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THE STUDY EXPLORES THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN THE TEACHING OF PHYSICAL EDUCATION COURSES AT CHAUDHARY CHARAN SINGH UNIVERSITIES MEERUT.

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ABSTRACT

The study examines how information and communication technology (ICT) is used in physical education instruction. Students enrolled in B.P.E.S., B.P.Ed., and M.P.Ed. (Graduate and post-graduate) programs at Chaudhary Charan Singh University Meerut's private institutes were chosen as study participants. Over the course of this study, interviews with 25 teachers and principals were conducted. The educators stress how crucial it is to integrate ICT into their professional development in order to stay up to date with changing pedagogical and technological developments. The teaching staff's acknowledgement emphasizes how important it is to keep learning new things and adjusting to new teaching methods and resources. The concerns expressed by educators and heads underscore the significance of taking into account obstacles associated with.

Introduction

The term ICT mentions to "Information and Communications Technology. It is generally used to define a wide range of technological tools and resources used to produced is tribute, store and achieve information. These technological tools contain all kind of computer system, software and applications and networking elements which together facilitates people to communicate within the digital world. The objective of ICT is to improve accessibility and the cost of education to the expanding digital environment and to enhance education quality by contributing to teaching, learning and real-life operations. (Doyle, 2019)

The term, information and communication technologies (ICT), is defined by (as forms of technology that are used to transmit, store, create, share or exchange information. This broad definition of ICT includes such technologies as: radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software, as well as the equipment and services associated with these technologies, such as video as well as the equipment and services associated with these technologies, such as video conferencing and electronic mail. Lending his voices **Yeshpal (2019)** worked on 'Teacher Education' in the light of modern technological advancements impact of ICT on teacher performance in teacher education. The need of teach computer but all teachers should train computer and its usage. Teacher need to know how to use computers first before they can integrate the in curriculum this

could make ICT innovation simple to adopt and implement as innovation becomes compatible with the current objectives of the users. In teachers education programme, teachers of 21st century should have the knowledge and use of ICT to improve quality of education so that they can produce coming teachers with of ICT knowledge and quality teaching.

Objectives of the study

Based on the research questions framed for the present study, following objectives were framed:

1. To assess the current utilization of ICT in the teaching of physical education courses in Chaudhary Charan Singh Universities Meerut.
2. To identify the specific ICT tools, applications, and resources used in the teaching of physical education courses.
3. To examine the perceptions and attitudes of physical education teachers, and administrators towards the integration of ICT in their teaching and learning practices.
4. To investigate the challenges and barriers faced by physical education teachers in integrating ICT into their teaching practices and assessment.
5. To identify effective strategies and best practices for integrating ICT technology in physical education courses.

Delimitation of the study

Following delimitations were set for the present study:

1. The study was delimited to Private Physical Education institute of Chaudhary Charan Singh University Meerut.
2. This study was confined to the Physical Education teachers of Chaudhary Charan Singh University Meerut.
3. The study was further delimited to the Private Institutes offering BPES, BPEd & MPED programs.
4. The study focused on the positive and negative aspects of the availability, usage and application of resources, knowledge and facilities of Information communication technology (ICT) in teaching learning process in physical education Institutes of Chaudhary Charan Singh University.
5. It was further delimited to evaluate the awareness of ICT applications and advantages among Physical Education students and teachers of Chaudhary Charan Singh. University Meerut.

Limitation of the study

1. This Exploratory study is conducted on limited institutes of Chaudhary Charan Singh University Meerut. With a specific sample, limiting the ability to make broad claims or applies the findings to the other UP Universities.
2. The potential biases in participant responses was also one of the biggest limitations as the study relies solely on interviews, it may not capture certain measures of ICT's role in the teaching-learning process.
3. Due Covid-19 Pandemic, there was a long break and students did not turn back to the campuses on time, hence it was difficult to reach to the larger number of participants, therefore some of the data was collected using Google form.
4. Subjects' understanding of ICT, interest in academics and choosing their response depending upon their preparation, personal experience and situation was also considered as another limitation of the study
5. The study may not account for external factors that could impact the role of ICT in the teaching-learning process, such as University policies for the funding the specific institute.

