

# Assessment of Digital Literacy and Technical Competence of Physical Education Teachers in the Western Province

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## Abstract

The concept of computer literacy refers to an individual's ability to understand and effectively use digital technologies, while computer competency denotes a higher level of proficiency and practical expertise in applying these technologies. This study aimed to examine the current levels of computer literacy and computer competency among Physical Education (PE) teachers in the Western Province. A quantitative research design was employed, and data were collected through a structured questionnaire administered to 100 PE teachers aged between 30 and 40 years. The questionnaire consisted of five sections: demographic background, use of computer applications, competency assessment, literacy evaluation (10 questions), and factors influencing computer usage. Data were analyzed using the IBM SPSS statistical software package. The findings revealed that computer competency among PE teachers is not equivalent to their level of computer literacy, particularly in application-specific skills. Most teachers reported limited use of a narrow range of software applications, primarily word processing. A majority of respondents rated themselves as competent in general computer knowledge (61%) and internet usage (72%), while 56% considered their typing skills to be good. Only a small percentage reported poor literacy levels, and very few indicated advanced typing proficiency. Social media emerged as the most frequently used digital platform, with 72% of participants engaging with it daily. Additionally, a considerable proportion of teachers reported regular use of email, word

processing, and multimedia tools. Despite frequent computer usage, self-assessed fundamental computing skills remain moderate. The study highlights the need for continuous professional development opportunities to enhance technological competence and promote the effective integration of digital tools in Physical Education teaching.

**Key Words:** Computer Literacy, Computer Competency, Physical Education Skills, Teacher Development.

## Introduction

### 1.1 Background of the study

Physical education is the study of physical exercise via instruction. It aims to improve students' physical proficiency, movement awareness, and safety awareness as well as their ability to use these to engage in a range of activities related to the promotion of an active and healthy lifestyle. Additionally, it aids in the development of students' confidence and all-around skills, particularly those connected to collaboration, communication, creativity, critical analysis, and aesthetic appreciation. These establish a strong foundation for students' lifetime learning and comprehensive education, as well as the encouragement of wholesome values and attitudes in physical education. Physical education is the study of physical exercise via instruction. It aims to improve students' physical proficiency, movement awareness, and safety awareness as well as their ability to use these to engage in a

range of activities related to the promotion of an active and healthy lifestyle. Additionally, it aids in the development of students' confidence and all-around skills, particularly those connected to collaboration, communication, creativity, critical analysis, and aesthetic appreciation. Together with the encouragement of wholesome values and attitudes in physical education, these offer a strong foundation for students' lifetime and all-encompassing learning. (www.edb.gov.lk)

The purpose of the physical education course is to educate pupils through physical activity. It seeks to improve students' physical proficiency, movement awareness, and safety awareness as well as their capacity to apply them to execute in a range of development-related tasks. Of living a healthy, active lifestyle. Additionally, it aids in the development of students' confidence and all-around skills, particularly those connected to collaboration, communication, creativity, critical analysis, and aesthetic appreciation. Together with the encouragement of wholesome values and attitudes in physical education, these offer a strong foundation for students' lifetime and all-encompassing learning. (Curriculum Development Council, 2007)

Computer literacy and competency refer to an individual's ability to use and understand computers and technology. Physical education teachers may have varying levels of computer literacy and competency depending on their education, experience, and personal interest in technology. Some physical education teachers may have a high level of computer literacy and Competency, while others may have a lower level. It is important for physical education teachers to have at least a basic level of computer literacy and competency in order to effectively integrate technology into their teaching and to use technology as a tool for communication, lesson planning, and assessment. (Reddy, Sharma and Chaudhary, 2020)

### **1.1.1 History of physical education in the world**

The history of physical education dates back to ancient civilizations, where physical fitness was emphasized for both practical and religious reasons. For example, in ancient Greece, physical education was an integral part of education, with young boys receiving training in running, jumping, and wrestling as part of

their education. The ancient Olympic Games, which originated in Greece in 776 BC, also emphasized the importance of physical fitness and athleticism. In ancient China, physical education was also an important part of education and was closely tied to the development of martial arts. The ancient Chinese believed that physical fitness and martial skills were essential for maintaining health, developing discipline, and defending the state.

In medieval Europe, physical education was mainly focused on training for military purposes. Knights and soldiers were trained in horseback riding, archery, and sword fighting. During the 19th century, the focus of physical education began to shift towards the development of physical fitness and the promotion of a healthy lifestyle. Physical education programs were established in schools, and the first physical education degree programs were established in the United States. In the 20th century, physical education continued to evolve, with a greater emphasis on the scientific study of exercise and sports, as well as the development of new sports and activities such as gymnastics, basketball, and volleyball.

Today, physical education programs around the world continue to focus on the development of physical fitness, health, and well-being, with a variety of activities and sports offered to suit different interests and abilities.

The extremely competitive and competitive culture of ancient Greece is where physical education first emerged. At this period, physical education was very important because it was needed to prepare Greek athletes and soldiers. Children would begin receiving physical education and training at the age of seven with the goal of eventually making them skilled in sports like boxing, chariot racing, and more. Physical education was crucial to the growth of Greek culture because for this to occur, people needed to understand their bodies and what went into physical activity. The US would adopt physical education by the middle of the 19th century. The explanation was identical to what the Greeks were doing with it—training and preparing soldiers for impending warfare. But as time went on, physical education would evolve into something much more significant. In schools across the country, health-related topics would start to get more attention in the classroom and

on the playground, and courses focused on physical development would get more attention. Eventually, schools across the country would provide a range of courses that would help youngsters develop their physical skills, give them a thorough understanding of the human body, and boost their confidence. Colleges would adopt a similar strategy. In American physical education classrooms, girls were initially more involved in gymnastics while boys were more active in other physically demanding sports. But ultimately, both sexes would pick up knowledge about things like endurance, flexibility, nutrition, and body composition. (www.AAAstateofplay.com)

Around 1820, when schools began emphasizing gymnastics, hygiene instruction, and the care and development of the human body, physical education would begin. 50 years later, Physical education majors had been introduced at more than 400 institutions. In 1851, the Young Men's Christian Association opened its first chapter, which concentrated on sports. Colleges were urged to emphasize intramural football, track, and field, and other sports. . But after the Civil War, many states decided to establish legislation requiring schools to include a significant physical education component in their curricula, making physical education an official mandate. However, it wasn't until 1970 that the Federal Education Act was amended to allow high school and college aged women to participate in sporting events. At this period, there was no sex-based discrimination in any government-funded programs. Physical fitness is something that is gained throughout the course of physical education, which is taught in schools. Physical fitness may be thought of as having the capacity to perform and enjoy regular physical activities with ease. Additionally, kids study how to move and develop the skills necessary for a number of games, including swimming, basketball, and soccer. Children who take physical education programs frequently are better equipped to lead active, healthy lives as adults. A strong physical education program should have engaging lessons, experienced P.E. instructors, and a variety of sports. Ample class time, as well as student evaluation. Physical education lessons should encourage students to develop their physical skills and self-confidence. For instance, the elementary and middle school curricula should include activities that help students develop skills like running, catching,

throwing, and striking, which are useful in sports like baseball, volleyball, or karate. The application of balance skills in gymnastics or dancing would serve as another example. Team sports should be given secondary consideration in high school curricula, with lifetime sports skills like tennis or aerobic dancing being two examples. (www.AAAstateofplay.com)

### **1.1.2 Education and Physical education history in Sri Lanka**

Sri Lanka has a long history of education that dates back to the island's early dynasties. The current education system in Sri Lanka was created in the 19th century under British colonial authority, and it has since developed and grown. Primary, secondary, and postsecondary education are the three levels that make up Sri Lanka's educational system.

