Age-Related Challenges in European Education Systems

Research Report

2023

Erasmus+ project: Solutions to age related issues in education sector
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Abstract

This research report focuses on age-related problems encountered by teachers in the educational sector and explores age management measures to tackle these challenges. Through qualitative research, key stakeholders from six European countries were interviewed on age-related issues (based on their urgency and importance) and perceptions of aging. The analysis revealed three clusters of problems linked to age management in education: the Critical Cluster, the Mezo Cluster, and the Wide-span Cluster.

The Critical Cluster comprises specific age-related problems such as working at an older age, age gaps, struggles with technology and digital skills, stress, burnout, and the less appealing image of the teaching profession to younger generations. The Mezo Cluster involves broader organizational challenges that can be influenced by age, such as crowded classrooms, increasing workloads, communication problems, and lack of teamwork. The Wide-span Cluster includes issues not solely related to age but reflective of overall educational system problems, such as curriculum overload, postponed retirement, methodological discrepancies, low post-retirement income, and career management difficulties.

To address these challenges, the report recommends age management training programs to raise awareness and readiness for potential age-related issues in the educational sector. It emphasizes the importance of addressing age-related concerns alongside broader educational system challenges to create a supportive environment for teachers of all ages.

The report identifies specific age management measures for each cluster. For example, the Critical Cluster proposes continuous learning programs, monitoring by management, and mentoring initiatives to support teachers. The Mezo Cluster suggests meetings, team-building activities, non-formal engagements, projects, and psychological support to foster a positive work environment. The Wide-span Cluster emphasizes context-specific measures like reduced working hours and improved policies to tackle age-related challenges.

Implementing these age management measures can have a positive impact on teachers' well-being and professional development, ultimately contributing to a supportive and thriving educational environment for teachers of all ages. Effective monitoring methods, as discussed in the report, are crucial for informed decision-making, supporting teachers' needs, and maintaining a positive and robust educational milieu.

Furthermore, the report highlights various advantages of age management measures, including improved teaching quality, teacher well-being, student outcomes, and a more attractive teaching profession. On the other hand, it acknowledges the costs associated with implementing age management strategies and potential challenges in motivating some older teachers to embrace change.

Content

Executive Summary:
Age-Related Problems and Age Management Measures in the Educational Sector

This research report addresses age-related problems faced by teachers in the educational sector and explores age management measures to address these challenges. Through a qualitative research design based on interviewing key people from 6 European countries, the analysis explores the perception of specific issues related to age and the way aging is perceived: identifying the *problems* and *reasons* related with age management, searching for already *implemented measures* but also *suggested measures*, exploring methods of *monitoring* age management measures and considering *advantages* and *disadvantages* of such measures.

Data was organized and analyzed using the Atlas.ti qualitative analysis software, which facilitated the clustering process by grouping similar selected codes together. This approach enabled the identification of key clusters (the Critical Cluster, the Mezo Cluster, and a Wide-span Cluster), providing insights into the prevalent age management concerns of teachers in the educational sector.

Thus, the report presents three clusters of **perceived problems related to age management** in the educational environment:

1. *Critical Cluster*: This cluster includes the most frequent and specific age management-related problems, such as the ability to work at an advanced age, the age gap, the use of ICT and digital skills, stress, burnout levels, and the unattractiveness of the teaching career for young teachers replacing older ones.
2. *Mezo Cluster*: Problems in this cluster involve more general organizational issues that may be affected or exacerbated by age, including crowded classrooms, increasing workloads, communication problems, and lack of teamwork.
3. *Wide-span Cluster*: This cluster contains a mix of factors, many of which are not solely related to age but signal problems and issues in the educational sector, such as an overloaded curriculum, postponed retirement age, discrepancies in strategies/methods/techniques, low income after retirement, and difficulties in managing one's career.

To prevent and manage age-related problems, the report suggests that age management training programs should consider all these challenges to increase awareness and prepare for potential issues that may arise with age in the educational sector. It emphasizes that while age can influence certain challenges, many issues are inherent in the educational system and may have a greater impact on senior teachers. Therefore, addressing these problems proactively can help create a more supportive and efficient working environment for teachers of all ages.

The **most important perceived reasons related with age-related problems** in the educational sector are summarized in the following three clusters:

1. *Critical Core Cluster*: Reasons include teaching methods, lack of communication, age stereotypes, lack of interest in self-development, and physical fitness. Stereotypes about age and teaching methods were evident in the interviews, with older teachers perceived as more traditional but offering discipline, while younger teachers were seen as tech-savvy but lacking experience.
2. *Mezo Cluster*: Reasons include deterioration of the teaching profession, the digital gap, lack of time for refresher courses, lack of specific interventions from management, and lack of career progression due to economic crises.
3. *Wide-span Cluster*: Reasons include issues like low payment, lack of support, unclear expectations, technology challenges, and low confidence due to inadequate resources and overwhelming workload.

To address age-related problems in the educational sector, the report recommends targeted interventions focusing on communication, age stereotypes, teaching methods, continuous professional development, and improving the overall work environment and support systems for teachers of all ages.

The **age management measures** identified in the report, provide the following key information:

1. *Critical Cluster*: Measures include continuous learning programs, listening & monitoring from management, and mentoring programs to support teachers.
2. *Mezo Cluster*: Measures involve meeting and team-building activities, non-formal activities, projects, and psychological support to foster a positive and supportive work environment.
3. *Wide-span Cluster*: Measures include specific contextual measures, such as reduced working hours, better policies, and support from families to address age-related challenges.

Implementing these age management measures can contribute to a positive impact on teachers' well-being and continuous growth, ensuring a supportive and thriving educational environment for teachers of all ages.

The methods of monitoring age management measures and aspects related to teachers' conditions and challenges were also explored in the research. The results revealed three clusters of monitoring methods:

1. *Critical Cluster*: Methods include non-formal methods, community perception analysis, and self-evaluation to assess teachers' well-being and make positive changes.
2. *Mezo Cluster*: Methods involve performance criteria in deciding retirement to alleviate tensions between governments and unions over raising the retirement age.
3. *Wide-span Cluster*: Methods encompass specific statistics for monitoring age management in the educational sector, enabling evidence-based age management strategies.

Implementing effective monitoring methods is crucial for informed decision-making, supporting teachers' needs, and maintaining a positive and sustainable educational environment.

The research also investigated various **advantages of age management measures** for teachers:

1. *Critical Cluster:* Advantages include continuous learning and development, active aging, and reflective practices & knowledge transfer to improve teaching quality and teacher well-being.

2. *Mezo Cluster:* Advantages involve developing strong bonds with students and the organization, stimulating intergenerational dialogue, better quality of life, and increased institutional culture.
3. *Wide-span Cluster:* Advantages include increased productivity, capitalizing on seniors' experience and expertise, enhancing the attractiveness of the teaching profession, and enabling teachers to achieve higher qualifications.

The age management practices can bring numerous benefits to teachers and the educational system, including improved teaching quality, teacher well-being, student outcomes, and long-term sustainability of the profession.

Lastly, the research explored **the disadvantages of age management measures** for teachers:

1. *Critical Cluster:* The primary disadvantage is the cost associated with implementing age management strategies, but the long-term benefits overcome these costs.
2. *Mezo Cluster:* A significant disadvantage is the lack of determination among some older teachers to keep learning or embrace change, but tailored professional development can address this challenge.
3. *Wide-span Cluster:* This cluster encompasses specific and contextual disadvantages related to the specific career momentum or the organization itself.

The research report also highlights the issue of age management in schools being *overlooked or ignored* compared to other education sector issues and emphasizes the importance of prioritizing age management to maintain the quality of education and ensure that students receive necessary support from experienced teachers.

In conclusion, this report highlights the impact of teachers' age on the teaching and learning environment. Older teachers bring valuable experience and mentorship, but they may face challenges in adapting to technology, managing energy levels, and dealing with potential health issues. By acknowledging both the strengths and challenges of an aging teaching workforce, educational institutions, educational policymakers and administrators can take proactive steps by considering age management strategies and creating a supportive environment for teachers of all ages. A balanced and effective teaching workforce will always lead to better educational outcomes.

1. Introduction to age management in the education sector

Age management is a concept that started in Finland in the early 1980s. At that time, Finland was facing a demographic shift that was leading to an aging workforce. In response to this, the Finnish government and employers began to explore ways to ensure that workers of all ages had fair access to employment and training opportunities (Ilmarinen, Tuomi 1997, 2011).

The concept of age management was developed as a way to promote fair access to employment and training opportunities for workers of all ages. Age management refers to the process of developing and implementing strategies and policies that promote job retention, development, and use of workers of all ages. This includes strategies to support the continued employment of older workers, as well as efforts to promote the development and advancement of younger workers.

One of the key goals of age management is to promote the health, well-being, and productivity of all workers, regardless of their age. This involves developing policies and practices that are inclusive of workers of all ages and that promote a supportive work environment for everyone.

Since its setup, the concept of age management has spread beyond Finland and has become a widely recognized approach to workforce management in many countries around the world. Age management is now seen as an important tool for promoting diversity, equity, and inclusion in the workplace, as well as for supporting the health and productivity of workers of all ages.

The age management in the education sector focuses on addressing the specific needs and challenges that arise from teacher's diverse age groups and career stages. While many principles of age management apply universally, there are particularities within the education sector that require some specific approaches.

2. Erasmus+ project: Age-related issues in education sector

In response to the challenges outlined above, a consortium of six partners from six EU countries collaborated to launch an Erasmus+ project: Age-related issues in the education sector. Within this initiative, the project teams crafted a wide variety of practical resources tailored for educators across all levels of the education system. This project represented just one of several outputs within the overarching effort to address these issues.

Primarily, the project targeted the organizational aspects within the education sector, serving as a practical resource to support various stakeholders responsible for employment, including school administrators, policymakers, social partners, teachers, and particularly Continuing Professional Development (CPD) trainers. Its main goal was to ensure effective management of the aging school workforce while preventing age-related barriers to employment. Age management assumes a commitment to preparing human resources (in this case, school staff) to remain capable of performing their roles not just in the present but also in the distant future, roughly 40 years thereafter. Educators viewed age management as a set of actions tailored to the needs of individuals of different age groups, with the objective of prepare the educational environment, policies, and strategies for an anticipated increase in the employment of individuals aged over 50 within schools.

The main objective of the project was to create a comprehensive set of practical tools for educators at all levels, with a particular emphasis on VET (vocational education and training) providers, to effectively manage age-related challenges within the education sector. These tools included:

- Compilation of best practice examples for addressing age-related issues in schools.
- Comparative analysis of case studies and recommendations to assist educators in choosing effective age management measures.
- Development of curricula for training selected school staff on age-related topics.
- Creation of a model introductory training program, a Continuous Professional Development (CPD) program for VET teachers and trainers.
- Establishment of a web platform that offered all these tools in an accessible online format for the public.

The current study and this report represent one of outputs of this project: the comparative analysis.

3. European and National policy context of the countries involved in the project and in the present study

In Europe, legislative bodies have been working on addressing age-related issues at the societal and political levels. The European Union, for instance, has introduced several policies and directives to promote age management and support the needs of workers of all ages.

One of the essential directives in this area is the European Directive on Equal Treatment in Employment and Occupation, which was established back in 2000. The main goal of this directive is to prevent age-based discrimination in the workplace, along with other factors. It ensures that all employees are treated fairly, regardless of their age, fostering a more inclusive work environment and providing equal opportunities for everyone.

The directive requires EU member states to implement national laws and regulations to protect workers from age discrimination and to promote equal treatment in employment. The Lisbon Strategy, which was adopted by the European Council in March 2000 (Esping-Andersen, 2002, p. 8), was aimed at Europe "becoming the most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth with more and better jobs and greater social cohesion." No key objectives of this strategy have been achieved in the European Union as a whole but the problem is widely acknowledged in EU and worldwide.

