Bridging the Digital Divide or Empowering for the Third Age

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Abstract

This article explores the significance of lifelong learning for the elderly, with a specific focus on the concept of education for the Third Age. It emphasizes the potential of educational programs to enhance the well-being of the older generation and examines the role of modern universities in this matter. The concept of a Third Age University, which represents a University of the Third Age promoting active ageing, is introduced. The article highlights the benefits of long-term education for the welfare of older individuals, including improvements in cognitive abilities, and mental health, expansion of social ties, and economic advantages. Drawing on international experiences of educational institutions catering to the Third Age and incorporating findings from a survey conducted among participants of digital and mobile literacy courses, the article proposes certain changes for further improvements in this area. The authors believe that training programs in the use of smartphones and computers can reduce the digital divide among the elderly.

Keywords

Lifelong learning, elderly, active ageing, third age, digital divide, computer literacy

1. Introduction

Aging and gerontology present unique challenges and opportunities, due to shifting dynamics related to population demographics, healthcare provision and education. As scientific technologies and healthcare practices advance rapidly in developed countries, average life expectancies continue to increase dramatically, providing the prospect of gradual ageing and healthy longevity. However, in developing nations with limited access to adequate healthcare and economic resources, limited lifespans result from limited opportunities for healthy and fulfilling lives. To address these disparities and unleash the potential of an ageing population, it is crucial to grasp the distinctions between the Third and Fourth Ages outlined by The Theory of Third Epoch Aging and the Positive Theory of Third-Age Aging [1], [2].

Peter Laslett distinguishes between robust and vulnerable individuals and marks some as Third Age while classifying others as Fourth Age [3], [4].

After education (First Age), work-parenting (Second Age), and retirement age usually mark the Third Era - marked by health, financial independence and freedom from economic burdens. Unfortunately, not everyone in developing nations reaches this peak due to limited healthcare, pensions or technology; although age epochs don't reflect physical age alone [1].

Problematic Aging Experiences in Different Regions Worldwide are at the core of this investigation. While some people experience a gradual ageing process with longevity and overall good health, there are conditions such as Alzheimer's or dementia, that can pose significant challenges for others.

The nature of this issue includes all the different dimensions associated with ageing, from physical health and mental well-being, financial independence and independence from economic obligations to lifespan and quality of life experiences by older individuals in developed versus developing countries - with disparities evident in healthcare, pensions and industrial advancement.

Gerontology and ageing literature stress the significance of customizing education and support systems to meet the unique needs of older learners, exploring the impact of advanced medical technologies on longevity, quality of life and longevity in the Third Age; discussing theories/classifications such as Third and Fourth Ages to facilitate reader understanding of underlying concepts.

To address the problem and implement the proposed solution, a comprehensive methodology is presented. This includes creating an assessment test to measure participants' existing knowledge and abilities so that tailored tracks may be created for beginners as well as more experienced users. Practical tasks, mentorship programs and support structures are included in learning experiences to maximize educational impact while creating optimal learning spaces with continuous technical assistance are added benefits of successful education.

Implementation of this methodology should lead to improvements in computer literacy among older individuals, enhanced digital skills, improved confidence in using technology, and engagement in social networks and practical applications. Furthermore, proposed changes should lead to greater positive feedback from course participants, greater levels of engagement, and enhanced social connections; all with the aim of increasing overall well-being. Making these courses more accessible and affordable should help bridge regional differences in ageing experiences so all individuals can approach their Third Age with vitality and independence.

2. The concept of the Third Age University. The reasons for attracting students of the Third Age category and international experience

Universities of the Third Age, which first appeared in France in 1972 under the leadership of Professor Pierre Vellas, fruitfully contributed to the effective solution of all these needs. The first University of the Third Age founded in Toulouse showed good results that the idea spread to other countries of the European continent, including Belgium, Canada, Switzerland, as well as Spain, Italy, Sweden, Norway, England, and Germany [5].