Although physical education has always been a part of Sri Lanka's educational system, it wasn't made required until the early 20th century with the adoption of the Education Ordinance. Physical education was a subject covered in teacher training programs as well as an optional subject in the primary and secondary curricula. Physical education has been a required subject in secondary schools since 1976, and it has been required in primary schools since 1960. The physical education curriculum includes activities like games, athletics, gymnastics, and dance and focuses on the development of physical fitness, motor skills, and sportsmanship.

In recent years, physical education and sports have received renewed attention in Sri Lanka, where the government has invested in the construction of sports facilities and the promotion of sports as a means of fostering both national cohesion and physical fitness.

The National Physical Education and Sports Association and the Sri Lanka Schools Physical Education and Sports Association are only two examples of the many clubs and organizations that support physical education and sports in Sri Lanka.

There has been education in Sri Lanka for more than 2300 years. According to popular belief, the introduction of the Sanskrit language to the island came about as a result of Buddhism was introduced during King Devanampiya Tissa's reign by Indian Emperor Asoka's Buddhist monks. Since then, a system of education has developed that is based on Buddhist temples and *privenas* (monastic colleges), the latter of

which is primarily designed for clergy and higher education (even today). Buddhism and education were correlated. Knowledge was passed down through generations orally and by memorization by students in these institutions, which were known as Pirivenas. Buddhist clergy where subjects like literature and philosophy were taught. Between 1505 and 1658, the Portuguese colonized Sri Lanka's coastline. The missionaries controlled the educational system, and their only goal was to spread the Roman Catholic religion through the conversion of the instruction of reading, writing, and mathematics to the Catholic region. Sri Lanka was ruled by the Dutch from 1658 to 1796 Acknowledged that the development of schools benefited commerce and civil administration. Increase the number of schools to increase the chance for education. The Dutch Reformed Church served as the foundation of the educational system, while the government exercised some authority over school administration. Due to traditional academic biases relating to its focus on the practical and the body rather than with abstractions and the mind, as well as a general focus on education for white collar employment, physical education has struggled for its identity and endured low status in Sri Lanka since the colonial era. According to the study, Sri Lanka's developments in physical education curriculum theory, policy, and practice have shown traits of the two main physical education models: the sports- and health-based models. The majority of students have been denied access to physical activity since colonial times because of the predominance of a sports-focused physical education curriculum that has triumphed in urban boys' top private and public institutions. The majority of rural and underprivileged urban schools now provide volleyball, athletics, Elle, and tennis ball cricket in addition to this prevailing norm. Due to the preponderance of a sports-focused physical education curriculum that has existed since colonial times, the majority of pupils have been denied access to physical activity. Won in the best private and governmental institutions for urban lads. In addition to this standard practice, the majority of rural and underserved urban schools now provide tennis ball cricket, volleyball, and athletics. Deraniyagala (1959) asserts that class or caste distinctions had no bearing on how physically fit people were trained for jobs in the

king's army. Any physically strong, brave, young men were recruited into the King's army in early Sri Lanka after being chosen based on their talents in competition with "heroes" in the King's army. The skillful were then given specialized instruction by experts in the King's army. Although the army placed a premium on physical fitness, only men from high castes with exceptional intellect were given the most important, prestigious positions. Combat sports were restricted to army personnel, whereas both army personnel and the general public participated in leisure activities. The historical evidence shows that most traditional physical activities were still practiced in Sri Lanka, with the exception of militaristic ones, which were discouraged by all Europeans because they were detrimental to their security in the nation. Throughout the British era For example, it's likely that the numerous teachers and administrators from Britain and Europe who work in public and private schools brought some of their own. The professors who taught in the 1841, mission normal schools that were established in 1870, government teachers college that was established in 1903, and other private teacher colleges. Mainly from Europe, and instruction was in the English language. After Colebrook's advice in 1831, teachers who couldn't speak English well weren't hired. All educators, whether they worked in public or private institutions, spoke English well at the time. Without any Sri Lankan curricula, it's conceivable that there Teachers adopted British curricula, with an emphasis on In the UK, sports & physical education, exercise, and health were likely to be represented in Sri Lankan English-medium education. However, cultural and religious perspectives on physical activity, especially females' physical activity, was also likely to have an effect on how these curricula were embraced. The adoption of British game traditions in the government preparatory and superior schools, which were based on British public schools, and the introduction of British sports to Sri Lanka are the most striking examples of British influence. The public school traditions in Britain are described in Dent 1948, Goldlust (1987), and Mangan (1988), and they were passed over to the elite schools in Sri Lanka. The exclusivity of these institutions to members of the upper social class who could pay the costly tuition as well as to pupils who had successfully finished their first six years of schooling at connected

preparatory schools was a key component of the public school heritage. Administrators according to Goldlust 1987 and Mangan 1988, games were institutionalized in British private boys' schools (public schools) for the development of gentlemen and to control the rowdy sons of the elite class. Rugby football, rowing, cricket, and athletics are examples of British sports that were made mandatory in Sri Lankan public schools. However, before 1890, the British traditional games were implemented in Sri Lankan Superior Schools primarily for white children, according to Sumatipala (1968). Rugby football, rowing, cricket, and athletics are examples of British sports that were made mandatory in Sri Lankan public schools. However, before 1890, the British traditional games were implemented in Sri Lankan Superior Schools primarily for white children, according to Sumatipala (1968). (www.edb.lk)

In Sri Lankan educational system is consist of various kinds of structural formations. Government schools, privet schools, parvenus, the international school are acting main role in the education system. Sri Lanka's general education system offers 13 years of instruction throughout three cycles. Children in Grades 1-5 of Primary School (Grades 5-10), Grades 6-9 of Junior Secondary School (Grades 11-14), Grades 10-11 of Senior Secondary (for the General Certificate Examination/Ordinary Level, or GCE O/L), and Grades 17-18 of Collegiate or the GCE Advanced Level, or GCE A/L, respectively, are all available to students (Grade 12-13). Children in Sri Lanka between the ages of 5 and 14 are required to attend school. Senior secondary education comes to a close with the national level test GCE O/L, and college education begins with GCE A/L. There is a uniform syllabus for GCE O/L that covers both required and elective subjects. All pupils are required to study their native language, an additional language (such as English), math, science, history, and religion. Three other topics, such as civics, the arts, and dancing. You can choose from the optional list to take courses in business, health, physical education, agriculture, etc. However, to remain in the GCE A/L class, a student must pass at least 6 courses (with a minimum of 3 C passes in the required topics, including mother tongue, math, and science). This includes 9 subjects for the GCE O/L test. Students may choose one of the three primary streams-Arts, Science, or

Commerce-for the A/L class at their discretion. English and General Knowledge as compulsory subjects. The university entrance is based on the results of the GCE A/L examination. There are two types of undergraduate programs. Three-year General Degree Programs offer three main subjects and the duration is 3 years, Four years special Degree Program offers three main subjects and the duration is 4 years.(Liyanage, 2014)

Physical education is one of the most valuable subjects in the grade 6-9 syllabus in the Sri Lankan education curriculum. But in grades 10 and 11 it is one of the elective subjects selected according to student familiarity. But it is not recommended for the Advance Level by the Sri Lanka government.