In 2010, the Lisbon Strategy was replaced by the EUROPE 2020 Agenda.

The European Union has also introduced other policies and initiatives aimed at promoting age management and supporting the needs of workers of all ages. For example, the European Commission has launched a campaign called "Healthy Workplaces for All Ages" that aims to raise awareness of the importance of promoting healthy workplaces for workers of all ages. The campaign provides guidance and support to employers to help them develop age-friendly policies and practices.

In addition to these policies and initiatives, many European countries have introduced their own laws and regulations aimed at promoting age management and supporting workers of all ages. For example, in Germany, the "Act to Promote Employment of Older Employees" was introduced in 2007 to encourage the employment of older workers and to provide support and training for older workers who wish to continue working. In 2013, Sweden introduced a new pension system that aims to encourage people to work longer and delay retirement. The new system includes measures such as raising the retirement age, increasing the minimum pension age, and offering incentives for people to continue working beyond retirement age. The UK government has introduced a number of policies and initiatives aimed at promoting age management and supporting older workers. For example, in 2011, the government introduced the "Age Positive" campaign, which aims to raise awareness of the value of older workers and to challenge age discrimination in the

workplace. The government has also introduced legislation to abolish the default retirement age, and has provided funding for training and education programs aimed at supporting older workers.

Generally, the legislative bodies in Europe have recognized the importance of age management and have taken steps to address this issue at the sociopolitical level. This has helped to promote greater awareness and understanding of the needs of workers of all ages, and has contributed to the development of more inclusive and supportive workplaces across the region.

The issue of age management for the educational sector is tackled into some specific legislative bodies, policies and initiatives at European level:

- The European Commission has launched several initiatives aimed at promoting the active participation of older workers in the labour market, including teachers. These initiatives include the European Year for Active Ageing and Solidarity between Generations, which aims to promote age-friendly policies and support the needs of older workers, and the European Pillar of Social Rights, which aims to ensure fair and equal treatment for all workers, regardless of age.
- The Council of Europe has adopted several resolutions and recommendations aimed at promoting age diversity and combating age discrimination in education, including for teachers. These include the Recommendation on Age Diversity and Life-long Learning and the Recommendation on the Promotion of Human Rights Education.
- The European Parliament has also addressed the issue of age management for teachers, including through the adoption of resolutions and reports. For example, in 2017, the Parliament adopted a resolution on the role of education and schools in promoting tolerance and mutual respect in the context of the refugee crisis, which emphasized the importance of ensuring that teachers are properly trained to address issues related to diversity and multiculturalism.

There is a growing recognition among European legislative bodies of the importance of age management for teachers, as well as for other workers, and a commitment to promoting policies and initiatives that support the needs of older workers in the education sector.

In the Czech Republic

In the Czech Republic, several policies and initiatives promote age management for teachers. The Ministry of Education, Youth and Sports offers a program for lifelong learning and professional development, keeping teachers up-to-date with new methods and technologies. The Ministry of Labour and Social Affairs supports older workers, including teachers, through retraining, upskilling, and job placement. Tax incentives encourage employers to hire and retain older workers, preventing discrimination. The Education Ministry also focuses on the health and well-being of teachers, offering support for healthy lifestyles and stress management. Additionally, a program facilitates professional development for older teachers, enabling mentoring and collaborative learning. These initiatives ensure age diversity and support the valuable contributions of older teachers in the education system, aligning with broader European efforts to address the needs of older workers in the labour market.

In Romania

In Romania, various policies and initiatives support age management in different sectors, including education. For instance, the Ministry of Labour and Social Justice offers initiatives to promote employment for older workers, such as teachers, through retraining, upskilling, and job placement support. Tax incentives are also provided to employers hiring older workers, ensuring fair treatment in the labour market.

The Ministry of National Education has introduced programs to promote lifelong learning and professional development for teachers, including older ones, as well as initiatives for their health and well-being. Additionally, a mentoring program pairs experienced teachers with younger ones to provide guidance and support.

Though Romania lacks specific laws for age management in teaching or other professions, several legislative acts address age discrimination and uphold equal treatment principles. Laws on equal opportunities, the Labour Code, unemployment insurance, public sector pay system, and the National Agency for Equal Opportunities contribute to fostering age diversity and supporting older teachers in making valuable contributions to education.

In Italy

In Italy, various policies and initiatives address age management, including measures for teachers. Examples include Active Aging 2020, promoting active aging and supporting older workers in a more age-friendly work environment. The "La Buona Scuola" plan aims to improve education quality, with support for the professional development of teachers, including older ones. The Italian National Institute for the Promotion of the Elderly and Social Solidarity (INPS) provides financial aid to companies employing older workers, including teachers, through tax incentives and training support. Italy also offers a flexible retirement age, allowing older workers to continue working if desired. Experts involved in this research observed that in Italy, there are high percentages of young teacher who are not formally and definitely hired by the public education system, have already years of working experience and have been trained in the new educational technologies and waiting for a stable teaching job in a school.

To back age management and older workers' employment, Italy has relevant laws such as the Workers' Statute, ensuring non-discrimination and equal treatment, and the Jobs Act, introducing measures for job security and flexible retirement. Pension reforms have adjusted retirement age and options, considering older workers' needs and pension system sustainability. National Collective Bargaining Agreements may include age management provisions. The National Strategic Framework on Active Aging from 2014 provides a plan to support older workers' professional development and create age-friendly work environments.

In Spain

Age management for teachers in Spain is represented by various policies and initiatives. The Measures for the Promotion of Professional Development and Mobility of Teachers, launched by the Ministry of Education and Vocational Training, support teachers' career growth with training and exchange programs for all ages. The National Plan for the Promotion of the Teaching Profession, introduced in 2019, ensures job security for older

teachers through age-friendly conditions and training opportunities. Additionally, regional governments have their own policies, like Andalusia's program supporting older teachers' employment with training and improved working conditions.

In Spain, age management policies for teachers are not currently well-defined, but several regulations indirectly influence employment practices in the educational sector. The Active Ageing Strategy encourages professional development and age-friendly workplaces. The National Agreement for Employment includes measures for older workers' employment and flexibility. Teleworking promotion during the pandemic also supports older workers' job security. The National Strategy for Active Aging and Intergenerational Solidarity fosters age-friendly conditions and intergenerational cooperation. Overall, these policies and initiatives provide a framework for supporting older teachers' employment, job security, and professional development in Spain.

In Portugal

In Portugal, there are no specific laws on age management for teachers. However, the country has implemented legal provisions and policies supporting older workers' rights and equal opportunities, including for teachers. The Employment Code prohibits age-based discrimination and sets rules for working conditions, benefiting teachers' well-being and work-life balance.

The Social Security System offers support, such as pensions and sickness benefits, to workers, including teachers, throughout their careers. The National Program for the Promotion of Health and Safety at Work focuses on creating healthy and safe workplaces for all employees, which is crucial for older teachers.

Some policies and initiatives have been introduced in Portugal to address age management for teachers. Continuing Professional Development (CPD) promotes lifelong learning and skill development for teachers. Flexible working arrangements, like part-time options, assist older teachers in managing their workload. Support for early retirement programs helps teachers transition out of the workforce smoothly. Health and well-being programs promote healthy lifestyles and provide resources for teachers' well-being as they age.

Although Portugal lacks a comprehensive age management policy for teachers, the existing initiatives demonstrate a dedication to supporting teachers and promoting lifelong learning and well-being within the profession.

In Turkey

In Turkey, various laws and regulations address age management in the workplace, including provisions specifically for teachers. Key laws include Labor Law No. 4857, protecting against discrimination, and Civil Servants Law No. 657, governing civil servant employment. The Law on Social Security and General Health Insurance No. 2828 establishes benefits for retired workers, including teachers, and the Occupational Health and Safety Law sets workplace standards.

Additionally, the Code of Ethics for Teachers establishes professional conduct guidelines. Turkey supports age management for teachers through policies like career planning, flexible retirement options, health and

wellness programs, and age discrimination prevention measures. These initiatives foster teacher well-being, professional growth, and continued contributions to education and society.

4. Age related data in the EU educational sector: What do we know now?

While a country's balance between older and younger teachers matters for many different reasons, data on teacher age is incomplete. Where data on teacher age is available, it can provide important insights into the age structure of the teaching workforce and the potential implications for education systems. For example, an aging teaching workforce could give rise to difficulties concerning retirement, workforce planning and the assurance that an adequate number of teachers possess the essential skills and experience required to meet the needs of the students.

In many Western European countries, efforts are being made to improve data collection and reporting related to teacher age, as part of broader efforts to improve the evidence base for policymaking in the education sector. However, there is still a need for more comprehensive and standardized data on teacher age, as well as research that can help policymakers better understand the implications of demographic changes in the teaching workforce.

The main source for data on teachers' age in Europe and worldwide is TALIS, the International Survey of Teaching and Learning, conducted every five years by the OECD. This is an international survey conducted by the OECD (Organization for Economic Cooperation and Development) every five years that aims to provide a comprehensive picture of the teaching profession in different countries. TALIS collects data on a range of topics related to teaching and learning, including teacher demographics, qualifications, working conditions, and professional development opportunities.

TALIS includes a focus on teacher age and the age structure of the teaching workforce. The survey collects data on the age distribution of teachers in each participating country, as well as on the retirement plans of older teachers and the recruitment and retention of younger teachers. TALIS data on teacher age can be used to identify trends in the aging of the teaching workforce and to help policymakers make informed decisions about workforce planning, recruitment, and retention strategies.

The most recent TALIS survey was conducted in 2018, and the results were published in 2019, the survey covering 48 countries. Teachers' average age differs widely, from 36 in Turkey to 50 in Georgia. Only Saudi Arabia (5%) has fewer teachers aged over 50 than Turkey (6%). At the other extreme, more than half of teachers are aged over 50 in Lithuania (57%), Estonia (54%), Georgia (53%), Latvia (51%) and Bulgaria (51%).