The practical experience of Third-Age Universities has gradually formed the following learning models - French and British. The distinctive characteristic of the French model is the emphasis on didactic and research activities, the level of interaction of the university in such a model varies from full integration to full independence. The French model has found application in Universities in Belgium, Spain, Italy, Sweden, and Poland. The previously mentioned Peter Laslett is the founder of the British model, which is characterized and focuses on mutual assistance of both categories of students and teachers [6]. In this model there is no division into students and teachers, it is more free, joint and group education, which attracts different people with knowledge and experience, not necessarily having confirmation by an academic certificate. The British model, due to its accessibility, is more common in Third Age Universities around the world.

Universities of the Third Age perform educational and recreational integration functions [6].

The high level of education provided by Universities of the Third Age contributes to the adaptation of elderly people to rapidly changing social and technological trends that inevitably occur in a developing civilization. In addition, education makes it easier for people of the Third Age to interact with younger generations and forms the need for personal development [7].

Third Age Universities serve as a resource in combating early and premature ageing among the elderly, enabling them to maintain an independent and active lifestyle for an extended duration. Independence in life activities denotes the ability to function without external assistance or care, holding significance in the realms of health protection and social support within the political sphere [8].

Indicators of the standard of living of any state largely depend on the well-being of the older generation. That is why society and the state are interested in developing training programs for the elderly. Many scientific studies have shown that prolonged learning plays a huge role in improving cognitive and mental health, increasing positive emotions, as well as in promoting social connections and contributing to delaying cognitive decline [9], [10]. This can have important health benefits for the elderly and can help reduce healthcare costs.

There is a widespread misconception that older people are not able to master new skills. In fact, studies have shown that the ageing brain is still capable of learning and adapting as it matures. In his book " The Mature Mind: The Positive Power of the Aging Brain" renowned geriatric psychiatrist and researcher Gene D. Cohen proves that ageing can be a time of significant personal growth and development, challenging the generally accepted notion of ageing as a time of decline. According to Cohen's research, older people are still able to learn new things, make new friends, and make valuable contributions to their communities. He examines how ageing affects our physiology, and how these changes can be used to improve our cognitive and emotional abilities. According to research, the brain is still able to change and adapt throughout life, even in old age [11].

Lifelong learning encourages more formation of neurons and connections in the brain. Neurons are responsible for sending information throughout the body, and when this improves, it has a positive effect on memory, attention, thinking and reasoning skills. The next benefit is to reduce the risk of forms of dementia.

Social relations are the most important factor in the health and well-being of the elderly. Some studies show that social isolation can cause premature death. A report from the National Academy of Sciences, Engineering and Medicine (NASEM) reports that more than a third of adults aged 45 and older feel lonely, and almost a quarter of adults aged 65 and older are considered socially isolated [12]. When studying the impact of social isolation on the health of the elderly, the following facts were revealed. Social isolation has been associated with an increased risk of dementia, heart disease, as well as a number of other ailments among the elderly. In the book "The Longevity Revolution: The Benefits and Challenges of Living a Long Life" by Robert Butler, gerontologist, and founder of the International Longevity Center, talks about the importance of lifelong learning to improve the social and intellectual engagement of older people. Pursuing personal interests and hobbies can help older people feel more satisfied and motivated to interact with others. Successful acquisition of new skills or mastering a new subject can increase self-esteem and self-confidence, which, in turn, can improve social interactions [10]. In our opinion, these findings and characteristics can be attributed to older people living in both economically developed and developing countries.

The Convoy model suggests that communication technologies play a huge potential role in improving the social life of the older generation. Familiarity with the computer significantly changes the lives of pensioners for the better, allowing them to navigate in the modern world, opening up new spaces for communication and technological opportunities that facilitate everyday life. That is why teaching people these technologies can become an important force in preventing social isolation in the lives of older people, thereby improving their health.

In the modern world, educational institutions face the task of adapting to new conditions. In international practice, there are many forms of educational activities for Third Aged people. One of the most common forms is the University of the Third Age [13]. Such universities are created on the basis of educational institutions for the organization of training of the elderly. Third Age university participants can choose from a variety of courses that cover a wide range of topics, from languages to art history.