### 1.1.3 Computer Literacy

The term "computer literacy" describes a person's capacity to utilize and comprehend technology. It includes a variety of abilities, such as the knowledge and skills needed to operate elementary computer gear and software, traverse the internet, and utilize widely used productivity tools like word processing and spreadsheet software.

Given the growing importance of technology in our daily lives, computer literacy is becoming more and more crucial in today's culture. A basic understanding of computers is now a need for many employment, and many activities including financial management, research, and communication are now performed primarily on computers.

To learn the fundamentals of using a computer, such as how to navigate the operating system, operate common applications, and troubleshoot issues, one can enroll in classes, attend workshops, or complete self-study courses. Some programs are particularly customized for particular industries, including digital marketing, graphic design, or programming.

For computer literacy, keeping up with the most recent innovations and industry trends is crucial in addition to formal education. This can entail reading trade journals, engaging in online communities, and trying out new hardware and software.(Son, Robb and Charismiadji, 2011)

Computer literacy has become the cardinal and pivotal part of life in this era of Information Technology. The internet-connected computer can be used to access information about anything, anywhere in the world, at any time. People were interested in keeping their

information private in the early days when computers were being developed or had just been introduced, but today they prefer to share and spread information via social media. Nowadays, everything is logged, assessed, and monitored using databases or other publicly available data and information. Despite the fact that we live in an era of technology. (Hoffman and Blake, 2003)

As instructors of technology, we are frequently astounded by the quickly advancing knowledge base that best teachers bring with them. The time when we had to focus all of our efforts on computer basics is long gone. The number of computers in dorm rooms throughout campus is quickly getting close to and probably will soon surpass the number of students in those rooms. What then do teachers in courses on computer literacy? The conventional method, which covers the same plethora of office programs, might not give our teachers what they require. We worry that we are just reviewing knowledge that teachers already possess. (JCSC 18, 5 (May 2003)). In our technology literacy course, we have made an effort to determine teacher's proficiency in light of this. According to a skills survey conducted by the authors, teacher can connect to the World Wide Web (Web), send and receive e-mail, take part in synchronous chat, utilize a search engine, and produce documents using word processing in that sequence. The majority of students do have these fundamental computing skills, yet occasionally a student may not. But this information is not grounded in a knowledge of the underlying technology. Our pupils approach us as straightforward customers. (Hoffman and Blake, 2003)

#### 1.1.4 Computer competency

Computer competency refers to a higher level of proficiency and expertise in the use of computers and technology. It goes beyond basic computer literacy and includes the ability to use advanced software, programming languages, and digital tools to solve complex problems, create and manipulate digital content, and analyze and interpret data.

To be computer competent, individuals typically have to possess a strong understanding of the underlying principles and concepts of computer science, as well as the ability to apply this knowledge in real-world situations.

Computer competency also includes the ability to troubleshoot and fix technical problems, as well as an understanding of the broader implications and consequences of technology use.

To achieve computer competency, one may take classes, attend workshops or take self-study courses that cover more advanced topics such as data analysis, programming, and network administration. Some people also gain computer competency through on-the-job training or by taking on challenging projects and experimenting with new tools and technologies. In the job market, computer competency is increasingly becoming a requirement for many positions and it could be a valuable asset to have in many industries. (Karsten and Roth, 1998)

#### 1.1.5 Application skills

- Office 2007 (Word, Excel, Outlook, PowerPoint, OneNote, Access)
- Google Docs (Docs, Sheets, Slides, Forms)
- Worksheets (Excel, Google Sheets, Open Office Calc). An advice: Include details about your expertise in areas like pivot tables, comparative studies, database links, macros, sensitivity tables, and vertical lookups.
- Email (mail merge, filters, folders, rules)
- Lectures and slide shows (PowerPoint, Google Slides, Open Office Impress, Table)
- Database Administration (MS Access, Oracle, Teradata, IBM DB2, MySQL, SQL)
- QuickBooks. Talk about your expertise's practical uses, such as payroll, accounts payable, invoicing, cash flow management, and timekeeping for employees.
- Social Networks (Facebook, Twitter, Instagram). Advice: Describe how you use your social media expertise, including giveaways, post engagement analytics, reach, and consumer involvement.
- Web (HTML, CSS, JavaScript, Joomla, WordPress, Content Management Systems (CMS), code libraries)
- Writing abilities, including those in WordPress, Yoast, SEO, technical writing, journalism, research, and ghostwriting. An excellent WPM score works well for professions where turnaround time is important, but few people are impressed by your mastery of MS Word.
- Visual arts (Photoshop, Illustrator, InDesign, Acrobat, Corel Draw, and HTML/CSS)

- Business systems. Customer relationship management, automated billing systems, and payment processing (Salesforce, Oracle NetSuite) Organizational Resource Planning (Oracle, SAP) Business Continuity Planning and Business Intelligence
- Software Knowledge. Ruby on Rails, Ruby on PHP, MySQL, SQL, C#, JavaScript, C++, Python, and iOS/Swift
- Hardware Knowledge. System administration, network configuration, software installation, security, Cisco, tech support, updates, vendor management, project management, research, and vendor management. TCI/IP, DNS, DHCP, WAN/LAN, Windows, Linux/Unix, Ubuntu, virtualized networks, network automation, cloud management, and AI/machine learning are some of the terms used.

Advanced Computer Skills. Web development, open source, data structures, coding, security, machine learning, and debugging (<https://zety.com>)

### 1.1.6 Technology and Computers in Education

Technology and computers have had a significant impact on education in recent years, with many schools and universities incorporating technology into their curriculum and teaching methods. The use of technology in education can improve students' engagement and motivation, as well as their ability to access and process information.

One of the most common forms of technology used in education is the use of computers and the internet for research and information retrieval. This allows students to access a wide range of information and resources, such as online databases, e-books, and videos, which can enhance their learning and understanding. Technology also allows for the use of interactive and multimedia resources, such as simulations, virtual reality, and animations, to supplement traditional teaching methods. For example, virtual field trips, simulations and interactive activities can help students visualize and understand complex concepts, and online learning platforms can provide greater flexibility and access to education.

Technology also allows for distance learning and online education, which can provide access to education for students in remote or underserved areas, or for students who are

unable to attend traditional classes due to work or other commitments. However, it's important to note that the integration of technology in education should be done in a thoughtful and strategic way, taking into consideration the needs and learning styles of the students, as well as the available resources and infrastructure. The use of technology should also be balanced with other forms of instruction, such as hands-on activities, group work, and direct instruction, to create an effective and well-rounded learning experience. (Cojocaru *et al.*, 2022)

The didactic method of teaching is one of the biggest issues in education today. The lack of interaction and communication between students and professors as well as between students themselves is another major issue. In addition to the difficulties of the extremely complicated 5 learning targets and the lack of evaluation tools, Students' application of theoretical knowledge to real-world situations drives the need for innovative educational strategies. If applied properly, educational technology will make a significant contribution to the resolution of these issues. In the past several years, teachers have started to employ computer-supported teaching techniques more frequently to boost student engagement in class activities and facilitate equal access to educational resources. Computer-supported learning, often known as interactive computer use by students during instruction, facilitates learning. Educational technological tools are,