Significance of the study

There will be significant effect of ICT on teaching learning process in physical education:

- The findings of the study will be helpful to know the real picture of ICT Facilities in Chaudhary Charan Singh Colleges, running physical Education courses.
- The result of the study will help us to assess the gaps and ICT recourses required in Chaudhary Charan Singh colleges to meet today's modern world trends of teaching and learning.
- It will help us to understand the ICT Skills related weaknesses and strengths of the Chaudhary Charan Singh physical education teachers so that in future required workshops can be recommended to make them tech friendly.
- It will give authentic understanding to assess the major requirements, appropriate utilization and mismanagement of ICT resources available with the Chaudhary Charan Singh colleges.

Procedure & Methodology

students enrolled in B.P.E.S., B.P.Ed., and M.P.Ed. (graduate and post-graduate) programs at Chaudhary Charan Singh University Meerut's private institutes were chosen as study participants. The purposive sampling method was utilized to choose the participants for the second phase of this exploratory study, who are the stakeholders in physical education. Since only teachers who had enrolled in or were currently teaching in graduate-level or post-graduate physical education courses at private institutes affiliated with Chaudhary Charan Singh University Meerut were chosen for data collection, the purposive sample method is applied.

Data collection

Data from 25 Teachers and Principals of Graduate and Postgraduate Physical Education Courses at CCS University, Meerut, were gathered through interviews. Of these, 22 Teachers and 3 Principals worked with Private Institutes that offered graduate and postgraduate Physical Education courses.

Teacher's and Principal's Interview Data Analysis

The objective of Section II was to know the integration and status of ICT facilities in physical Education teaching learning process and the kind of institutional ICT teaching learning facilities required from the college that they perceive, might enhance their ICT teaching learning at CCS University, Meerut. In the present study, a total of 25 Teacher and Principal/Head were interviewed after seeking the prior appointments and consents. For better understanding of the scenario of the status of integration of ICT in Teaching learning process of Physical Education at CCS University, this interview was pivotal to understand the correlation and contradictions among responses of data collected from the students, principals and teachers of Physical Education at Private Physical Education Institutes of C.C.S. University, Meerut. To collect the data, participant's views were measured by administering the open-ended interview questions which were grouped according to possible categories such as accessibility to ICT, ICT facilities and ICT in teaching learning process.

These areas are checked through seven statements with close-ended and open-ended answers. The responses obtained in case were converted into frequency/ percentage and script of response was converted into qualitative questions:

Table Uses and Effectiveness of ICT Integration in teaching-learning Process

S./ No.	Identified Effectiveness of ICT Integration	Frequency	%
1.	Active participation in teaching	23	92
2.	Topics are more effectively presented	22	88
3.	Due to covid-19 emergency, ICT facilities are been effectively used by teachers	24	96
4.	Online classes become more effective by using ICT	23	92
5.	With the hit of Covid-19 ICT Facilities are better & effective	24	96
6.	Students learned new things in better way with the use of ICT	23	92
7.	ICT integration played a pivotal role in continuation of the academic classes during covid-19 pandemic	21	84

Table gives an idea about the uses and effectiveness of ICT integration in teaching-learning process. The data shows that 92 per cent teachers are actively participated in teaching; 88 per cent teachers presented topics more effectively; 96 per cent teachers used ICT facilities in teaching learning due to covid-19 emergency; the use of online classes become more effective in ICT integration with 92 per cent; majority of teachers (96 percent) uses the ICT facilities to increase the knowledge and skills with a better and effective manner during the hit of covid-19; 92 per cent of students learned new things in better way with the use of ICT facilities to interact with their teachers; and 84 per cent teachers respond that ICT integration played a pivotal role in continuation of the academic classes during covid-19 pandemic. The overall idea about the uses and effectiveness of ICT integration in teaching learning process in the colleges of C.C.S. University Meerut shows that the Covid-19 pandemic has significantly improved and enhanced the effectiveness of ICT facilities.