In 2018, the average age of teachers across the OECD1 was around 44, with considerable variation across countries (see figure below). These differences are reflected in varied proportions of younger teachers (under age 30) and older teachers (aged 50 or above). At one end of the spectrum, the average teacher is aged 40 or younger in Belgium (and in the Flemish Community), England (United Kingdom), Malta, Saudi Arabia,

Shanghai (China), Singapore, Turkey, the United Arab Emirates and Vietnam. At the other extreme, the average teacher is over age 48 in Bulgaria, Estonia, Georgia, Italy, Latvia, Lithuania and Portugal. More than half of teachers are aged 50 or above in Bulgaria, Estonia, Georgia, Latvia and Lithuania, and this is also the case for over 45% of teachers in Hungary, Italy and Portugal, suggesting aging teacher populations.
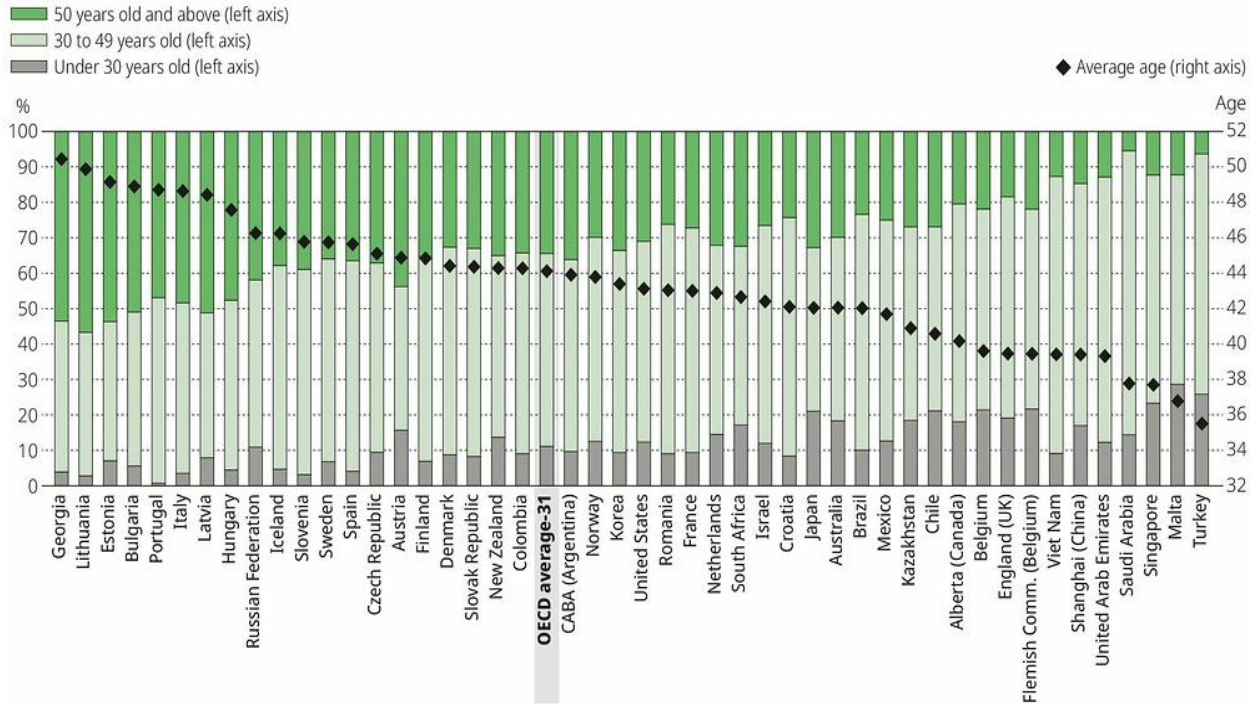

Figure 1: Distribution of teachers age and the age structure of the teaching workforce in OECD – 2018.

So, it can be stated that **generally, in European countries, the teaching staff is aging**. The only exception is a group of 9 states (Belgium, Germany, Malta, the Netherlands, Austria, Sweden, Norway, Switzerland, UK), where the situation can be characterized as stable, respectively slightly improving. In other countries, a gradual process of increasing the aging problem can be identified. The worst situation is in Portugal, where the aging is rising sharply. This aging of the teaching workforce can have implications for the quality of education, as well as for education policy and workforce planning. It underscores the importance of developing effective age management policies and initiatives to ensure that the education system is able to continue to meet the needs of students in the future.

An additional interesting view on the aging of the teaching staff in European countries is based on a comparative look at the proportion of graduates of university studies (special training modules to become teachers) and the number of teaching staff over 55 years of age. Thus, it provides a rough estimate of the years required to replenish the teaching ranks with recent graduates within a specific age group. These figures can be understood as follows: the higher the value, the more time it takes to refresh the teaching staff, indicating a longer duration to replace educators departing from the profession in the coming years, often due to retirement.

In this context, in Portugal it takes almost 11 years to replace teachers aged 55 and over, which can be considered a significant threat to the capacity to renew the teaching staff. In fact, there is a possibility that the entire category will retire during that period. The situation is equally negative in Lithuania, Greece, Latvia or Romania. On the contrary, the situation is positive in Cyprus, Malta, Great Britain, Spain and Poland.

In general, on average, this indicator is increasing in all selected European countries, so the situation can be assessed as deteriorating. Thus, **many states can be considered threatened by the aging of the teaching staff.** As experienced teachers retire, it can be difficult to find enough qualified replacements to fill their positions, particularly in subjects like math and science. This can lead to a shortage of teachers and increased class sizes, which can have a negative impact on the quality of education that students receive. In addition, older teachers may also have higher rates of absenteeism or may retire early, which can further exacerbate the problem.

	Rating	Ratio Between Teachers Over 55 Years Old and Graduates						
		2013	2014	2015	2016	2017	2018	2019
Belgium	(17)	2.50	2.73	2.81	3.04	3.25	3.59	3.89
Bulgaria	(13)	2.84	2.96	3.04	2.99	3.29	3.47	3.51
Czechia	(8)	1.65	2.00	2.34	2.70	3.09	3.10	2.90
Germany	(14)	6.04	5.34	5.00	4.60	3.80	3.72	3.61
Greece	(21)	3.96	2.78	4.53	4.65	5.65	5.71	6.10
Spain	(4)	1.58	1.28	1.35	1.38	1.43	1.36	1.45
France	(11)	4.92	5.08	3.98	3.33	3.22	3.25	3.33
Cyprus	(1)	0.93	0.55	0.77	1.06	0.74	1.02	0.77
Latvia	(20)	3.86	6.28	6.08	6.16	11.82	6.01	5.38
Lithuania	(22)	2.65	3.92	5.26	6.40	7.48	8.47	9.30
Hungary	(12)	2.17	2.16	2.19	2.34	2.77	3.27	3.42
Malta	(3)	1.60	1.65	1.05	1.40	1.62	2.27	1.23
Netherlands	(18)	3.57	3.64	-	-	3.93	3.86	4.09
Austria	(10)	2.62	2.61	2.43	2.78	2.74	3.08	3.14
Poland	(5)	-	-	0.89	1.03	1.08	1.24	1.59
Portugal	(23)	3.36	3.97	4.47	6.89	8.17	9.70	10.98
Romania	(19)	7.82	11.92	7.37	6.63	5.39	5.64	5.25
Slovakia	(7)	1.33	1.51	1.72	1.85	2.09	2.21	2.52
Finland	(16)	4.33	4.21	3.88	3.96	3.76	3.66	3.78
Sweden	(15)	3.91	3.50	3.77	3.68	4.03	3.70	3.65
Norway	(6)	3.51	3.26	3.08	2.93	2.76	2.53	2.23
Switzerland	(9)	3.05	2.83	2.92	2.90	3.02	2.95	2.93
United Kingdom	(2)	1.07	1.19	1.09	1.00	1.04	1.03	1.02
Average		3.15	3.43	3.18	3.35	3.75	3.69	3.74

Note: Number of ratio represents years needed to replace teachers over 55 years old by graduates in a given year.
        Number in brackets represents the order of the country sorted from the least years needed to replace teachers.

Figure 2: Age ratio between teachers over 55 and graduates. (Source: Age structure of teachers in selected EU countries - P. Marinič, P. Pecina, Masaryk University, Faculty of Education, Proceedings of INTED2022 Conference, 7th-8th March 2022, ISBN: 978-84-09-37758-9)

According to the OECD's report on "Education at a Glance 2018", the average normal pension age for teachers in primary, secondary and post-secondary non-tertiary education in OECD countries was 64.3 years

for men and 63.7 years for women. As a result, **many European education systems may face the challenge of replacing a large number of teachers in the next 15 years or so** because a significant proportion of the current teaching workforce approaches retirement age. This could lead to a shortage of qualified and experienced teachers, particularly in certain subjects or regions.

The OECD estimates that around one-third of teachers in EU countries will need to be replaced over the next decade or so. Some countries, such as Italy, Bulgaria, Lithuania, Estonia, Greece, and Latvia, will need to renew around half of their teaching workforce in secondary education, while Italy, Bulgaria, and Lithuania will also need to renew around half of their primary school teachers. This presents a significant challenge for education systems and policymakers, who will need to find ways to attract and retain new teachers while also supporting the ongoing professional development and well-being of existing teachers.

The age of teachers is important for education policies, especially when it comes to training new teachers and helping existing ones. For instance, with the rise of digital technology use in classrooms, age matters. This is seen in the increasing focus on teaching digital skills during initial teacher training. Many experienced teachers received their initial teacher education decades ago, before the widespread use of digital technologies in education. As a result, it may be necessary to provide targeted professional development to help experienced teachers adapt to new technologies and teaching methods. Additionally, as more teachers retire, it is important to ensure that new teacher recruitment keeps pace with retirement-induced attrition, especially as projected changes in student enrolments may increase the demand for teachers in some regions.

A UNESCO report in 2014, suggests another reason besides an aging European population. The issue of teacher pension plans and retirement incentives can play a significant role in the aging of the teaching workforce. In all EU countries, the pension system rewards teachers for remaining on the job for longer periods, which can discourage retirement and contribute to an aging workforce. This can also create a bottleneck for the promotion of younger teachers and limit opportunities for new graduates to enter the teaching profession. In addition to demographic changes, it's essential to consider the impact of teacher pension systems on the workforce's age distribution and the potential for shortages in the future.

Teaching in Europe is a women's profession

According to Eurostat data, in 2019, around 70% of teachers in the European Union were women. The gender balance among teachers varies between countries, with some having a higher proportion of male teachers, but in general, teaching remains a female-dominated profession in Europe. The percentage of female teachers drops as the level of education increases: 95.8% at pre-primary level, 85.5% at primary and 64.7% at secondary level are women. The share of female academic staff reaches or exceeds 50% only in Romania (50.8%), Finland (51.9%), Latvia (54.5%) and Lithuania (56.7%). In all other EU countries, it ranges between 40% and 50%, except for Greece, Malta and Luxembourg, all with fewer than 36% female academics. In vocational education, across the EU, about 60% are women.

The gender imbalance in teaching has different causes. Men might be more deterred by factors like limited career opportunities and lower salaries compared to other equally qualified professionals, making teaching

less attractive to them than it is for women. Culturally, gender stereotypes often depict women as more suitable for teaching. These beliefs are prevalent across the teaching spectrum, especially when it comes to instructing younger children. Both of these aspects highlight the importance of addressing the appeal of the teaching profession. By doing so, we can provide a broader range of role models for students and respond to shortages in specific subjects or an overall lack of teachers.

Some studies have also found that the feminization of the teaching profession has led to lower pay and status for teachers, as teaching has been historically undervalued as "women's work" (Schmude, J., Jackisch, S. 2019). This can also contribute to the lower attractiveness of the profession for men. Additionally, the nature of the work itself, including the emotional labour involved in teaching and the lack of autonomy and control over working conditions, may also be factors that impact the gendered makeup of the teaching profession. Addressing these issues may help make the profession more attractive and diverse, which can benefit both students and the teaching workforce.

5. Prior research and surveys on issues and problems related with age for teachers

While there may be a lack of comprehensive research on age-related issues for teachers, there have been some studies conducted on the subject. Here are a few examples:

In a study named Teachers Working Longer Review: final report findings, based on a Rapid Evidence Assessment (REA) of the international research literature and an analysis of data sets about teachers and their physical, mental and emotional demands of each role within the teaching profession, conclusions refer to many worrying aspects: older teachers tend to have higher levels of reported stress, mental health problems and stress related illnesses are more commonly reported by teachers as reasons for their ill health retirement, Teachers aged over 50 report that they have slightly lower levels of wellbeing and overall health than younger teachers and report physically related illnesses more than younger teachers.

In a report written and released by the American Enterprise Institute in May 2020, Jessica Schurz and John Bailey provided some potential strategies for retaining older teachers. A study commissioned by the Wellcome Trust found showed that participation in subject-specific continuing professional development improved the retention of science teachers.

The report Teachers Matter: Attracting, Developing and Retaining Effective Teachers is investigating the school teachers – their preparation, recruitment, work and careers. Its specific concern is policies that contribute to attracting, developing and retaining effective teachers in schools and the main conclusions underline the necessity to rethink the professional representation of teaching and design new principles to help teachers work and develop in the following decades.