- Television (TV)
- Stereo System
- Video Recorder
- DVD Player
- Computer (PC)
  - Internet
  - Laptop
- Digital Camera
- Video Camera
- Projector (Kaur, 2015)

There are significant effects of the COVID-19 pandemic on education. Due to the COVID-19 outbreak, many countries around the world have imposed various restrictions on social life and education to slow the spread of COVID-19. These include placing limits on activities like social gatherings, travel, sports, leisure time, going to work, and school, as well as imposing varying degrees of social isolation. 194 nations' schools were closed as a result of this. Through

the use of distant learning resources, an effort was made to guarantee the continuation of learning. All institutions in the nations have infrastructure and facilities set up to stop the epidemic, reduce learning losses while it is still going on, and guarantee the continuation of learning. Some nations' COVID-19 physical education programs included the following: homeschooling and online instruction to wrap up the academic year. Different lecturers employed various formats, including live-streamed online classrooms, recorded videos, assignments for students, projects, or simply links to follow. The most popular strategy for encouraging pupils to participate in physical education was to keep weekly "movement diaries." teachers were invited to teach via online distance learning. The organization of online resources, video courses with practical and 6 theoretical content, webinars about the most common sports applications, and assistance for physical education teachers came from health and physical educators.(Filiz and Konukman, 2020)

### 1.1.7 Technology and Computers in Physical Education

Technology and computers are being increasingly used in physical education to enhance the teaching and learning experience. The use of technology in physical education can provide students with new ways to engage with physical activity, and can provide teachers with new tools for assessment and instruction.

Some examples of how technology and computers are being used in physical education include:

- **Wearable technology:** Wearable devices such as fitness trackers and smart watches can be used to track students' physical activity levels and provide feedback on their progress. This can help students set goals, monitor their progress, and stay motivated.
- **Virtual and augmented reality:** Virtual and augmented reality technology can be used to create immersive and interactive experiences in physical education, such as virtual field trips, simulations, and games. This can help students visualize and understand complex concepts, and can also provide an engaging and fun way to learn.
- **Online resources:** Online resources such as videos, animations, and interactive activities can be used to supplement traditional physical education instruction. These resources can

provide students with new ways to engage with physical activity, and can also be used to provide students with additional practice and support.

- **Fitness apps and online platforms:** A wide range of fitness apps and online platforms are available for students to use, which can help them track their progress and stay motivated. Some of these apps and platforms can also be used to connect students with other students and teachers, creating a sense of community and support.

However, it's important to note that technology should be used in a way that enhances the physical education experience, rather than replacing traditional instruction and activities. The use of technology should also be balanced with other forms of instruction, such as hands-on activities, group work, and direct instruction, to create an effective and well-rounded physical education experience. (Yaman, 2007)

The teacher can use real technology tools to record video clips of specific physical abilities and motions, or he can download such clips to his computer and then provide the pupils access to the movies via a website. Through technology tools, physical education teachers can expose the top athletes in a sport. Further, he can demonstrate the tourniquet or serve one of the finest students and demonstrate these techniques to the class. Their movies in this approach, participation from the pupils in the subject will be simpler, and learning will be more exciting. Additionally, there could be several issues when integrating technology into physical education. The main issue is that the procedure and computer preparation take a very long period. Another issue is that not enough money can be raised to pay for the new technological equipment. Another significant issue is locating appropriate software (Bird, 1998). Problems of this nature force physical education instructors to refrain from using computers in the classroom.(Yaman, 2007)

## 1.2 Research objectives

### 1.2.1 Major Research objective

- Assess the digital literacy and technical competence of physical education teachers in the western province

### 1.2.2 Specific Research objectives

- To identify the factors of computer literacy in Physical Education teachers.

- To identify conversationally/ currently using computer literacy in physical education by Physical Education teachers.
- To identify the factors of computer competency in Physical Education teachers.

### 1.3 Significant of the study

Various tests demonstrate the importance of computer literacy and modern computer competency for teachers. Modern technology is used to make learning more engaging, facilitate up the learning process, and help students learn better. In the classroom, it will be feasible to hold students' attention at all times, impart extra knowledge, and teach in a way that all students can grasp. By adopting modern technology to depart from the conventional educational pattern, students will be able to escape the routine and reinvent their knowledge. The ability to explore individually is greater. This will improve human-computer literacy and technical proficiency

### 1.4 Limitation

The major limitation to this study was that it was restricted to Physical education teacher in western province. Only the schools in western province were included in the study. Finding the division schools is also severely constrained by the absence of recorded information about their locations. Locally, it was difficult to locate any literature relevant to this study region.

## 2. LITERATURE REVIEW

### 2.1 Theoretical frame work

Computer literacy affects how they employ technology in the classroom. This study's objective was to examine the connection between the usage of technology in physical education (PE) teachers and their computer literacy. PE teachers at the high school level made up the study group. The usage of instructional technology, media, and computer literacy among PE teachers was evaluated by a survey. To examine the data, quantitative statistical approaches were used. The majority of PE instructors hardly ever used technology in class. The use of technology by PE teachers was influenced by their computer literacy. The use of ICTs by PE teachers, such as laptops, the Internet, and digital cameras, revealed statistically significant differences in their degrees of computer literacy (low, average, and high). The majority of the PE teachers in the

survey lacked experience using technology. However, the more computer literate they were, the more likely they were to use technology in physical activity. (Kretschmann, 2015)

Today's schools primarily use computer- and web-based applications as educational resources to inspire students. Educational computer programs related to the field of physical education and the use of the internet to present visual and interactive learning processes increased. On the other hand, there are some challenges associated with the use of these tools by teachers and the integration of computers into physical education. Teachers of physical education must advance their knowledge and abilities if they want to use computers as teaching aids and support and mentor students as they use these technologies to learn. The purpose of this study is to determine how frequently physical education teachers use computers and associated educational software. On the basis of the research's findings, recommendations are made for the efficient use of computers in physical education classes (Yaman, 2007)

As a result of technological, social, and cultural advancements, lifelong learning has taken on a new significance in the field of education. For those who specialize in physical education and sports the need for them to improve their teaching methods also reflects the current trend. The use of computers and other information technologies intended to improve the effectiveness of teaching represents a contemporary alternative. This essay aims to highlight the beneficial effects of ICT use on physical education and sports. These aspects of educational software, activity designing and planning, result recording, motion examination, biomechanics video analysis, performance comparing and synchronizing, distance and time measurements, and activity evaluation can be used to summarize the results of gradual computerization in our domain. Sports and physical education may be practical activities, but they also fully permit the use of contemporary teaching technologies, so experts must be able to use them (Khamrakulov, 2022) The physical education (PE) scene in the twenty-first century is constantly evolving as students spend more time in technologically advanced learning environments. The impact of information and communication technology (ICT) on learning opportunities must therefore be understood. Specifically, how the

development of ICT might help teaching practices. In order to increase students' motivation, this study looked at the impact of integrating ICT into physical education. Thirty students from five different PE classes that involved indoor climbing took part. There were three different experimental setups: Nonlinear Pedagogy climbing lesson, where participants also climbed on the instrumented wall but with technology used in this context to implement novel tasks based on Nonlinear Pedagogy. Control, a regular climbing lesson where traditional climbing holds are used. Placebo climbing lesson, where participants climbed on an instrumented climbing wall with electronic climbing holds (i.e., fostering motor exploration). And they completed a survey about their experiences in the climbing lessons at the conclusion of each condition. During the Nonlinear Pedagogy climbing lesson, external regulation and tension scores were significantly lower compared to the control and placebo conditions, while enjoyment scores were significantly higher. These findings suggested that ICT could have a positive effect on students when used in conjunction with a clear pedagogical objective (Komar *et al.*, 2022).