Table Need of ICT Training/ Workshop for Effective Application in Teaching- Learning Process

S./ No.	Key Words	Frequency	Percentage (%)
1.	Able to use of ICT effectively	19	76
2.	Massive Open Online Course (MOOC) Faculty Development Program are required for better use of ICT in teaching	23	92
2.	Training on digital pedagogy and blended learning is required	20	80
3.	Opportunity to attend Courses on basic ICT tools and their application must be provided	18	72
4.	Training on using Learning Management Systems (LMS) is required	20	80
5.	Training on effective use of educational apps must be given	23	92
6.	Workshops on creating online quizzes, assignments, and providing feedback through digital platforms is needed	19	76
7.	Workshops on up gradation knowledge on available	09	36

	ICT technology is required		
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Table presents the need of ICT trainings and workshops for the effective application in teaching learning process. ICT helps students and teacher to learn more effectively as well as it helps students to find ICT supported teaching. The individual is proficient in effectively utilizing Information and Communication Technology (ICT) effectively uses ICT in teaching 76%; a Massive Open Online Course Faculty Development Program is needed 92%; training on digital pedagogy and blended learning is also necessary 80%; basic ICT tools and their application must be provided with 72%., Learning Management Systems training with 80%; effective use of educational apps (92 per cent); workshops on creating online quizzes, assignments and feedback (76 per cent) and workshops on up gradation knowledge on available ICT technology (36 per cent) are required for effective teaching learning.

Table Gaps in the provision of ICT Facilities for Teachers and Students by Colleges

S./ No.	Key Words	Frequency	Percentage (%)
1.	College provides ICT facilities	24	96
2.	Computer labs equipped with software and internet access are not sufficient	22	88
3.	Classes with Multimedia Projector and Audio facility not available	16	64
4.	Provision of Camera for recording the sports skills for assessment is not available	23	92
5.	Webcams and Headsets for online teaching and conferencing not provided	13	52
6.	High speed internet facility and Wi-Fi connections not available in classrooms and common areas	21	84
7.	ICT Technical support is insufficient or poor	24	96
8.	Official laptops are not allotted to the teachers	22	88

Table: 5.2.3 has shown the availability of hardware material of ICT as teaching aids among the colleges affiliated to CCS University. The data on gaps in the provision of ICT facilities for teachers and students by colleges depicts that although the colleges are providing adequate ICT facilities with 96 per cent but the computer labs equipped with software and internet access (88 per cent); multimedia projectors, audio facilities (64 per cent); cameras for sports assessment (92 per cent); webcams and headsets for online teaching and conferencing (52 per cent); high-speed internet and Wi-Fi connections (84 per cent); ICT technical support (96 per cent); and official laptops (88 per cent) are not available or provided to teachers in CCS University colleges.

Table ICT workshop that are been conducted by Physical Education Colleges of CCS University for teachers

S./ No.	Key Words	Frequency	Percentage (%)
1.	Workshops on presentation software	18	72
2.	Use and application of MS Teams and Google meet	17	68
3.	Lectures for teachers on e-content development	18	72
4.	Workshop on students' engagement and assessment strategies	16	64

Table gives an idea about ICT workshop that are been conducted by Physical Education Colleges of CCS University for teachers. The workshop offer opportunity to learn in-depth, gain practical and applicable experience, network with like-minded colleagues and access experienced practitioner in field of assessment and improvement. The text provides a summary of workshops on presentation software 72%, MS Teams and Google Meet usage 68%, echer lectures on e-content development 72%, and a workshop on student engagement and assessment strategies 64%.

Table Advantage of using ICT among students

S./ No.	Advantage of ICT	Frequency	Percentage (%)
1.	Students can receive educational audio and video online	24	96
2.	Students gets more attracted towards multimedia lessons	20	80
3.	Student participation in submitting online assignments is high as they get feedback online	18	72
4.	Students find themselves skilled to deliver multimedia presentation	22	88
5.	Integration of ICT has helped students to know more and more ICT software and apps	21	84
6.	Use of ICT enables the students to explore more on internet to outreach latest research and development.	19	76
7.	Students have accessibility to emails communication	22	88

Table shows the data regarding the various advantage of using ICT among students in colleges of CCS University. The integration of ICT in education has significantly improved students' engagement and engagement in multimedia lessons 80%. They are more attracted to online learning, and their participation in submitting assignments is high due to online feedback 72%. Additionally, ICT has enabled students to explore the internet and access the latest research and development 76%. Furthermore, 88% students now have access to email communication