There is no single standardized model of active ageing universities accepted all over the world, they may have diverse forms in different regions. For historical reasons, Institute of Continuing Education is a term used in the United States for organizations similar to University of the Third Age groups. The British website of the University of the Third Age reports this about the right to membership in the Third Age: The Third Age is determined by the time in your life (not necessarily in chronological order) when you have the opportunity to study. The focus is on people who are no longer working full-time or raising children.

Another form of educational activity for Third Age group are courses and seminars organized by universities and colleges. Such courses are designed for elderly people who want to expand their knowledge and skills in a certain area.

In the UK, there is an initiative called Age UK, which unites organizations working with older people and helps them to get an education and develop in various fields [14]. The non–governmental organization "Age UK" was formed as a result of the merger of two organizations - "Age Co-op" and "Help the Aged" [15][16]. Currently, Age UK is both the largest charity movement in the UK, dealing with the problems and needs of older people, and the leading organization on ageing.

Some countries have more developed programs for people of the Third Age, which may include scholarships and grants for higher education, opportunities to exchange experience with other students and teachers, as well as opportunities to participate in scientific research. For example, in Singapore, in 2014, the "Study for Life" program was launched, which offers opportunities for people of the Third Age to receive a scholarship and study at a university [17], [18]. In Germany, the Older but Wiser program offers scholarships for people of the Third Age to receive higher education and participate in scientific research [19].

The international experience of educational institutions in relation to people of the Third Age shows that there are many different programs and courses that help the older generation to maintain their health, develop skills and participate in society. This may include third-age universities, courses and seminars, volunteer activities and self-development programs.

Evaluation of the effectiveness of such programs shows a positive contribution to the social and health spheres. Older people need educational opportunities and participation in public life, and educational institutions can play an important role in this process. Further research in this area can help improve existing programs and develop new ones, which will allow the older generation to remain active and healthy participants in society.

2.1. Applied experiment of the International Information Technology University in the direction of education of the Third Age individuals

In 2022, the International Information Technology University (abbreviated - IITU) began cooperation with the public alliance "Association of Young Physicians of Almaty" - the Center for Active Longevity to conduct classes on the course "With a smartphone on a first-name basis". From June 13th to 20th 2022, classes were held for the 1st stream of students – for pensioners of Medeu and Turksib districts.

From June 27th to July 1st, 2022, classes were held on the course for the 2nd stream of students of the course, for pensioners of Medeu, Karasai, and Nauryzbai districts. A total of 52 people have completed the courses and received certificates.

As a result of the training, graduates of the course learned to use smartphones on their own, communicate remotely with loved ones on social networks and messengers anywhere and anytime via social networks, use popular applications for ordering taxis and learn how to cancel it, tracking the route of public transport, sending a location, adding a contact to the phone book; rationally use the popular WhatsApp messenger; learned to buy air and railway tickets using the application Kaspi.kz; services E-gov.

The core curriculum for 36 hours for the "Third Age University" were compiled in the following areas:
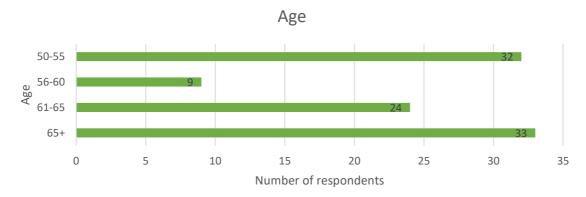
1. Computer literacy – 1. (Mastering operating systems and office packages, working in social networks, orientation in search and information systems, obtaining virtual services);

2. Computer literacy – 2. (Mastering computer literacy for hobbies and recreation (photo-film shooting, photo processing, video editing, sound recording, etc.).

Presentations were made to the above curricula. Methodological recommendations on curricula have been compiled.