The findings of a study that looked at the current level of computer literacy of a group of Indonesian instructors of English as a foreign language are presented in this article. EFL) and researched variables influencing their usage of computers in the classroom. EFL instructors who were currently working in schools and universities in Indonesia participated in the study. The teachers were asked to complete a questionnaire that asked them about their access to and ownership of computers, their proficiency with computer-based tasks, how they used computers for both personal and professional purposes, and whether they were interested in computer-assisted language learning (CALL). The study's findings paint a picture of how Indonesian teachers use computers in their specific environments and suggest developing teachers' online opportunities, computer-use competences, and abilities for their classroom activities and professional growth (Son, Robb and Charismiadji, 2011)

The level of digital literacy among first-year students at a higher education facility in Fiji. 1595 pupils were intended to participate in an online poll, but only 867 did. As soon as data cleansing. The goal of this research project is to

assess the level of digital literacy among freshmen at a higher education institution and determine whether there is a relationship between their levels of literacy and overall digital literacy. Using a newly created Digital Literacy Scale, the freshmen's digital literacy abilities were assessed (DLS). The DLS was used to determine each student's total digital literacy as well as the literacy scores for the several aspects of digital literacy (media, information, technology, computer, visual, and communication literacy) that were recognized for this study. The findings indicate that the freshmen had a high level of digital literacy. The newly created DLS was demonstrated to have great internal consistency and reliability by the Cronbach alpha test. The results of a correlation analysis using Spearman's correlation showed that the students' individual scores for each of the components of digital literacy examined in this study were related to their total level of digital literacy. (Reddy, Sharma and Chaudhary, 2020)

In introductory information systems classes, students frequently receive their first training in using computers at the college level. Both students and teachers frequently anticipate that this training will help students reach a level of computer proficiency that will support using computers in future classes. In this study, we gave students taking a normal introductory IS course computer self-efficacy tests. The measurements provide helpful proof that the training experience had a considerable impact on how well students perceived their future abilities to use computers. The computer self-efficacy tests also gave IS instructors' better understanding of course-related aspects that were of practical concern. The study's findings also imply that computer self-efficacy tests can be a useful and instructive way to evaluate computer training outcomes in the context of an introductory IS course. (Karsten and Roth, 1998)

### 3. Methodology

#### 3.1 Research design

Research design seems to be a combination of qualitative and quantitative research methods. You used a questionnaire as a data collection tool and analyzed the collected data using descriptive statistics and frequency statistics test.

The sample consisted of 100 health and physical education teachers who were between

the ages of 30 to 40 and working in schools in the Western Province. The sample was selected using a random sampling method and consisted of both male and female teachers with varying levels of experience.

In qualitative research approach, used open-ended questions in the questionnaire to gather detailed and subjective information about the computer literacy and competency of physical education teachers. The data collected was analyzed using descriptive statistics and frequency statistics test to provide a comprehensive overview of the study population.

Research design provides a comprehensive approach to understanding the computer

literacy and competency of physical education teachers in the Western Province and could provide valuable insights into the subject area.

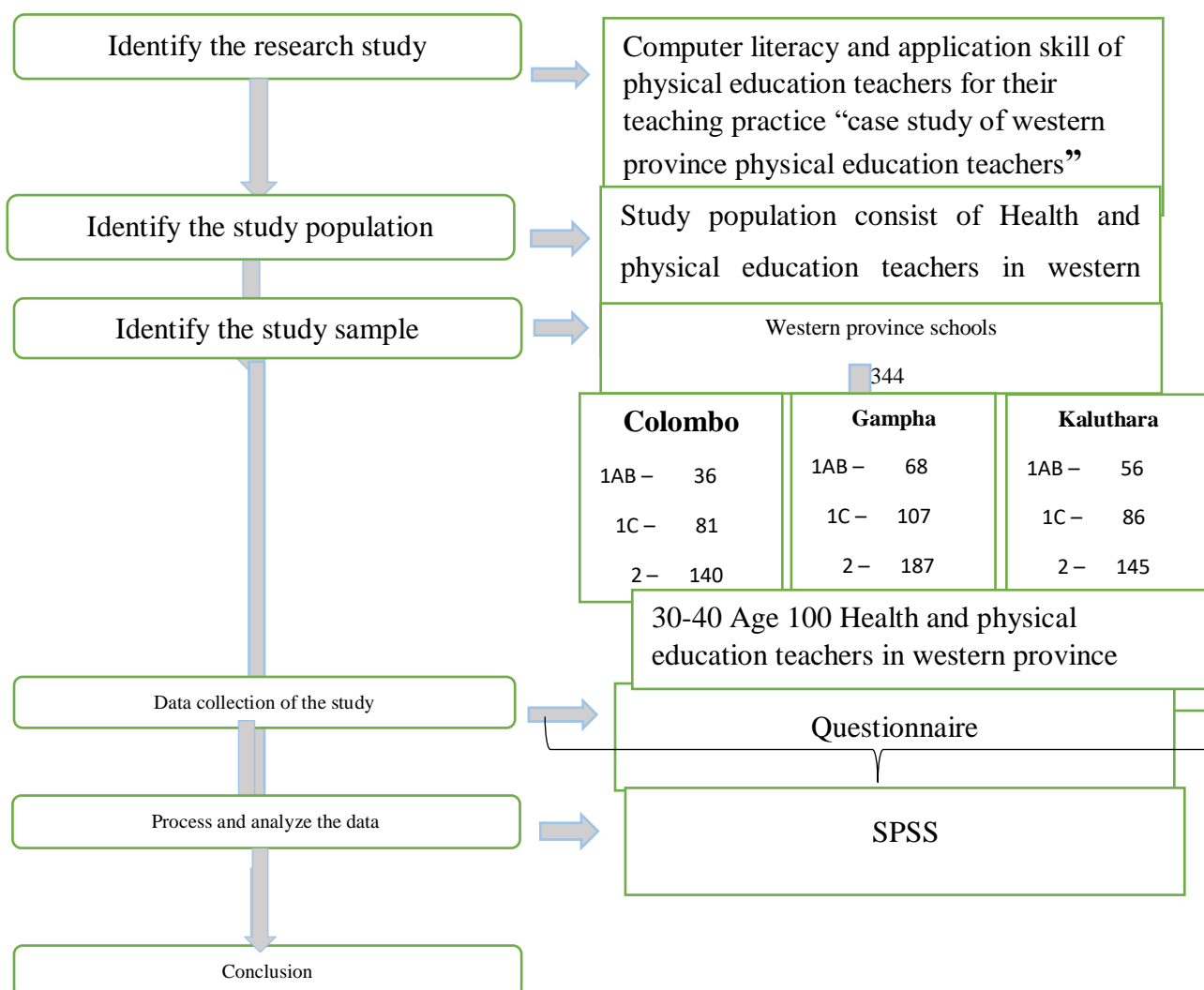
### 3.2 Participants

Hundred health and physical education teachers between the ages 30 – 40 who are worked in the western province school (n=100). All participant must be in both genders there experience are not coincided during the research.