Table Disadvantage of using ICT among students

S./ No.	Disadvantage of ICT	Frequency	Percentage (%)
1.	Non availability or Poor Internet connection at Institutes	22	88
2.	Non availability of skilled ICT technical staff or IT helpdesk	21	84
3.	Participation of students during online classes is poor in comparison to Physical mode classes	19	76
4.	Presentation not submitted timely	7	28
5.	Student gets attracted towards plagiarism	22	88
6.	Students do not check their Inbox on regular basis, which increases the chance of missing the important information	11	44

Table depicts the disadvantage of using ICT among students. The issues faced by institutes include poor internet connection 88%, lack of skilled ICT technical staff 84%, poor online class participation 76%, and delayed submission of presentations 28%, student attraction towards plagiarism 88%, and insufficient regular check-ins, which increases the risk of missing important information 44%. These issues contribute to a lack of quality education and a lack of effective communication teaching learning

Table Physical Education Teacher's views over integration of ICT and Physical Education

S./ No.	Key Words	Frequency	Percentage (%)
1.	Enhanced Learning Experience	23	92
2.	Students will be skilled in using laptops and computer	20	80
3.	Access to online resources will increase	23	92
4.	Provision of online classes and coaching will be possible	20	80
5.	Work efficiency of Educators will be improved by using software and getting digitalized	24	96
6.	Data analysis will be better to make tailor made programs	22	88
7.	Teacher professional development will enhance by getting accessibility to online webinars, conferences, and workshops	23	92
8.	ICT can enable parents to monitor their child's Progress	16	64
9.	Career opportunity and accessibility to various scopes of Physical Education will increase for students	20	80
10.	Research opportunities and quality will get better	20	80
11.	Remote learning options will be there in case of any emergency situation	24	96
12.	Classes can get more creative and attractive	11	44

Table shows the Physical Education Teacher's views over integration of ICT and Physical Education. The text highlights the benefits of a digitalized education system, including enhanced learning experiences 92%, improved student skills in using laptop and computer 80%, increased access to online resources increase 92%, the provision of online classes and coaching, improved work efficiency of educators 80%, better data analysis for tailor-made programs 88%, enhanced teacher professional development through online webinars, conferences, and workshops 92%, ICT for parents to monitor. These changes aim to improve the overall quality of education and enhance student outcomes. Parents reported improved child progress 64%, increased career opportunities in Physical Education 80%, enhanced research quality, remote learning options 96%, and more creative classes, aiming to enhance overall education quality and student outcomes,

Discussion of Findings from Teacher/Principal Interviews

Teacher gives an idea about the uses and effectiveness of ICT integration in teaching-learning process. Teachers report, an active participation in teaching and learning as ICT is highly effective. From teacher's perspective, the presentation of topics in teaching learning becomes more effective. The Covid-19 emergency has led to the effective utilization of ICT facilities by teachers. The COVID-19 pandemic has led to increased use of ICT facilities by teachers, enhancing the effectiveness of online classes. The use of ICT has significantly enhanced students' learning experiences. ICT facilities have improved and become more effective during the Covid-19 pandemic, enabling students to learn new things, and playing a pivotal role in academic continuity.

The teachers are proficient in effectively utilizing ICT in teaching and learning, but still have shown great interest in Massive Open Online Course (MOOC) Faculty Development Programs, as it is necessary to enhance the utilization of ICT in teaching. The workshop is requiring training on digital pedagogy and blended learning to effectively apply it in the teaching-learning process. Attending courses on basic ICT

tools and their application is essential for effective teaching-learning processes, and ICT training/workshops are needed to provide this opportunity to the teachers.

In case, if colleges are addressing the gaps in providing ICT facilities for teachers and students, it could be understood from teacher's perspective, that computer labs equipped with software and internet access are not sufficient and internet access is also insufficient, and classes with multimedia projector and audio facilities are not available.

Conclusions

1. Student Consensus on ICT-Based Training, where students overwhelmingly agree on the importance of subject-specific ICT-based training, classes, tutorials, and E-Content for enhancing their learning experiences. They perceive these resources as valuable tools for achieving a deeper understanding of academic subjects.

3. Teacher and Head Reservations, where they have expressed reservations regarding the adequacy of the mentioned ICT-based facilities for improving students' learning outcomes. Their perspectives indicate that there may be limitations or challenges in the current implementation of ICT-based resources for educational purposes within the university.

