 2018.
- [3] T. A. C. Beach, D. M. Frost, J. D. Zehr, S. J. Howarth, S. M. McGill, and J. P. Callaghan, "Spine loading during laboratory-simulated fireground operations—inter-individual variation and method of load quantification," *Ergonomics*, vol. 62, no. 11, pp. 1426–1438, 2019.
- [4] T. Andre, S. Valladao, S. Walsh, and D. Reisbeck, "Breathing limited air situational training masks (BlastMask) versus self-contained breathing apparatus (SCBA) for firefighters: a pilot study," *International Journal of Exercise Science*, vol. 12, no. 6, pp. 941–949, 2019.
- [5] A. B. Le, L. A. McNulty, M.-A. Dyal, D. M. DeJoy, and T. D. Smith, "Firefighter overexertion: a continuing problem found in an analysis of non-fatal injury among career firefighters," *International Journal of Environmental Research and Public Health*, vol. 17, no. 21, p. 7906, 2020.
- [6] J. Zhilyakova and M. Kostsova, "Creativity as a factor of professional formation of a person and the problem of modern education," *Scientific Journal Modern Problems of Science and Education*, vol. 2, no. 7, pp. 299–305, 2019.
- [7] M. A. Gannon, C. A. de Bragança Pereira, and A. Polpo, "Blending Bayesian and classical tools to define optimal sample-size-dependent significance levels," *The American Statistician*, vol. 73, no. 1, pp. 213–222, 2019.
- [8] V. N. P. Nandifa, Y. Jena, and S. Joewana, "Beneficence is the highest moral imperative of a doctor dealing with the poor quality of patient autonomy," *The Indonesian Journal of Medical Education*, vol. 9, no. 1, pp. 44–51, 2020.
- [9] P. M. Ferland, A. Pollock, R. Swope et al., "The relationship between physical characteristics and maximal strength in men practicing the back squat, the bench press and the deadlift," *International Journal of Exercise Science*, vol. 13, no. 4, pp. 281–297, 2020.
- [10] A. N. Nasarudin, F. F. Sidek, and I. H. Shaari, "Prediction of quadriceps one repetition maximum (1RM) among novice lifters using 1RM equations," *Healthscope: The Official Research Book of Faculty of Health Sciences, UiTM*, vol. 3, no. 1, pp. 17–21, 2020.

- [11] M. Hammami, S. Hermassi, N. Gaamouri et al., "Field tests of performance and their relationship to age and anthropometric parameters in adolescent handball players," *Frontiers in Physiology*, vol. 10, p. 1124, 2019.
- [12] B. Koju, S. Chaudhary, A. Shrestha, and L. R. Joshi, "Cardio-respiratory fitness in medical students by Queen's college step test: a cross-sectional study," *Journal of Lumbini Medical College*, vol. 7, no. 1, pp. 29–33, 2019.

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