This study adds to the evidence base by investigating associations between teachers' years of experience and teaching quality. Results show no evidence of lower teaching quality for beginning teachers (0–3 years' experience), but some evidence of a decline in teaching quality for teachers with 4–5 years experience. Findings suggest that the quality of teaching could be higher overall, and that targeted support and evidence-informed professional learning would benefit all teachers.

Other studies and articles written in the last decade, identified and argued on other urgent issues, problems and challenges related to age for teachers, such as:

- **Health and Physical Demands**: As teachers age, they may experience physical challenges that affect their ability to perform their job duties effectively
- **Technology Use**: With the increasing use of technology in the classroom, older teachers may face challenges in keeping up with technological advancements.
- **Career Fatigue and Burnout**: The longer teachers stay in the profession, the higher their risk for burnout and career fatigue
- **Resistance to Change**: As teachers become more experienced, they may become more set in their ways and less receptive to change.

- **Age Discrimination**: Older teachers may experience age discrimination in the workplace, which can lead to decreased job satisfaction and lower morale.

A summary of problems and challenges related to age for teachers, identified worldwide and in various educational contexts may include:

- **Age-related health issues**: Teachers, especially those who are older, are at risk for age-related health issues that can impact their ability to perform their job effectively. Some of these health issues can include mobility limitations, cognitive decline, and chronic diseases.
- **Burnout and stress**: Older teachers are more likely to experience burnout and stress due to the demands of the job, including long hours, heavy workloads, and administrative duties. This can impact their job satisfaction and overall well-being.
- **Technology and digital skills**: As digital technologies become more integrated into education, older teachers may struggle to keep up with the necessary technological skills, which can impact their ability to effectively teach and communicate with students.
- **Generational differences**: Older teachers may experience generational differences with younger colleagues and students, which can lead to communication and collaboration challenges. This can also impact the culture and climate of the school or institution.
- **Career stagnation**: Older teachers may feel a sense of career stagnation, with limited opportunities for growth or advancement. This can impact their motivation and job satisfaction, leading to potential turnover or disengagement.

It's important to note that the current research has found similar evidence on each of these conclusions and findings from prior studies, reports and articles about the topic.

6. Case study selection and data collection

Age management is becoming increasingly important as the proportion of older workers in the workforce continues to grow. This is due to a number of factors, including an aging population, changes in retirement patterns, and a shortage of skilled workers in some industries. Effective age management can help organizations to retain older workers, manage the potential health and well-being issues associated with aging, and ensure that the knowledge and experience of older workers is transferred to younger employees. It can also help to create a more diverse and inclusive workforce, and mitigate the risk of age discrimination. *All organizations must inevitably adapt to this trend* - or at least prepare for this trend - and one of the objectives of age management is to find viable solutions in the face of demographic changes. Both at the individual and at the organizational level, however, it is necessary to emphasize the development of human potential through continuous education and the preservation of productivity and efficiency at work. In many situations, employee age management can be seen as part of corporate social responsibility or as an opportunity to link human resource development with social responsibility.

Therefore, it is necessary to pay attention not only to 50+ employees but to *all age categories of employees and to adapt age management activities* to various types of occupations and to concentrate on both personal and organizational goals at the organizational level.

The general objective of this study was *to analyse the scientific evidence available to support age management practices toward the educational system*. A qualitative research design was chosen to identify and explore the perception of some relevant actors in the educational sector, on specific issues related to age and the way aging is perceived from a professional point of view, both at an individual level and at an organizational or even systemic level.

The method of collecting information was carried out in the form of *case studies*. They offered research strategies focused on a particular context, with detailed references about individuals, groups, organizations, taking into account the contextual particularities. These case studies required the use of several complementary methods, analysis, processing and storage of relevant information, both quantitative and qualitative.

Educational organizations as varied as possible were selected to participate in this study, from pre-primary and primary education to tertiary university education, including several fields of training (science education, VET education, artistic education). Public and private educational institutions were also included in the research, in order to have the most general and comprehensive overview of the existing problems and solutions from the point of view of age management.

The *key people* who took part in the construction of these case studies and who provided relevant information are generally those involved in management (school principals, heads of HR departments, heads of curriculum areas or teachers with coordination and peer guidance responsibilities). Some of them are in

the position of having an age considered close to retirement and were able to offer a personal perspective on the phenomenon of aging and the problems it can generate at the level of the teaching profession.

Participants and organizations were recruited using established contacts according to each particular context (personal relationships, internet research, local professional networks, organizational partnerships, etc.). Semi-structured interviews were carried out during March and November 2022, using *a variety of approaches*: face-to-face on site, on the premises of the participants' organizations, online (using Skype, Zoom), mixed (phone and on-site or phone and online). Internet data research has also been used to complete the 24 study cases information, together with previous public recorded interviews, studies, reports.

The researchers in each country approached at least 4 organizations (of various educational level) and relevant persons, conducted the interviews and analysed the data. There were no restrictions with respect to the size of the organization or ownership. An information leaflet about the purpose and structure of the interview was used by some of researchers and informed consent was gained. Anonymity and voluntariness were ensured to participants and organizations, when requested. The interviews were conducted in the national languages (Czech, Italian, Romanian, Portuguese, Spanish, Turkish) or, when appropriate, in English and all quotes provided in the results were translated if necessary.

A guide for semi-structured interviews (see Annex 1) was compiled based on the literature and the expertise of the partners. It included several themes relevant to the anticipated outcomes and also many suggestions for additional exploratory questions that could be best adapted to the different contexts captured in the case studies.

7. Software used and organization of data

Our main interest was to capture the essential elements of the age management issues and solutions in the educational sector, together with the personal perspective, perceptions and experiences of the individual respondents. The data were analysed using a qualitative content analysis method by the help of Atlas.ti software. Atlas.ti is a software program that assists researchers in managing and analysing qualitative data. It provides tools for coding and organizing data, as well as for visualizing and exploring relationships within the data.

The process was organized according to the following steps:

Step 1: Preparing the data and uploading relevant data collection documents

The research planning followed the initial objectives of the project and was based on the documents presented above. The partners had experience in collecting such data, having been trained in the use of qualitative tools such as semi-structured interviews and the collection of relevant data for the compilation of a case study.

The case studies were completed by each partner in a standardized form, using a best practice form document (see Annex 2) and then they were loaded into the Atlas.ti software (see Figure 3).

Figure 3: List of case studies uploaded in the Atlas.ti mainframe.

Step 2: Exploratory data analysis

At first there was a familiarization with the data, including the reading of each transcript multiple times. Then the Atlas.ti software provided a few simple exploratory data analyses to get a first impression on the main ideas and concepts of the gathered materials. We created word clouds for all the data and also for each partner country to compare and contrast the words in different documents and find the relevant concepts. With the help of Opinion mining, we could get a feeling for the attitude in the data collected in terms of more optimistic, pessimistic, or neutral.

Step 3: Building a code system

An essential step was to generate categories, following a deductive-inductive approach. This means that we generated categories based on previous research (considering the initial desk research conducted in each partner country). In addition, we developed categories based on the interviews with the help of experts from each country involved in collecting the case studies.

In this way, the coding system used several sources, so that, without being exhaustive, we considered that it was relevant enough for the purpose of the research and to derive interesting and significant observations and conclusions for the subject of age management in the educational sector. The code system was structured in categories and subcodes, using folders to sort and order them. In some cases, we needed to review the data multiple times, modify coding or change code labels, and write code definitions that explain what the code means and how to apply them.
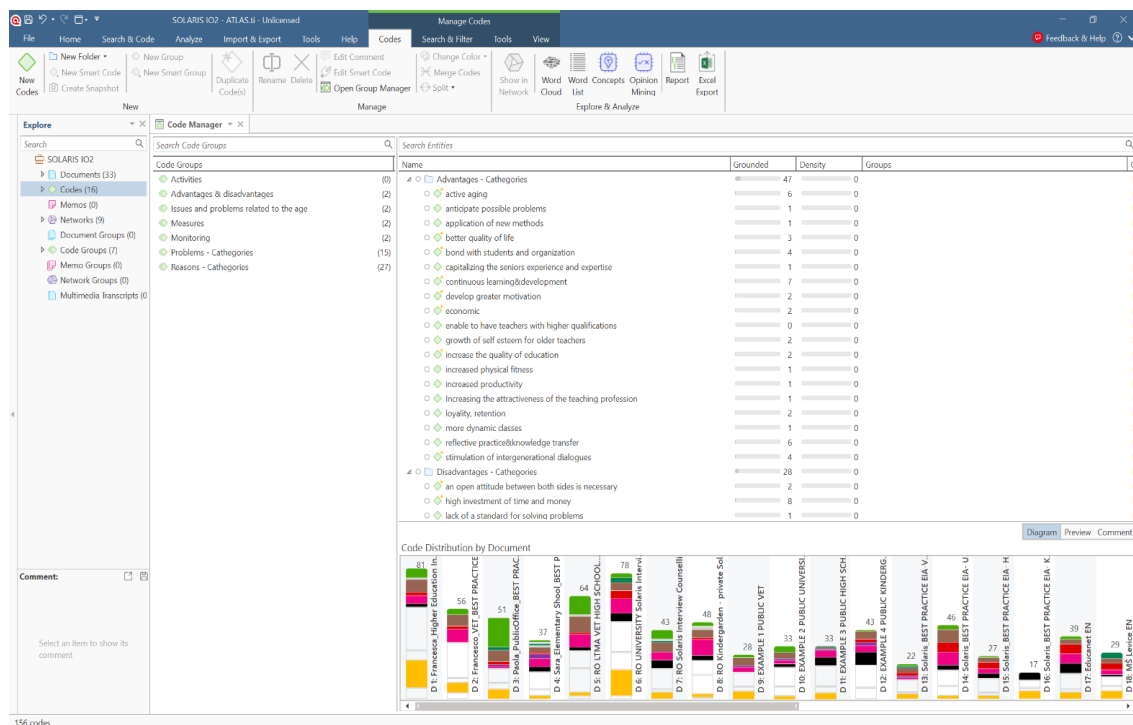
Figure 4: Sample of coding system in Atlas.ti software
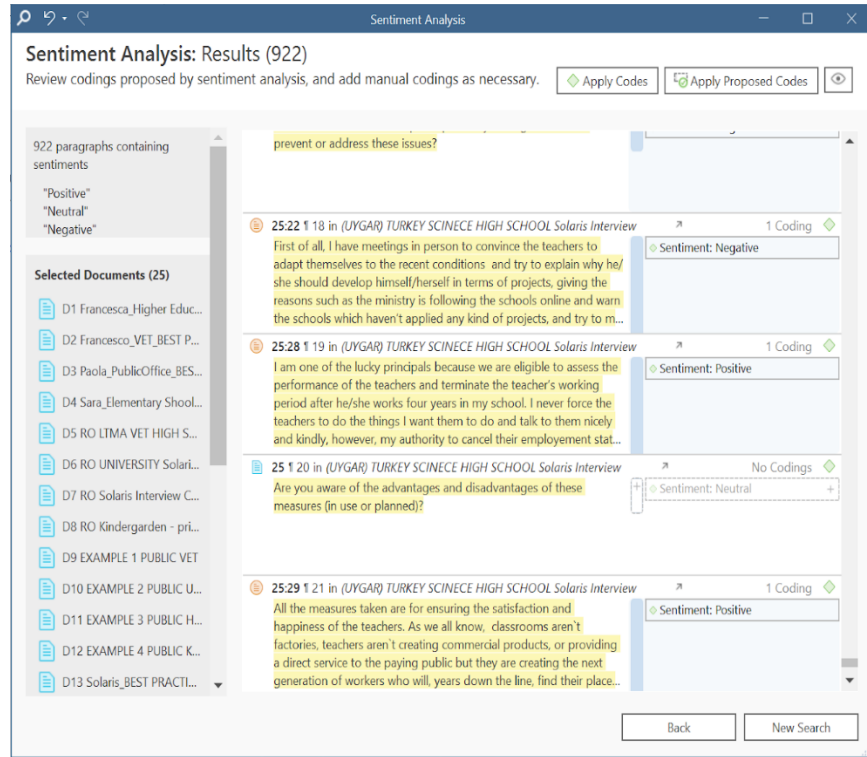
Figure 5: Sample of Sentiment Analysis within Atlas.ti software for all study cases included in the research
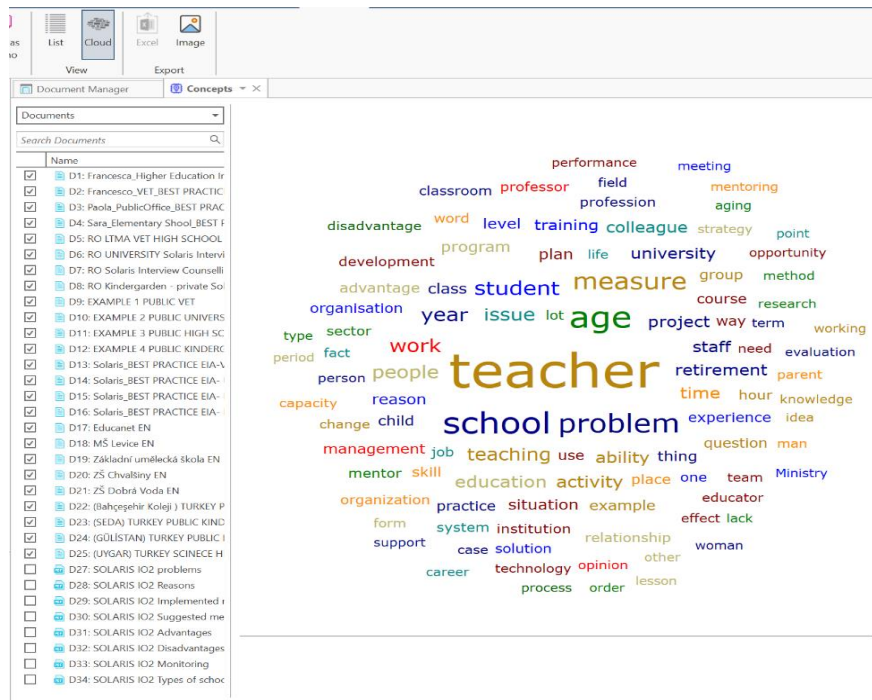
Figure 6: Sample of word cloud generated based on all case studies included in the research