#### 3.2.1 Participant Profile

Table 1 Participant Profile (N=100)

Gender	Male Female	37 (37%) 63 (63%)
Age	30 – 40	
Place of current teaching	Secondary school	



**4. Result and Discussion**

Data on the computer literacy and computer competency of physical education teachers in the western province were gathered using a questionnaire on computer literacy. It was divided into five sections: Sections I (background), II (using computer applications), III (computer-related questions, Do you and Can you?), IV (a 10-question test of your computer knowledge), and Section V. (factors affecting the use of computers). The questionnaire's questions connected directly to the teachers' access to computers, their level of

proficiency with computer-based tasks, and the study's objectives.

The 100 teacher questionnaires that were submitted. As a consequence, 100 questionnaires in all were examined. Thirty-seven teachers responded to the survey in Colombo, forty in Gampaha, and thirty-three in Kaluthara, according to the number of respondents in each city.

**4.1 Type of computer**

Table 2 type of computer (N=100)

Type of computer	Personal use at home	Teaching at school	No
PC	59%	21%	20%
Laptop	62%	19%	19%
Smart phone	93%	7%	0%

This table presented data on the type of computer used for personal use at home, teaching at school, and those not used at all. According to the table, 59% of respondents use a PC for personal use at home, while only 21%

use it for teaching at school. 20% of respondents do not use a PC at all. Laptops are used by 62% of respondents for personal use at home, while 19% use it for teaching at school. 19% of respondents do not use a laptop at all.

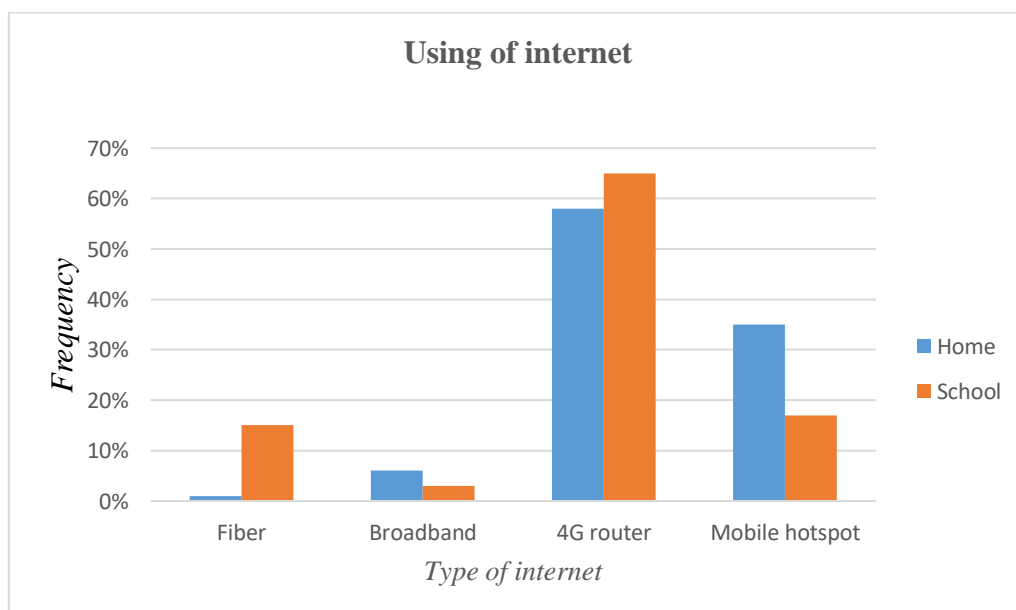


Figure 2. Using of internet at home and school  
These graphs show data on the type of internet used at home and at school. According to the graphs, only 1% of respondents use fiber internet at home, while 15% use it at school. Broadband internet is used by 6% of respondents at home and 3% at school. 4G router is the most widely used type of internet, with 58% of respondents using it at home and 65% at school. Mobile hotspot is used by 35% of respondents at home and 4% at school. It can be concluded that 4G router is the most commonly used type of internet, followed by

mobile hotspot, broadband, and fiber. The use of fiber internet is relatively low, both at home and at school. The use of 4G router at school is slightly higher than at home, while the use of mobile hotspot is significantly lower at school compared to at home.

**4.2 Self-Evaluation of Basic Computing Skills**

Table 3 Self-Evaluation of Basic Computing Skills (N=100)

Your own computer literacy	Poor Adequate Good Excellent	05 (05%) 34 (34%) 61 (61%) 0 (0%)
Your own Internet literacy	Poor Adequate Good Excellent	05 (05%) 18 (18%) 72 (72%) 05 (05%)
Your current typing skills	Poor Adequate Good Excellent	06 (06%) 29 (29%) 56 (56%) 09 (09%)

This table show data on the respondents' self-assessed computer literacy, internet literacy, and typing skills. According to the table, 5% of respondents assessed their computer literacy as poor, 34% as adequate, and 61% as good. None of the respondents assessed their computer literacy as excellent. For internet literacy, 5% of respondents assessed it as poor, 18% as adequate, 72% as good, and 5% as excellent. In terms of typing skills, 6% of respondents assessed it as poor, 29% as adequate, 56% as good, and 9% as excellent.

Conclusion: The majority of respondents rated their knowledge of computers and the internet as competent, with the majority of respondents rating their typing skills as good. While a tiny portion of respondents thought they had

inadequate computer and internet literacy, the majority of respondents said they had outstanding typing skills..

When employing computer programs, many instructors frequently use word processing, email, the Web, and multimedia tools, but they seldom ever use databases, graphics, concordances, blogs, wikis, or online discussion forums. Applications for groups, audio chat, and video conferencing.

**4.3 Frequency of Using Computer Applications**

Table 4 Frequency of Using Computer Applications (N=100)

	Almost everyday	3-4 times per week	1-2 times per week	1-2 times per month	Rarely	Never used / Do not know
Word processing	18%	59%	20%	3%	0%	0%
E-mail	39%	23%	36%	2%	0%	0%
World Wide Web	36%	28%	26%	09%	0%	1%
Database	7%	5%	11%	9%	0%	68%
Graphics (image & video editing)	0%	8%	15%	10%	05%	67%
Multimedia (audio & video)	41%	9%	16%	16%	17%	1%
Social media	72%	1%	23%	3%	1%	0%
Voice chatting	2%	8%	14%	11%	61%	4%
Video conferencing (zoom/Team& ext.)	23%	44%	17%	11%	0%	0%
Computer games	13%	16%	17%	29%	25%	0%

This table shows data on the frequency of use of various computer applications by respondents. According to the chart, 18% of respondents use word processing virtually daily, 59% utilize it three to four times per week, 20% utilize it once or twice weekly, 3% utilize it once or twice monthly, and none utilize it infrequently or never. 39% of respondents use e-mail practically daily, 23% utilize it three to four times per week, 36% utilize it once or twice weekly, 2% utilize it once or twice monthly, and none utilize it infrequently or never. 36% of respondents use the internet practically daily, 28% use it three to four times per week, 26% use it once or twice per week, 9% use it once or twice per month, and 1% have never used it or don't use it at all. 7% of respondents use databases practically daily, 5% use them three to four times per week, 11% use them once or twice per week, 9% use them once or twice per month, and 68% either have never used them or don't know. None of the respondents use graphics (image and video editing) virtually every day, 8% use it three to four times per week, 15% use it once or twice a week, 10% use it once or twice a month, 5% use it sometimes, and 67% have never used it or are unsure. 41% of respondents use multimedia (audio and video) virtually daily, 9% do so three to four times per week, 16% do so once a week, 16% do so once a month, 17% do so infrequently, and 1% have never used it or are unsure. Social media is used by 72% of respondents practically daily, 1% use it three to four times

per week, 23% use it once or twice a week, 3% use it once or twice a month, 1% use it infrequently, and none have never used it or don't know. 2% of respondents utilize voice chat practically daily, 8% do so three to four times per week, and 12% occasionally. 14% of people use it once or twice a week, 11% once or twice a month, 61% rarely, and 4% have never used it or don't know. In terms of video conferencing (Zoom/Teams & ext.), 23% of respondents say they use it practically daily, 44% say they use it three to four times per week, 17% say they use it once a week, 11% say they use it once a month, and none say they use it infrequently, have never used it, or don't know. 13% of respondents play computer games practically daily, 16% play them three to four times per week, 17% play them once or twice a week, 29% play them once or twice a month, 25% play them infrequently, and none have never played or are unsure.