In the course of work on the curriculum "Computer Literacy – 2", the name changed to "Mobilography for the Third Age", since photo-film shooting, photo processing, video editing,

sound recording, etc. can be done not only on a computer but also on smartphones, which almost everyone has, rather than a computer.

In order to obtain information about opinions, preferences, behaviour and other important factors related to the topic under study, a survey was conducted among 98 respondents, including those who took a course from the International Information Technology University and other people of the Third Age category, where 67% of them were women and 33% men. The following age categories of respondents were identified (please see Figure 1):

Figure 1: Number of respondents by age category
Source: Conducted by authors on the basis of data provided by the International Information Technology University

According to the respondents' opinions, the majority of older participants are interested in attending classes on the use of smartphones in order to gain more confidence in using smartphones, as well as for more practical reasons, such as keeping in touch with family and friends.

The results showed that 80% of respondents used smartphones before completing the course, which indicates that the course was designed for people with a certain level of familiarity with smartphones. The rest of the survey participants did not use a smartphone because they did not know how to use it or due to lack of time.

92% of respondents use a smartphone every day, the rest use it only a few times a week or only when necessary and quite rarely, and only 1% do not use the smartphone and the features offered by it.

To the question "What did you feel at the end of the course? Positive, negative or neutral impression?" among the elderly people who took a course on the use of smartphones and computer literacy, 80% of respondents reacted positively to the course at the end, while 17% reacted neutrally and only 3% reacted negatively. These results indicate that the course was effective in achieving the goals set to improve the skills and knowledge of participants in the use of smartphones and PCs.
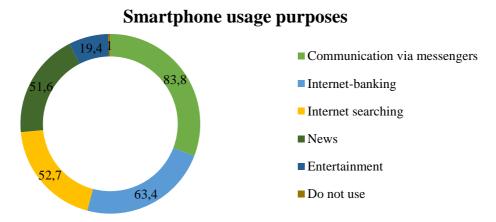
The recommendations of improving aspects of the course to upgrade the quality of participants' learning include increasing the duration of the course, providing more opportunities for practice, the correct distribution of groups according to language proficiency levels, expanding the learning space and reducing the size of groups.

We also gave participants the opportunity to share their opinions on the curriculum and recommendations for its improvement. Overall, the survey results suggest that there are several topics that could be added to the course to improve the learning experience of older participants, especially in areas such as social media, e-government and practical applications such as photo and video editing and GPS navigation.

Corresponding to social skills, the survey indicates that more than 77% of respondents are satisfied with the course. They experience positive changes in social skills, treat themselves well, and have a positive course experience.

Mentioning the difficulties that are likely to be encountered during this course, people gave quite a variety of answers to this question. In general, the survey results showed that 54% of respondents are afraid to face a lot of new information and are worried that they will have learning problems due to their age.

The survey described that 83.8% of respondents use a smartphone to communicate with family and friends via messengers. 63.4% use Internet banking services. 52.7% use a smartphone to search for the necessary information on the Internet. 51.6% view the news on social networks. 19.4% use their smartphone for entertainment. And only about 1% of respondents do not use a smartphone at all. Also, 20.4% of the survey participants noted that they actively use all of the above. Thus, the results showed that of all the listed categories, most use the phone to communicate with family and friends via messengers (please see Figure 2):

Smartphone usage purposes

Figure 2: Smartphone usage purposes
Source: Conducted by authors on the basis of data provided by the International Information Technology University

The survey results show that the majority of people of third age who have completed this course have definitely begun to feel better and more confident thanks to the acquired skills and the ability to use a smartphone.

The next question was "Do you find courses for smartphones useful? Do you like this initiative in general? Do you think people of the Third Age should learn how to use a smartphone?". The result of the survey showed that 84.2% of respondents consider the course useful, approve of such an initiative and agree that people of third age should learn to use a smartphone. 6.8% doubt their answers, but still believe that if a person has a desire, then the course will definitely be useful. 4.5% of respondents gave negative answers. Most of them believe that the people of the third age do not need it. They prefer live communication. Also, 4.5% of the survey participants noted that they like this initiative, but the implementation of the course requires additions and improvements. In general, the analysis shows that the majority of respondents support this initiative.