Step 4: Data visualization

Visualizing qualitative data is useful for providing clarity during analysis and helps to communicate information clearly and efficiently to others. Representing data visually is useful during analysis for identifying connections and patterns which would otherwise be difficult to discern. Using visualization techniques is a continual analysis process, rather than being included at the end of data collection.

We created powerful word clouds for each partner country involved in the research and also for the key concepts of this analysis. We also used diagrams for the existing networks of categories discovered in the analysis. They provide important and relevant information about the main findings of our research and sustain the described conclusions.

Data visualization is based on processing the inputs by:

- **Querying:** Querying involves running searches on the data to find specific patterns or concepts. This can help to identify relationships between different themes or concepts in the data.
- **Networking:** Networking allows you to visualize the relationships between different codes or themes in the data. This can help to identify overarching themes or concepts in the data.
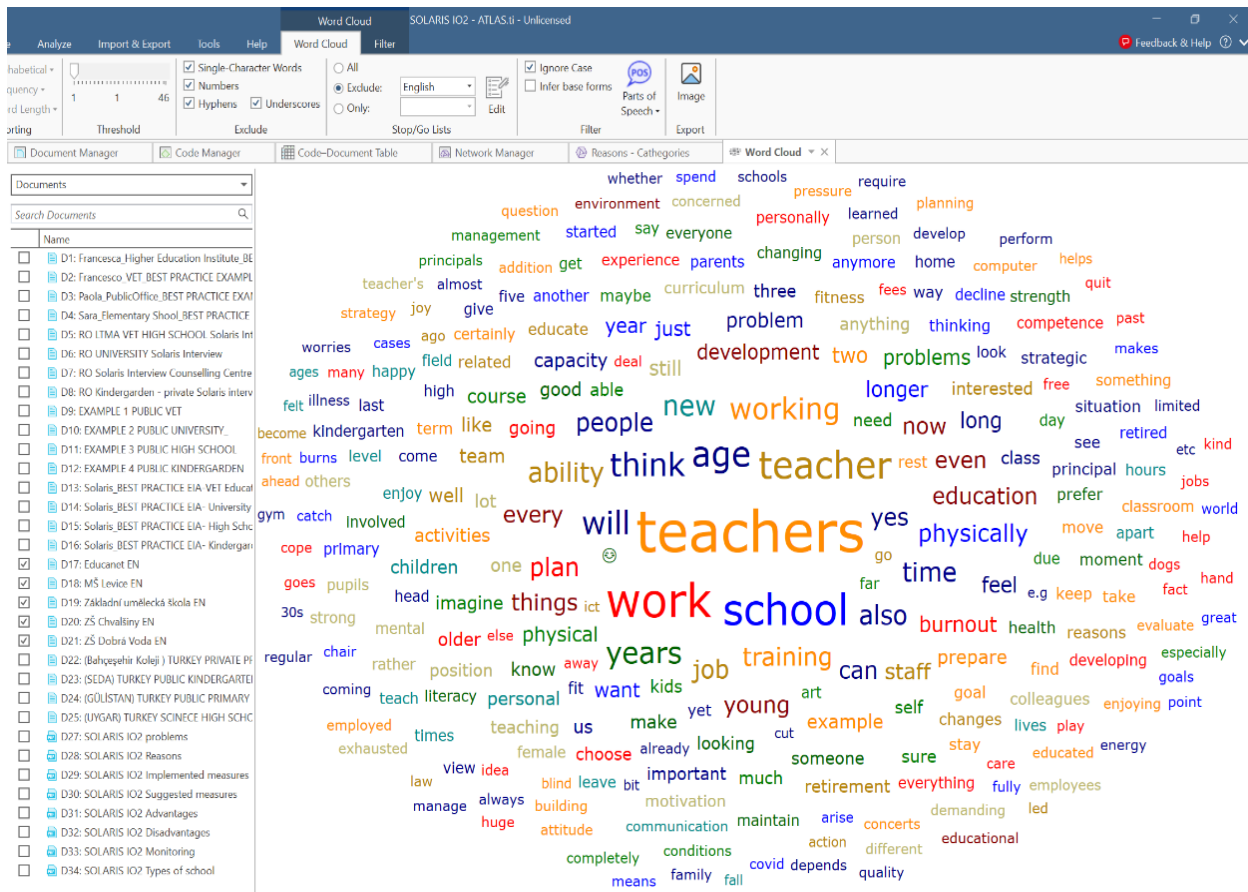
Figure 7: Sample of word cloud generated based on all study cases included in the research

Step 5: Data presentation - the research report

The final step was to summarize the analysis in a written report. The report includes the interpretations for the various topics and the selection of some good quotes that support them. The data are sustained by the added tables and diagrams.

Disclaimer: The following qualitative research report is based on **subjective interpretations and observations** derived from semi-structured interviews and their analysis, so that the findings and conclusions presented in this report reflect the perspectives and experiences of the participants involved.

It is important to note that this qualitative research is **exploratory** in nature and may not be representative of the entire population. The report should be interpreted within its specific context and **should not be generalized** beyond the scope of the study because errors or biases may be present.

Readers are advised to critically evaluate the findings and consider additional sources of information before drawing definitive conclusions or making decisions based solely on the contents of this report.

The Clustering process

The clustering process involved a systematic examination of the interviews data, where meaningful segments and thematic patterns related to age management were identified and coded. The coded segments were then organized and analysed using the Atlas.ti software, which facilitated the clustering process by grouping similar codes together. This approach enabled the identification of key clusters, providing insights into the prevalent age management concerns of teachers in the educational sector.

After performing the qualitative content analysis, the process revealed three distinct clusters: the **Critical Cluster**, the **Mezo Cluster**, and a **Wide-span Cluster**. These clusters were formed based on the absolute frequencies of descriptors identified in the data obtained from the semi-structured interviews.

- The **Critical Cluster** emerged as the most prominent cluster, characterized by high absolute frequencies of descriptors related to age management related challenges. This cluster represents the core foundation of concerns identified through the interviews.
- The **Mezo Cluster** represents the intermediate layer of age management issues, with moderate absolute frequencies of descriptors. This cluster captures the transitional stage from very specific age-related issues to general and sometimes chronic problems affecting teachers that work and get older in European schools.
- The **Wide-span Cluster** encompasses a broader range of educational issues, as indicated by relatively lower absolute frequencies of descriptors covering individual but also systemic themes addressing the diverse needs of teachers at various career stages and in diverse contexts.

It should be acknowledged that the clustering process *did not differentiate* between individual/self-related approaches and systemic/environmental/organizational challenges and issues. This means that all clusters encompass a mix of both individual descriptors (such as personal experiences, perspectives, and challenges) and systemic descriptors (such as organizational policies, educational frameworks, and societal influences).

8. Results

8.1. Distribution of the educational organizations involved

The school organizations involved in this study are very diverse and include both public and private educational institutions. All forms of education are represented, from pre-primary and primary education to tertiary education, taking into account multiple fields: general education, scientific education, VET education or artistic education. Also, a regional educational organization for counselling and complementary educational services in Romania was also involved in this study.
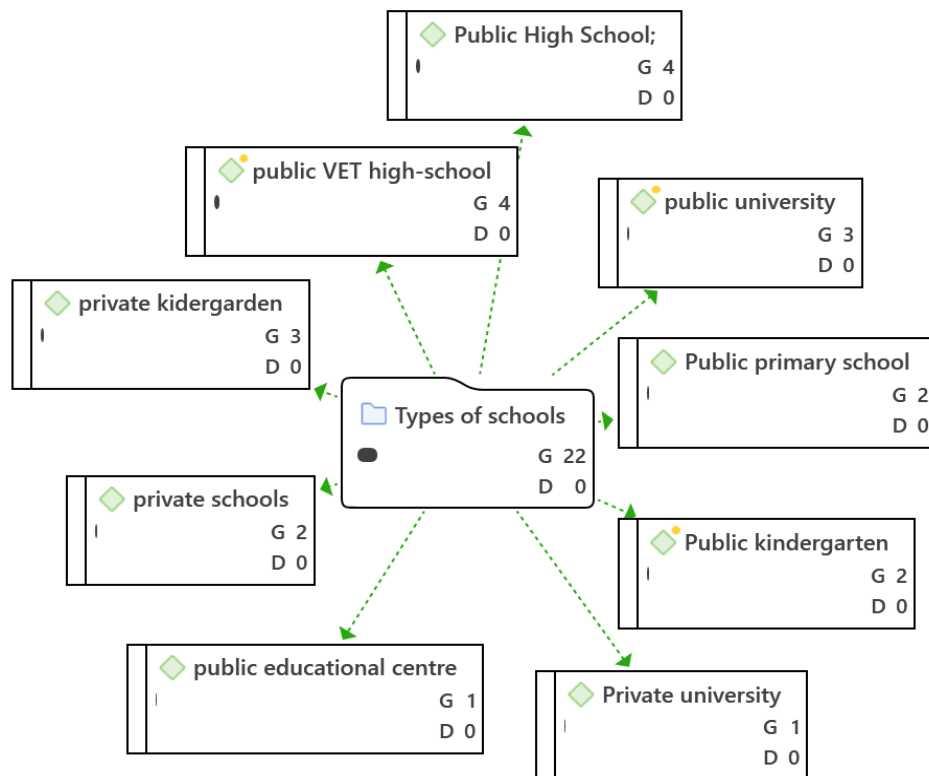
Figure 8 - Structure of the respondents as exported from Atlas.ti

8.2. Issues and problems related with age

In general, in all the case studies included in the current research, *the age problem is approached from a broader perspective*, which also includes other key concepts related to intergenerational problems, communication, or the management of professional relationships within educational institutions. This fact may reflect, on the one hand, the poor representation of the specific concept of age management (quite rarely encountered as such at the actual case studies level), on the other hand, the composite character of the concept of age and professional aging in educational context, where there are multiple influencing factors that must be taken into account to establish performance and quality criteria in the education act.