4. The reservations voiced by teachers/heads highlight the importance of considering challenges related to resource availability, infrastructure, and pedagogical approaches. These concerns underscore the need for a comprehensive assessment of the practical aspects of integrating ICT into the educational environment.

5. Physical Education teachers within CCS University, also acknowledge the issue of inadequate laptops and notepads in the institutes. Students and educators are aware of the resource limitations and are potentially open to addressing this challenge..

7. Teacher have highlighted a deficiency in ICT resources, suggesting that there is a gap between the demand for modern ICT facilities and their actual availability within the institute. This observation implies that students face limitations in accessing up-to-date technology to support their educational needs.

8. Teachers acknowledged that there is presence of ICT facilities, but they also recognize that these resources are insufficient and outdated. They particularly note the absence of multimedia, audio-visual facilities, cameras, and similar resources within classrooms, which underscores the limitations of the existing technological infrastructure.

9. The acknowledgment from the teaching staff emphasizes the urging need for comprehensive improvements in the technological infrastructure of the educational institutes. The absence of fundamental and necessary ICT tools and resources hinders effective teaching and learning experiences and necessitates strategic enhancements.

Implications of this Study

With above understanding it can be outlined that the teachers of the Physical Education institutions associated to Chaudhary Charan Singh University should give emphasis on the following points for effective use of ICT in teaching learning process:

1. UGC/ NCTE as the authority of Higher Education system can provide a need-based training program on ICT to the institutions teachers and also make provision of their assessment for effective use of it in classroom practice.
2. In the orientation and refresher course if Curriculum on ICT is employed then it would have a better scope to make the teachers skilled in ICT.
3. If teacher effectively, advanced teaching practices, it can result in high quality learning. Information Communication Technology (ICT) it continually gives birth to new innovations. Promote 21st century educators: Ensure that all teachers have the knowledge, tools and enthusiasm to fully integrate quality

- learning activities into ICT. This will maximize the impact on a student's classroom experience and education as a whole.
4. Use of ICT to link home and institutions effectively: ICT can do this by improved communication and transparency, as well as re-forming a positive environment. Engaging parents will also increase student motivation and thus raise standards of physical education.
 5. If teachers will have effective ICT skills, advanced teaching practices can result in high-quality learning. Information Communication Technology (ICT) it frequently gives birth to new innovations. Promote 21st century educators: Confirm that all teachers have the knowledge, tools and enthusiasm to fully integrate quality learning activities into ICT. This will maximize the impact on a student's classroom experience and physical education as a whole.
 6. Each institution may establish a joint sitting among the teachers on presentation of ICT in classroom teaching learning process in favor to make them aware on it.
 7. The college teachers irrespective of experience and stream may take training on ICT use from any professional institute, so they can handle it effectively in classroom practice.
 8. Motivational techniques like providing adequate ICT facilities as per the needs and requirements of the course and institute can be used for improving zeal to the teachers and students to bring some innovation by doing research in Physical Education using ICT.
 9. Development of basic infrastructure for use of ICT in physical education. This will help the students to be market ready for better jobs opportunities and development of skills to be an effective entrepreneur.

Recommendations

1. University should provide comprehensive and ongoing professional development opportunities for physical education teachers to enhance their digital literacy skills and pedagogical knowledge related to technology integration.
2. Provision of need-based and assessment-based workshops, training sessions, and certifications can empower Physical Education teachers and students to effectively leverage technology in their teaching practices.
3. Colleges must diversify the range of technology tools and applications available for physical education courses. This may include interactive whiteboards, virtual reality simulations, fitness tracking devices, mobile applications, and online platforms that cater to different learning styles and objectives.
4. Provision of National and International conferences must be there to have speakers to speak on the latest gadgets that are prevalent in the sports performance industry. Incorporation of courses on performance recording and monitoring in physical education can make learning more enjoyable and motivating for students by knowing their performance. The progress tracking can boost participation and foster a sense of achievement.
5. University needs to develop online learning resources in all the Physical education colleges, such as instructional videos, interactive tutorials, and digital libraries. These resources can support student learning and provide opportunities for self-paced learning and advance preparation for classroom discussions.
6. Adequate and time to time monitoring of availability of ICT facilities, their functioning, their usage, application on the field, interest of teachers is the need of the hour to get best results at Private Institute of Physical Education, CCS Universit

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