With 72% of respondents using social media almost daily, it is clear that it is the most commonly utilized computer program. More over a third of respondents use word processing, e-mail, and multimedia (audio & video) almost daily, making them other commonly used technologies. The least used applications are voice chatting and graphics (picture & video editing), with more than half of respondents utilizing them infrequently or never.

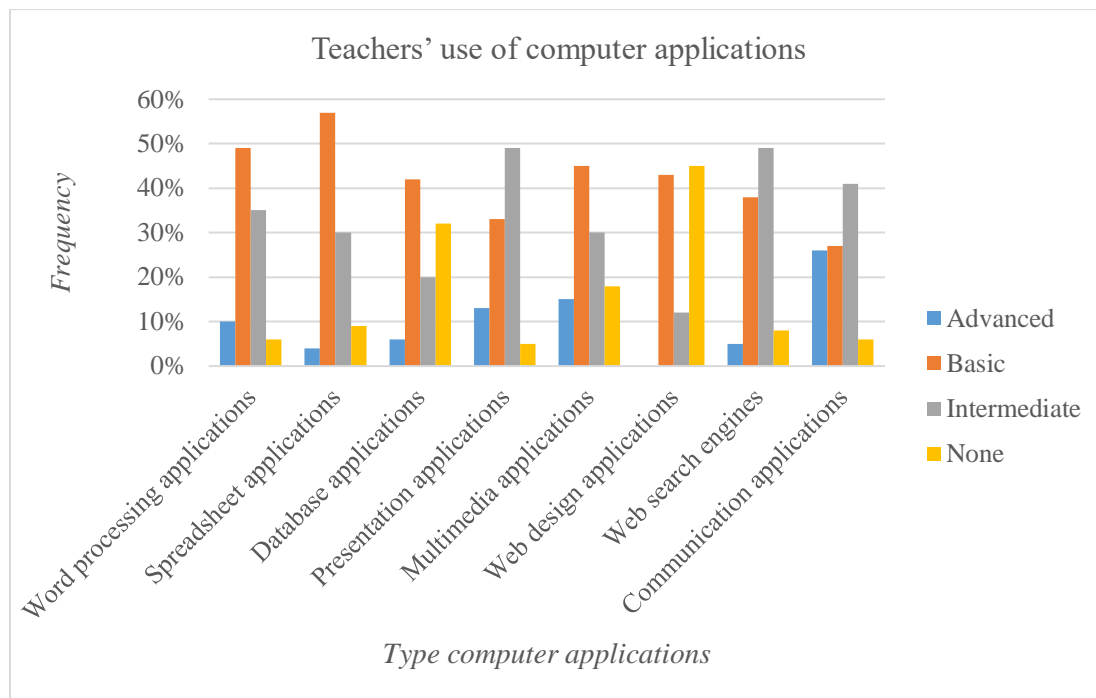


Figure 3 teachers' use of computer applications This table shows the level of proficiency of individuals in working with different computer applications. The categories are Advanced, Basic, Intermediate, and none. For example, 10% of individuals consider themselves to have advanced proficiency in word processing applications, 49% consider themselves to have basic proficiency, 35% consider themselves to have intermediate proficiency, and 6% do not have any proficiency in working with word processing applications. Similarly, for spreadsheet applications, 4% of individuals consider themselves to have advanced proficiency, 57%

consider themselves to have basic proficiency, 30% consider themselves to have intermediate proficiency, and 9% do not have any proficiency. In the case of web design applications, 0% of individuals consider themselves to have advanced proficiency, 43% consider themselves to have basic proficiency, 12% consider themselves to have intermediate proficiency, and 45% do not have any proficiency.

**4.4 Computer-Related 'Do You' Questions**  
Table 5 Computer-Related 'Do You' Questions (N=100)

No	Question	Yes	NO
01	Do you have an e-mail account?	100%	0%
02	Do you have a personal homepage on the Web?	27%	73%
03	Do you understand the basic functions of computer hardware components?	73%	27%
04	Do you use keyboard shortcuts?	93%	7%
05	Do you use a computer for teaching purposes?	82%	18%

06	Do you find it easy to learn something by reading it from a computer screen?	89%	11%
07	Do you use USB/Pen drive/External hard disk s to supplement your learning/teaching?	89%	11%
08	Do you use Web sites to supplement your learning/teaching?	84%	16%

The table is showing the results of a survey on computer usage and familiarity among respondents. Here are the insights:

Every respondent has an email address. Only 27% of the survey participants have a personal web presence. The respondents, 73%, are aware with the fundamental operations of computer hardware. Keyboard shortcuts are used by 93% of respondents. 82% of those surveyed said they utilize computers in the classroom. According to 89% of the respondents, reading information from a computer screen makes learning new things simple. 89% of respondents

said they complement their learning/teaching with a USB, pen drive, or external hard drive. Websites are used as a supplement to learning and teaching by 84% of respondents. The teachers also showed their capability to use the computer by responding to the 'Can you' questions listed in Table 6. While most teachers indicated that they are able to do various computer-based tasks,

#### 4.5 Computer-Related 'Can You' Questions

*Table 6 Computer-Related 'Can You' Questions (N=100)*

No	Question	YES	NO
01	Can you properly turn on and shut down a computer?	95%	5%
02	Can you start and exit a computer program?	84%	16%
03	Can you change monitor brightness and contrast?	94%	6%
04	Can you minimize, maximize and move windows on the desktop?	94%	6%
05	Can you perform file management including deleting and renaming files, etc.?	84%	16%
06	Can you use a 'search' command to locate a file?	96%	4%
07	Can you install a software program?	77%	23%
08	Can you scan disks for viruses?	38%	62%
09	Can you move a file from a hard drive to a USB drive?	84%	16%
10	Can you write files onto a CD?	78%	22%
11	Can you resize a photograph?	92%	8%
12	Can you record and edit sounds?	76%	24%
13	Can you print a document using a printer?	63%	37%
14	Can you create a basic Word document?	95%	5%
15	Can you copy, cut and paste text in a document?	83%	17%
16	Can you change font style and size in a document?	96%	4%
17	Can you create a basic Excel spreadsheet?	89%	11%
18	Can you create a simple database using Access?	28%	72%
19	Can you create a simple presentation using PowerPoint?	85%	15%

20	Can you create a simple Web page?	34%	66%
21	Can you send and receive attachments through e-mail messages?	90%	10%
22	Can you search for information online using a Web search engine?	86%	14%
23	Can you download and save files from the Web (e.g., text, graphic, PDF files)?	91%	9%
24	Can you use a video conferencing tool on the Web?	91%	9%

The table shows the percentage of people who answered "yes" and "no" to various computer-related questions. The questions cover a range of topics such as computer hardware, file management, software programs, and internet usage. The results show that most respondents can perform basic computer tasks such as turning on and shutting down the computer, starting and exiting programs, changing monitor brightness and contrast, performing file management, using a search command,

creating basic word documents, and changing font style and size. However, there is a lower percentage of respondents who can perform more advanced tasks such as installing software, scanning for viruses, creating simple databases, creating simple web pages, and using video conferencing tools.