To test the willingness of people of the Third Age to pay for the proposed training, a question was asked about the cost that students are willing to pay. The answers to this question are divided. The analysis revealed that 23.4% of respondents believe that these courses should be free for pensioners, or the course should be sponsored by the state. 28.6% of the survey participants find it difficult to answer and refuse to answer. 22% believe that the cost of the course should be from 1,500 to 5,000 tenge per hour (from 3,4 $ to 11,2$; exchange rate 1 $ = 448.13 tenge on 01 June 2023). 19.5% of respondents answered that the cost of the course should be from 10,000 to 30,000 tenge (from 22,3$ to 67$) for the entire course and for the entire period of study. 5.2% of respondents believe that the cost of the course should be from 50,000 to 100,000 tenge (from 111,6$ to 223,1$) for the entire course. And 1.3% of respondents claim that the entire course should cost from 150,000 to 200,000 tenge (from 334,7$ to 446,3$).

Thus, it can be concluded that the majority of respondents believe that the course should be free or find it difficult to answer this question.

Preferences for the method of training were revealed. The most relevant is training in groups of up to 10 people (60%), after which individual training is often chosen (32%), and the least result was shown by the option of training in groups of 10 people (8%).

2.2. Results of the research. The proposed methodology to enhance the Third Age University program

The advent of the information society has led to a significant shift from traditional paper-based practices to the widespread adoption of technology, thereby revolutionizing workplace culture in a relatively brief period. The transition towards paperless work environments and the integration of information technology has notable implications for the social advancement of both businesses and education.

Although the utilization of e-learning environments in education has seen a surge, these platforms have predominantly served as repositories of information, tools for completing textbook-related tasks or basic exercises, and chat platforms. However, this trend encompasses the potential of emerging technologies, reshaping the roles of schools, teachers, and students alike to effectively respond to the increasing demands of the 21st century [20].

Taking into account the result of the survey, the following methodology was developed, which describes in detail the necessary changes and innovations that should be introduced into the course in order to improve the quality and effectiveness of the course.

The first thing to consider is the need to assess the available knowledge in the field of computer literacy of the course participants. The development of an assessment test, which will determine the actual knowledge and skills in using mobile devices, will help to distribute participants across different tracks of different levels. Tracks should be created for beginners and more advanced users. The track list for beginners will cover the basics, as well as the necessary operations with a smartphone, such as; sending messages, making calls, as well as using basic applications. While a more advanced track will allow to get acquainted with more complex functions. They can be managing more complex applications, discovering new areas of social media, using the e-government website, photo, and video editing, as well as security measures on the Internet. Participants will be assigned to tracks corresponding to their existing levels. Tracks for beginners and advanced can also be divided into modules. There will be specific modules in each track. The students will be able to choose a specific model to study according to their individual needs. This way they will not waste time exploring areas that they are not interested in or that they already know.

During the analysis of the survey, it was found that it was necessary to increase the number of practical tasks. Practical exercises should be regularly present throughout the course. After each theoretical part, it is important to give appropriate practical tasks to students to make sure that they have mastered the topics well enough. Examples of such practical tasks can be; sending emails, making video calls, as well as conducting an online search. By acting out a life situation where you need to use the function of a smartphone or other mobile device, forcing participants to apply their newly acquired skills and knowledge, you can get feedback from participants.

The next important aspect of effective classes is to provide participants with the necessary support and guidance. Given the age of the students, it is important to understand that more instructors will benefit. To do this, volunteers can be recruited for the position of mentor or assistant mentor. In order to provide participants with further support, virtual support groups can be created, as well as discussion forums.

Creating small study groups is one way to meet the request to reduce the number of students in each lesson. As a result, participants and teachers will be able to communicate and receive more individual attention, creating a positive and stimulating learning atmosphere. It is possible to design a course in such a way that it supports both learning in small groups and individual

learning, depending on the preferences of students. Groups should consist of a maximum of 10 people. Organizing private training sessions for individuals who desire individual attention and direction should also be considered.