So, problems with age management in education are usually discussed in two ways: either broadly, talking about age-related challenges at work, or specifically, looking at individual situations. In these specific cases, the factors are often either personal or connected to how the education system is organized in that particular context.

After analyzing the gathered data, the distribution of perceived issues concerning the age and age management of teachers is illustrated in Figure 9.

Age-related problems of teachers can include difficulties in keeping up with technology, physical impairments, and changes in attitudes or outlook. Older teachers may have difficulty keeping up with changing technology, such as new classroom management systems or interactive whiteboards. They may also experience physical impairments, such as joint pain or vision or hearing loss, that can limit their ability to move around the classroom or interact with students. Finally, they may have difficulty adapting to changing values or outlooks among students, and may find that their established teaching methods no longer resonate with students.

We grouped the data from figure 9 into the 3 Clusters, based on the absolute frequencies of descriptors identified in the data for describing the main problems related to age in the educational environment:

The **Critical Cluster** with the most frequent issues includes: *ability to work at advanced age* issues, the *age gap*, the use of *ICT and digital skills*, stress and burnout levels in school and *teaching career being unattractive* (especially for the young teachers to replace the old ones). This primary cluster contains the most specific age management related problems, found in many cases included in the present study. Thus, this cluster can provide the most incentive topics to be included into a training program on age management in the educational sector.

The **Mezo Cluster** includes *crowded classrooms, increasing workloads* with the school requirements, *communication problems* and *lack of teamwork.* We can observe an interesting combination between difficulties perceived into the organizational area with individual professional criteria such as communication and teamwork. The increased number of students in classrooms – especially in low level education like pre-primary, primary, combined with the increasing workloads within the school requirements can generate communication and team-working problems between staff, especially when considering the age factor. However, these problems seem to be addressing a more general issue of the school and may be more distinctive or aggravated by the age itself.

The **Wide-span Cluster** includes: *overloaded curriculum, postponed retirement age, use of foreign languages, discrepancies in strategies/methods/techniques, low level of income when retired, distance from work to home, difficulties in working with parents, low salaries, difficulties in managing own career, work-life balance, the costs of having a more experienced teacher, lack of personnel and teaching being a demanding profession*. We have here a mix of factors, many of them not referring to the specificity of age but rather signalling problems and issues in the educational sector.

Problems of age management in the education sector

CRITICAL CLUSTER
ability to work at advanced age; age gap; use of ICT and digital
skills; stress and burnout; teaching career being unattractive

MEZO CLUSTER
crowded classrooms; increasing workload; communication
problems; lack of teamwork

WIDE-SPAN CLUSTER
overloaded curriculum; postponed retirement age; use of foreign languages; discrepancies in
strategies/methods/techniques; lower income when retired; distance work-home; difficulties in
working with parents; difficulties in managing own career; work-life balance; costs of having a
more experienced teacher; lack of personnel; teaching being a demanding profession
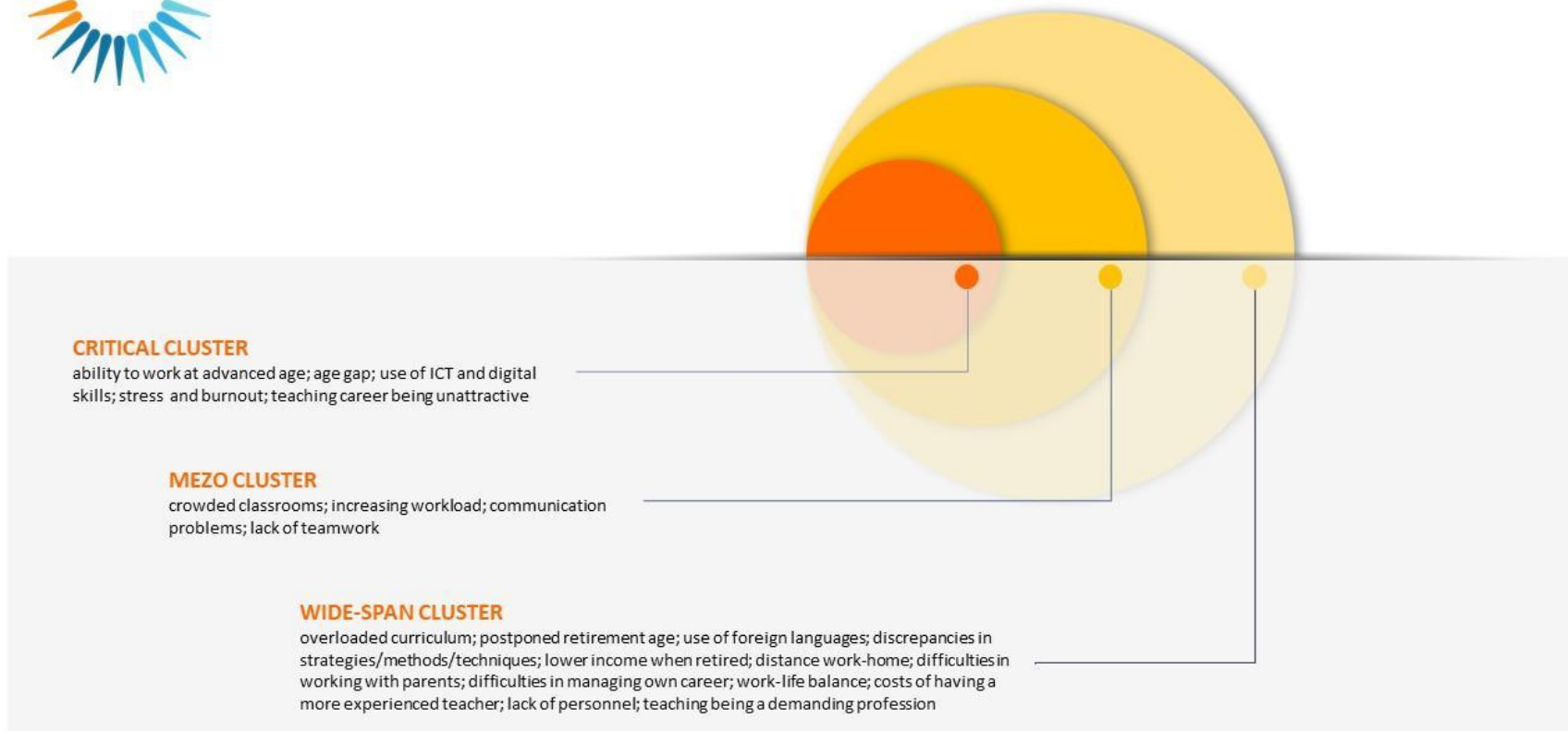
Figure 9 - Problems of age management in the education sector

We estimate that all the problems of the educational system may have a bigger effect on senior teachers and can create difficulties that may increase with age. Therefore, we consider that all these problems could be included into an age management training program in order to increase awareness about them and prepare the ground when age will also begin to become an issue itself.

Here are some relevant quotes, as shared by interviewees:

"…raising the retirement age is dangerous both for working men and women and for those waiting for work who will come to regularisation very late creating a vicious circle whereby it becomes necessary to work longer because you started late...."
(Higher Education Institute, Italy)

"In Romania, there is a lack of professional training that encourages the development of resilience, resistance and stress management skills, balancing personal life/professional life. We should urgently realize that these are necessary skills for the future of any employee, but especially in key areas such as education or health."
(VET high-school, Romania)

" I think that the performance of the function is not directly related with the age, although I recognize that being a demanding profession, because working with students it is necessary to have strength of mind and be open to innovation and to introduce new dynamics in the classroom."
(High-school, Portugal)

"I am convinced that a young teacher who finishes his/her studies cannot do the same job for the next 30 years."
(Primary school, Czech Republic)

"…nationally we are facing a major demographic problem, and the declining and aging population, combined with the educational deficit, is the most noxious combination of factors undermining our country's prospects."
(University, Romania)

"…the use of technology, new teaching methods, prejudices and inadequacies about the current curriculum, not being prone to teamwork, decreased patience and perseverance in classroom functioning and relationships with students, exhibiting a rigid attitude in student-parent and in-school relationships and drawing their boundaries with a sharp line."
(Primary school, Turkey)

"There will also be teachers who enjoy this level of stress generated by research and when they are exposed to high working hours, they find themselves frustrated and stressed."
(University, Spain)

"A teacher must be able to adapt to the changes. Problems arise when a teacher cannot move on and break out of the stereotypes to which he has become accustomed over 20 years. And then burnout sets in when new times demand new things and the teacher is unable to transform into his or her new roles that come with it."
(Private school, Czech Republic)

8.3. Reasons

From the analysis of the collected data, as presented in Figure 10, the main reasons for the age-related problems have been grouped according to their frequencies in the 3 clusters, as following:

The Critical Cluster includes the most mentioned reasons such as: methods of teaching, lack of communication and age stereotypes, followed by lack of interest in self-development and age itself/physical fitness. It is interesting to note that the reasons with the highest frequency are not related to physical aspects, inherent to age, but to other important factors that include communication, intergenerational relations and teaching approach.

 While studies show that there is no direct correlation between the age of a teacher and their methods of teaching, there are several stereotypes about age and methods of teaching mentioned in the interviews:

- Older teachers are stuck in their ways and unwilling to try new methods
- Younger teachers are tech-savvy, but lack experience and patience.
- Teachers of any age who rely solely on lectures and memorization techniques are out of touch with modern learning styles.
- Younger teachers are more likely to be creative and use innovative teaching techniques.
- Older teachers are better at providing structure and discipline in the classroom.

Many respondents mentioned the fact that older teachers may have more experience and may use more traditional methods, while younger teachers may be more open to using newer, more modern methods.

The Lack of communication was most referred not in the relationship with the students but more in the relationship with colleagues, especially with younger teachers. We can attribute *intergenerational communication problems between young and old teachers* primarily to differences in values and learning approaches. A fundamental source of these issues is the contrasting perspectives young and old teachers have towards education. Young teachers often have more progressive ideas and are more open to technology and new approaches to teaching. Older teachers tend to be more set in their ways and may be more resistant to change.

Moreover, there are different expectations between the two categories and different communication styles: young teachers tend to be more informal and direct in their communication, while older teachers may be more formal and indirect.

For the *physical age-related problems of teachers*, we can consider the decreased physical strength and endurance with frequent joint and muscle stiffness. This can be further felt as limiting mobility. Sometimes, poor posture and poor balance and coordination can be added to the previous mentioned issues. On the sensory side, vision and hearing impairment can be also frequent, together with fatigue and exhaustion.

The **Mezo Cluster** includes: deterioration of the status of teaching profession, the digital gap, lack of time for refresher courses, lack of specific interventions from the management, lack of career progression due to economic crisis.