#### 4.6 Computer general knowledge

Table 7 Computer general knowledge (N=100)

Question	Correct	Incorrect
What is a folder?	47%	53%
How much information fits on a CD and a DVD?	47%	53%
What kind of program is used to edit a GIF file or a JPEG file?	50%	50%
What is the main brain of the computer?	61%	39%
What is the main function of a server in a networked environment?	71%	29%
What are WAV and MP3 examples of?	68%	32%
Which one is not a Web search engine?	45%	55%
Which one is not an output device?	62%	38%
What is a URL?	39%	61%
Which of the following is considered to be poor e-mail etiquette?	16%	84%

The teachers' average score of the general computer knowledge test (Section IV of the Questionnaire). The table represents the percentage of people who answered correctly or incorrectly on different computer-related questions. For example, 47% of the people knew that a folder is a file container in a computer, while 53% answered incorrectly. Similarly, 68% of the people knew that WAV and MP3 are examples of audio file formats,

while 32% answered incorrectly. The table gives an overview of the level of understanding of the respondents regarding various computer concepts and functions.

#### 4.7 Mean Self-ratings of Attitudes toward the Use of Computers

Table 8 Mean Self-ratings of Attitudes toward the Use of Computers (N=100)

	N	Minimum	Maximum	Mean	Std. Deviation
I enjoy using computers	100	1	4	1.77	.566
I feel comfortable using computers	100	1	3	1.74	.543
I am willing to learn more about computers	100	1	4	1.67	.711
I think that computers are difficult to use	100	1	5	2.73	1.136
I feel threatened when others talk about computers	100	1	5	2.51	1.059
I believe that it is important for me to learn how to use computers	100	1	3	1.72	.621
I would like to use computers in the classroom	100	1	3	1.87	.734
I think that my teaching can be improved by using computer using computers	100	1	3	1.56	.641
I think that computers can make second/ foreign language learning interesting	100	1	4	1.98	.932
I believe that training in computer-assisted language learning should be included in language teachers education programs	100	1	3	1.75	.702

The table shows the results of a survey conducted with 100 respondents on their attitudes towards computers. The survey measured their level of agreement or disagreement with various statements related to computers and computer-assisted language learning. The "N" column indicates the number of responses. The "Minimum" and "Maximum" columns show the range of scores given by the respondents, where 1 represents the lowest level of agreement and 5 the highest. The "Mean" column shows the average score for each statement, and the "Std. Deviation" column shows the standard deviation, which is a measure of the degree of variability of the scores around the mean. The results suggest that, overall, the respondents have positive attitudes towards computers, but with some variability in the level of agreement with each statement

Focuses on the level of computer literacy and competency of physical education teachers in

the Western Province. The goal of research to determine the extent to which physical education teachers are familiar with and able to use computers effectively in their teaching practice. To conduct research, may have used a survey questionnaire to gather data from physical education teachers in the Western Province.

The data collected may have included information on their background, computer experience, and their attitudes towards computers and technology. Based on data analysis, you may have found that physical education teachers in the Western Province have a varying level of computer literacy and competency. Some teachers may have a high level of computer proficiency, while others may have limited experience or a negative attitude towards computers. Research findings may have implications for teacher training programs and professional development opportunities, as

well as the integration of technology in physical education teaching.

Additional resources and assistance may be required to help physical education teachers become more computer literate and competent, according to research. In conclusion, research contributes to the greater discussion about the role of technology in education by offering insightful information about the computer literacy and proficiency of physical education teachers in the Western Province.

## 5. Conclusion And Future Scope

### 5.1 Conclusion

It is possible to draw conclusions about the current level of computer literacy and competency among these teachers based on studies on the computer literacy and competency of Physical Education teachers in Western Province. This data can be used to guide educational efforts and policies that attempt to increase the technological literacy of physical education instructors and possibly improve the way that technology is integrated into physical education classes. In order for physical education teachers to successfully incorporate technology into their teaching practices, recommendations for continued professional development and assistance can be made based on the findings of the research. Additionally, this study might highlight the necessity for educators to possess the required technological competencies in order to keep up with the educational sector's rapidly evolving technological landscape.

Write a brief summary of the study's findings and explore the ramifications of your conclusions in the conclusion. Discuss the physical education instructors' level of computer literacy and competency and how it may affect their instruction and their capacity to incorporate technology into their sessions. You can also talk about how important it is to give teachers the chance for continual professional development and training in order to increase their computer literacy and competency. It's also a good idea to make some suggestions for further investigation, such as expanding the study to further areas or looking into different facets of computer literacy and competency in relation to teaching physical education. Remember to emphasize the key findings and consequences of the research in your conclusion while keeping it succinct, clear, and well-organized.

The study's conclusions bring up a variety of issues and topics that warrant consideration. First of all, degrees of self-rated competency don't match actual computer literacy and application-specific skill sets. Teachers who participated in the study said that while they often use computers frequently, they also generally give themselves good marks for their understanding of the basics of computing. Applications are mainly limited to a few categories, such word processing. Individual differences in computer literacy were also rather significant. These distinctions call for a different approach to teacher training for a diverse background group of teachers. The teachers will be able to do this in order to advance their own level of computer proficiency and literacy as well as acquire online experience that is pertinent to their current context of teaching. No matter whether such a media-ignoring PE attitude may be considered, show that you have a suitable level of computer literacy. The idea that utilizing technology reduces the amount of time spent moving is another popular fallacy among PE teachers that can deter the adoption of technology. It is not particularly unexpected that computer literacy skills among PE teachers have an impact on how they actually use educational technology but have no bearing on how they use conventional instructional material. The results of the study show that the more computer savvy a PE instructor is, the more likely they are to use instructional technology in PE, such as laptops and the Internet. This conclusion might be supported by common sense. (Kretschmann, 2015)

Individual differences in computer literacy were also rather significant. These distinctions call for a different approach to teacher training for a diverse background group of teachers. The teachers will be able to do this in order to advance their own level of computer proficiency and literacy as well as acquire online experience that is pertinent to their current context of teaching. Third, it seems as though the lecturers are computer-savvy. (Kretschmann, 2015)

### 5.2 Future Scope

Recommendations can be based on the need for:

Continued professional development opportunities for physical education teachers to improve their computer skills. Incorporation of

technology into physical education classes to make it more engaging and interactive. Providing teachers with access to the latest technology and resources in their classrooms. Providing ongoing support and training to help teachers effectively integrate technology into their teaching. Encouraging collaboration among physical education teachers to share ideas and best practices for using technology in the classroom.

Remember to be specific, concise, and practical in recommendations, based on research results

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