Next consideration should be given to expanding the learning space to comfortably accommodate course participants. Each participant must be provided with a sufficient number of seats, a workplace, and computers. A favourable learning space encourages the focus and engagement of learning participants.

A continuous technical support system should be established to address computer or smartphone-related issues that course participants may have. This may include technical support staff, troubleshooting resources, and recommendations for resolving common technical problems.

Given that the majority of respondents believe that the course should be free, or government-sponsored, various funding options should be explored to provide the course at a reduced cost or free of charge for retirees. Consideration may be given to partnering with organizations or institutions that support initiatives for third-aged people.

It is necessary to provide clear and understandable information about the benefits of the course, which will answer all possible questions and eliminate the doubts of respondents and potential course participants. The information should explain how acquiring smartphone and computer skills can positively impact social connections, well-being, and overall self-confidence.

A comfortable learning environment ensures the active participation and involvement of all participants. Opportunities should be created for participants to interact comfortably with each other so that everyone can share experiences and build connections. Group activities and discussions will also promote social interaction and a sense of community among participants.

Conducting advertising and information campaigns to reach the target audience and promote the course will positively affect the reputation of the course and increase its recognition. Various communication channels such as community centres, third-aged people's organizations, local media, and social media platforms should be used to spread the word about the course, its benefits and how to enrol.
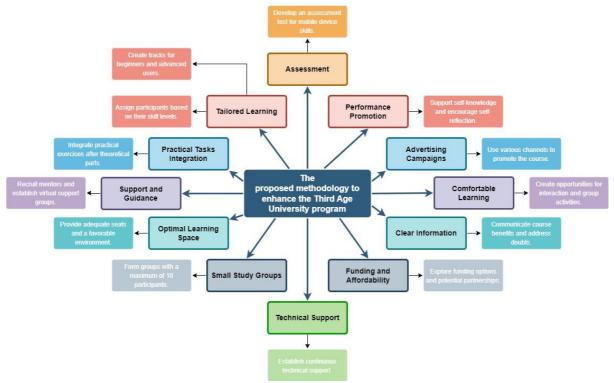

Figure 3: The proposed methodology to enhance the Third Age University program

Promoting the learning performance of learners can be achieved by incorporating systematic management support for self-knowledge, facilitating learners' expression, and fostering self-reflection within a distributed learning environment [21].

3. Conclusion

Lifelong learning is essential for the well-being of the elderly. This article focuses on education for the Third Age and how modern universities are able to assist. It explores the concept of a Third Age University, which promotes active ageing. It draws on the experiences of international educational institutions that cater to the Third Age. The article discusses the differences between the Third and Fourth Ages and highlights the difficulties and opportunities of ageing. It emphasizes the need to tailor education and support to meet the specific needs of Third Age learners. Additionally, it looks at how advanced medical technologies can affect longevity, quality, and cognitive function in the Third age. The article focuses on how education can promote social connections, prevent social isolation, and improve the mental health of the elderly. It cites the Convoy model as an example of how communication technologies, especially smartphones, can help to improve the social lives of the elderly.

In this article, the authors present an applied experiment on smartphone usage in the Third Age offered by the International Information Technology University. The analysis of the results of the survey of participants shows positive results in terms of skills development, self-assurance, and social involvement. The authors suggest some changes to the course to further improve the effectiveness of the Third Age University program, including assessment tests and practical tasks as well as mentorship programs and ongoing technical assistance. The article also looks at the experiences of different educational institutions around the world that offer courses and seminars for the Third Age, including "Age UK" in the UK, "Study for Life" in Singapore, and "Older but Wiser" in Germany. The results of these evaluations show that the Third Age has a positive impact on society and health, highlighting the importance of providing educational opportunities for older people. The article stresses the benefits of lifelong learning for older people and advocates for developing and improving educational programs for the Third Age.

4. Acknowledgements

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