The **Wide-span Cluster** includes: lack of age management, not investing as a state in continuous learning, school multiple challenges, rotation, generation gap, access to training courses for permanent teachers only, shifting the responsibility for the education of young people to school, young teachers have experience related problems, weak internationalization for academic activities, too many requirements to be a trainer, type of education in foreign languages.

The last two clusters include various criteria of reasons, some of them being related with the *individual issues while others are more related with the system and the community issues*. We can group these reasons in several bigger categories of problems related with:

Lack of interest, low morale, compassion fatigue and even burnout: These can be caused by a number of factors such as inadequate resources, lack of recognition, or unfriendly colleagues. It can lead to decreased job satisfaction and an overall feeling of unhappiness. Teaching is a very demanding job, and it's easy to become overwhelmed by the workload and expectations. This can lead to burnout, which is characterized by feelings of exhaustion, cynicism, and decreased job satisfaction.

Lack of Recognition, lack of support, unclear expectations, low payment: Despite their hard work and dedication, many teachers feel that their efforts are not adequately recognized or appreciated. Teachers can feel unappreciated and unrecognized for their hard work, leading to feelings of devaluation. Teachers can feel unsupported from their school administration, which can lead to feelings of frustration and isolation. It is important for teachers to know what is expected of them in their job. However, if expectations are not clearly defined, it can lead to confusion and pasivity. We can add here that despite the important role that teachers play in society, their salaries often don't reflect their hard work and dedication. This can lead to feelings of resentment: low pay is a major issue for teachers, as it can lead to financial stress and difficulty in their personal lives.

Technology challenges requiring continuous professional development and adjustments in the workload: As technology continues to evolve, teachers need to keep up with the latest innovations in order to effectively engage their students. This can be a challenge for some teachers, who may not have the skills or resources to follow the latest trends in educational technology. Often, especially for older teachers, professional development opportunities can be limited, leading to a lack of growth and development in their career. Sometimes, due to organizational or systemic changes, a teacher's workload can be overwhelming if it is too heavy or unbalanced. This can lead to stress and fatigue, which can have a negative impact on job performance.

Here are a few different views on this topic, as shared by interviewees:

"…the will of the individual, to be able to put the newly acquired approaches into practice and to be able to adapt to their own, often traditional, teaching style."

(Higher Education Institute, Italy)

Reasons for the age management problems

CRITICAL CLUSTER
Methods of teaching; lack of communication; age stereotypes;

MEZO CLUSTER
Physical fitness; age; lack of interest in self-development; deterioration of the status of the teaching profession; digital gap

WIDE-SPAN CLUSTER
Lack of time for refresher courses; lack of specific intervention from management; lack of career progression due to economic crises; lack of age management; not investing as a state in continuous learning; school multiple challenger; rotation; generation gap; access to training courses for permanent teachers only; parents active involvement; shifting the responsibility for the education of young people to school; young teachers have experience related problems; weak internationalisation for academic activities; too many requirements to be a trainer; type of education in foreign language
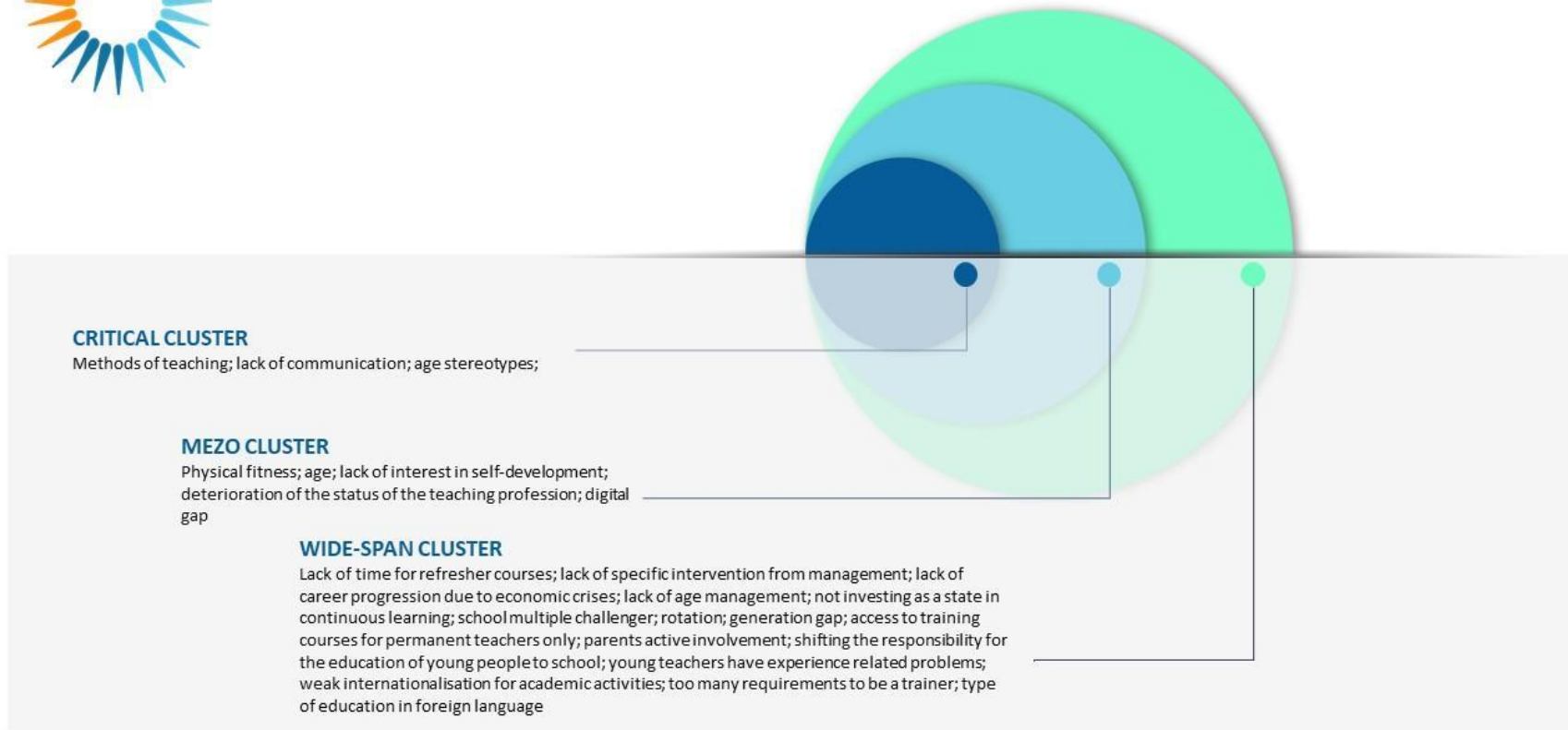
Figure 10 - Reasons for the age management problems

"New teaching strategies and methodologies are very often linked to the computer aspect, to the use of information technology, which is lacking in colleagues, sometimes in their fifties or sixties. But in my opinion, it is not only training that is lacking, but also the willingness to make a commitment to increase, as if this were somehow struggling"

(Elementary School, Italy)

"Sometimes this is amplified and distinct groups are formed, the older teachers form a separate group from the younger teachers. Young people want innovation, change, have a different relationship with students, while older teachers often do not agree with what young people do and end up often disagreeing with them. Over time, there were contradictory discussions in the teacher's room and disputes regarding different aspects in which the groups had different visions."

(VET high-school, Romania)

"…low importance given by the society to the active aging as a fundamental element in ensuring equal, lifelong opportunities"

(University, Romania)

"…the working ability of a teacher is mainly in the determination to want to keep learning, in that attitude, in that mood. And this is not entirely related to age."

(Primary school, Czech Republic)

"…older individuals do not update themselves in certain subjects, that the feeling of "I am done" is dominant and that they have served in the education sector, which requires extreme dedication and patience for"

(Primary school, Turkey)

"…maintaining a very traditional teaching staff, with a very conservative university model"

(University, Portugal)

"…lack of teamwork, there is a lot of detachment and not belonging to the group."

(High-school, Spain)

"The great challenge is to change the mentality"

(University, Portugal)

"Mental wellbeing is hugely important in a teacher, and the pressure from the kids, and nowadays the pressure from the parents, is huge"

(Primary school – Czech Republic)

8.4.   Implemented measures

The data collected from the interviews showed several important age management measures identified by the respondents. It's important to note that the majority of respondents did not recognize age management

as a clearly defined and explicitly formulated program within the institutions discussed in the interviews. However, a wide category of measures could be identified that are closely related to age and the prevention of problems generated by it at the level of educational institutions. Thus, we were able to group them into the 3 clusters of categories, depending on the frequency with which they were mentioned in the interviews, as shown in Figure 11:

- **the Critical Cluster** that includes: *continuous learning programs*, *listening & monitoring from management* and *mentoring programs* as a central focus,
- **the Mezo Cluster** that includes: *meeting and team-building*, *non-formal activities and projects* and *psychological support*
- **the Wide-span Cluster** that includes more specific and context related measures such as: *reduced number of hours*, *increasing retirement age, working after retirement/gradual retirement*, *better policies*, *support from families* or various systems of evaluation such as *self-evaluation* or a *commission for innovative teaching* (referring to putting in place a special department with the goal of supporting teachers in their innovative approaches).

The Continuous learning programs can help teachers prevent age-related problems by keeping them up-to-date with the latest research and teaching methods, as well as providing opportunities for personal and professional development. Some examples of continuous learning programs mentioned in the interviews are:

- **Professional Development Workshops**: helping teachers learn about new teaching strategies, technology tools, and assessment methods. They can also provide opportunities for networking with other educators and sharing best practices.
- **Mentoring Programs**: older teachers can serve as mentors for younger teachers, sharing their experience and expertise in the classroom. This is a mutually beneficial arrangement, as younger teachers can also share their knowledge of technology and new teaching methods.
- **Wellness Programs**: aging can bring physical and mental health challenges, so programs that focus on maintaining good health and reducing stress can be particularly beneficial for older teachers. Yoga, meditation, and mindfulness workshops are helping teachers manage stress and stay healthy.
- **Retirement Planning**: older teachers may be thinking about retirement, and specific policies and guidance are helpful in preparing for this transition.
- **Continuing Education Courses**: These courses help teachers stay up-to-date on the latest research in their field and maintain their teaching certification.

Implemented Measures

CRITICAL CLUSTER
Continuous learning programs; listening and monitoring from
management; mentoring program;

MEZO CLUSTER
Meetings and team-building activities; non-formal activities
and projects; psychological support;

WIDE-SPAN CLUSTER
Reduces number of hours; a self-evaluation system; increasing the retirement age/working
after retirement; gradual retirement; better policies; support from families; existence of a
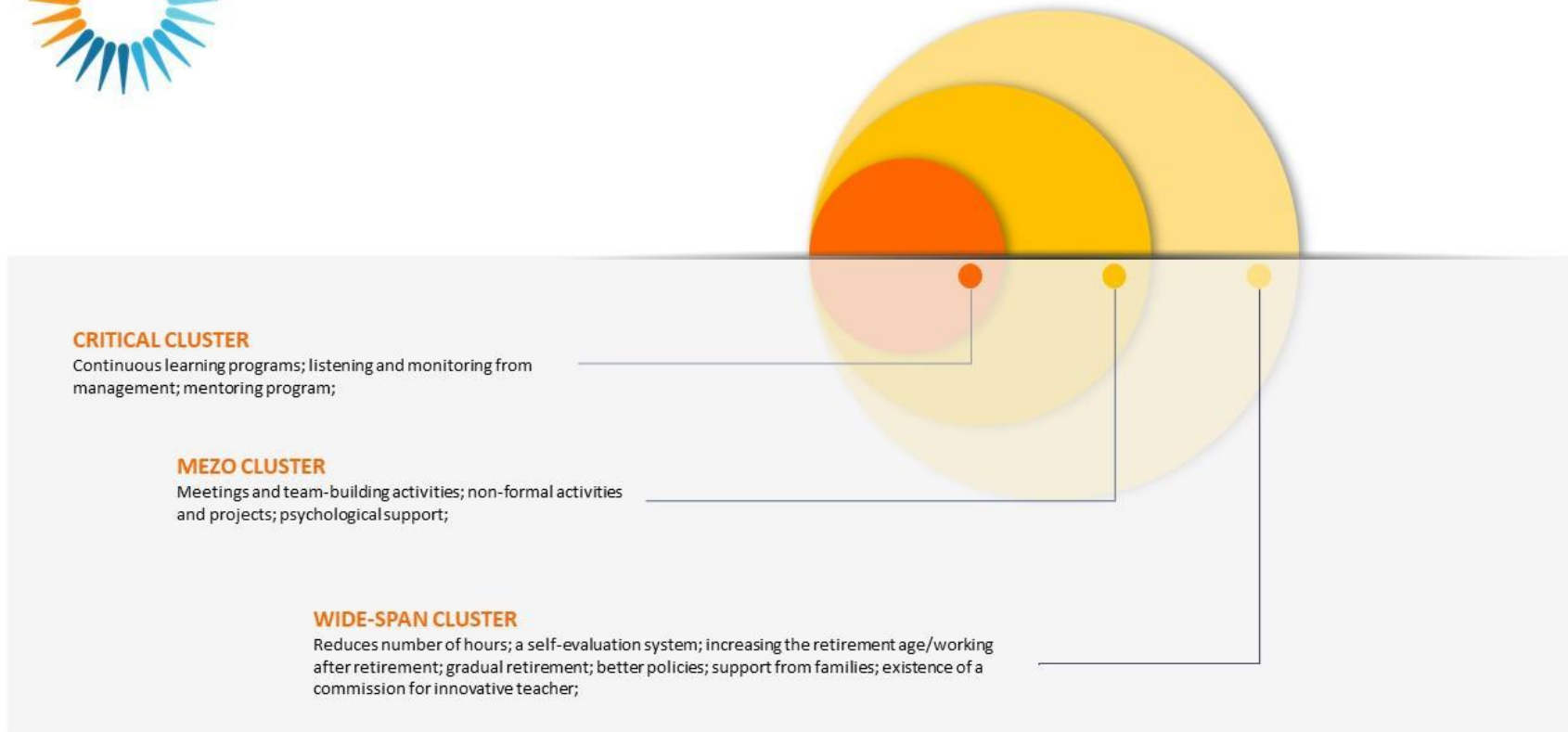commission for innovative teacher;

Figure 11 - Implemented measures

By providing access to these types of programs, schools can help older teachers stay engaged and motivated in their work, and prevent age-related problems such as burnout and physical decline.

The Listening and monitoring from the management category can be a key element in preventing age-related problems of teachers (because management is surely the most important issue to face already existing problems as well as preventing new ones). The most important was considered the *open communication*: management that creates an open and supportive communication culture succeed in encouraging teachers to share their ideas, concerns, and feedback. Other specific measures mentioned were *regular check-ins and performance evaluations*, to identify any challenges or issues that teachers may be experiencing, getting feedback and input from teachers (through surveys, focus groups, or other means); *monitor workload and stress levels*, especially for older teachers who may be at greater risk of burnout or physical decline. Other proactive measures from the management are non-formal activities, flexible work arrangements, or opportunities for professional development.

By listening and monitoring, management can identify and address issues that may affect the well-being and effectiveness of teachers. This can help prevent age-related problems and support a positive and healthy work environment for all teachers.

Mentoring programs are another frequent mentioned category of measure for age-related problems of teachers. Regardless of the form of organization of the mentoring programs (in some countries of the respondents this is a national program initiated by the ministries of education, while in others it is only an initiative at the level of the organization), some common elements that we can mention are:

- *Transfer of knowledge and experience*: mentoring programs allow experienced teachers to transfer their knowledge and experience to younger or less experienced teachers. This transfer of knowledge helps to ensure that best practices and effective teaching methods are maintained over time.
- *Professional Development*: mentoring programs provide opportunities for professional development for both mentors and mentees. Mentors can develop their skills as teachers and leaders by guiding and coaching mentees, while mentees can learn from the experience and expertise of their mentors.
- *Personal Support*: mentoring programs provide personal support and guidance to teachers, particularly those who are new to the profession or who are struggling with personal or professional issues. Mentors can provide emotional support and advice, helping mentees to navigate challenging situations and make better decisions.
- *Career Advancement*: mentoring programs help to promote career advancement for teachers. Mentees can gain new skills and experience under the guidance of their mentors, which can help them advance to higher levels of responsibility and leadership within the school.
- *Collaboration and Community*: mentoring programs create a sense of collaboration and community among teachers. Usually, mentors and mentees work together to achieve common goals, build relationships, and foster a culture of support and collaboration within the school.

Meetings and team building activities can also be effective strategies to prevent age-related problems of teachers. By facilitating communication, goal setting, professional development, team building, and

recognition, they can help to promote a positive and healthy work environment, and support the ongoing development and engagement of all teachers. Communication and collaboration between teachers are essential and were mentioned as main reasons for age related problems. Using these kinds of simple activities such as regular non-formal meetings, teachers share ideas, concerns, and feedback and their collaboration is based more on trust and mutual support. This can help to build a positive and supportive work environment, a sense of community and shared purpose among teachers ensuring that everyone is on the same page and preventing feelings of isolation or disengagement.

Providing psychological support is an obvious important strategy for preventing age-related problems of teachers. The support can include counselling, stress management techniques, and access to mental health resources. Psychological support provides emotional support to teachers who may be experiencing personal or professional challenges. This can help them cope with difficult situations and maintain a positive outlook. Moreover, this kind of psychological aid can help to foster a culture of support and mutual care within the school, preventing feelings of isolation or disengagement among teachers, and promoting a positive and healthy work environment for all.

Non-formal activities and projects have been also mentioned as implemented effective measures in some of the interviews. By promoting learning, creativity, collaboration, purpose, and recognition, they can help to keep teachers engaged and motivated in their work, and foster a positive and healthy work environment for all. We can mention here especially the promotion of collaboration and teamwork among teachers.

From **the wide-span cluster of measures**, we would like to mention the *reduced hours* (included in the public policies of the countries) and *the increasing of the retirement age/working after retirement and gradual retirement* (such as part-time or project-based work).

A special mention could be *the support from families* that can be an important factor in preventing age-related problems of teachers. This includes assistance with caregiving responsibilities, support for health and wellness, and encouragement and recognition for their work.

Here are a few different views on this topic, as shared by interviewees:

"At the beginning of the year, everyone would provide what was called a desiderata (desired) timetable with their timetable preferences, and we would try to satisfy everyone. This is no longer possible, but it could have been something suitable for age management...thinking about it now. Since the Moratti reform and the reduction of the hours 'available' this has no longer been possible, also because then there is a risk of pleasing someone and displeasing someone else."

(VET High-School – Italy)

"RAV (self-evaluation report), which is a school improvement plan: we monitor everything that happens in the school every three years and, based on the results, we propose an improvement plan to the teachers. The RAV is a ministerial measure, we are obliged to do it."

(Higher Education Institute – Italy)

"…different types of mentoring: peer mentoring, buddy system, team mentoring and even reverse mentoring, in which the experience of young people is valued, but I strongly believe that classic mentoring can include all of these and can become the strongest partnership in education."

(VET high-school – Romania)

"…colleagues over the age of 65 have more possibilities to be involved in the system, based on their interest and some criteria of competitiveness and needs analysis from the employer: (1) with extension before retirement, as holders; (2) with annual employment contract after retirement, as associates; (3) with an hourly wage employment contract, after retirement, as associates."

(University – Romania)

"a training plan for teachers, with the application of new technologies, thanks to the pandemic they have had to be updated on an almost mandatory basis, and in this way offer the best to their students."

(University – Spain)

"we have constant meetings with professors of all ages" (University – Portugal)
"The environment itself. The school is doing well, we have great results, we do a lot of events, the people who work here are happy. So far I'm comfortable here and I'm enjoying it."

(Elementary art school - Czech Republic)

"They have two objectives for each year. One goal is from personal and social development (well-being, psychological problems, communication with parents, communication with a problem pupil), and the other goal is related to the teacher's training in the field - keeping up with new and modern things."

(Primary school - Czech Republic)

"There is a good relationship between the groups and each group supports the other in many ways. For instance, the more experienced teachers sometimes have problems to use technology in the classes and the younger teachers give them a hand to learn how to use the technology, applications or programs, so there is no discrimination against each other."

(High-School – Turkey)

8.5. Suggested measures

The respondents in the interviews offered a very wide range of measures that could be further implemented in terms of age management or the prevention/counteraction of age-related problems in the educational organizations of the countries involved in this study.

This indicates both the respondents' interest in the topic and their organizational perspective. This underscores why key individuals, such as directors, managers, HR staff, and department heads, were selected. These individuals possess the capability to propose solutions that can be implemented not only at an organizational level but also within the broader system.

Figure 12 shows the division of the answer categories into the 3 clusters to reflect the frequency of the responses.

- **The Critical Cluster** includes *interprofessional collaboration* and *professional training*
- **the Mezo Cluster** includes *improving & optimizing the working conditions*, *peer tutoring*, *effective and supportive work practices* and *plan of self-development activities*
- **the Wide-span Cluster** includes particular measures for certain presented contexts or specific suggestions, with reference to the specific systems of the respondents: *career redirection, mentoring programs, various ways for recognition, professional networks in the field, specific anti-burnout programs, rebuilding the teachers brand, universities to offer professionalization for age management, reduction of teaching loads, raising salaries, gradual retirements* or *outside activities to keep up the morale of the team.*

The interprofessional collaboration, which involves working together with colleagues from different subjects, was seen as the most wanted effective strategy for preventing age-related problems of teachers. We can compile some aspects related with the benefits of such initiatives:

- **shared learning**: interprofessional collaboration allows teachers to learn from each other, share ideas, and gain new perspectives on their work. This can be particularly valuable for older teachers, who may have a wealth of experience but may benefit from exposure to new ideas and approaches.
- **support for health and wellness**: interprofessional collaboration can help to promote the health and wellness of teachers, by encouraging the sharing of best practices for self-care and stress management.
- **teamwork**: interprofessional collaboration can promote a sense of teamwork and shared purpose among teachers, which can be particularly important for older teachers who may feel isolated or disconnected from the broader school community.
- **comprehensive approach**: Interprofessional collaboration can help to promote a more comprehensive and integrated approach to education, by bringing together the different perspectives and expertise of teachers from different disciplines.
- **role modelling**: Interprofessional collaboration can serve as a model for collaboration and cooperation among students, which can help to promote a positive school culture and prevent age-related problems of teachers.

By promoting shared learning, support for health and wellness, teamwork, a comprehensive approach to education, and role modelling for students, the interprofessional collaboration can help to ensure that all teachers, regardless of age, can remain engaged and motivated in their work, and continue to make a positive impact on their students and the school community.

Suggested Measures

CRITICAL CLUSTER
Interprofessional collaboration; professional training;

MEZO CLUSTER
Improving and optimizing the work conditions; peer tutoring; effective and supportive employment practices; plan of self developmental activities

WIDE-SPAN CLUSTER
Career redirection; a problem tree of possible age related problems; mentoring program; diplomas and prizes for performant teachers; anti-burnout programs; rebuilding the teacher brand; a professional network in the field (lobby and partnership); universities to offer professionalisation routes for AM; implementation of new teaching methods; reduction of the changes in the official Framework Curriculum; gradual retirements; organised outside activities to keep up the moral of the team
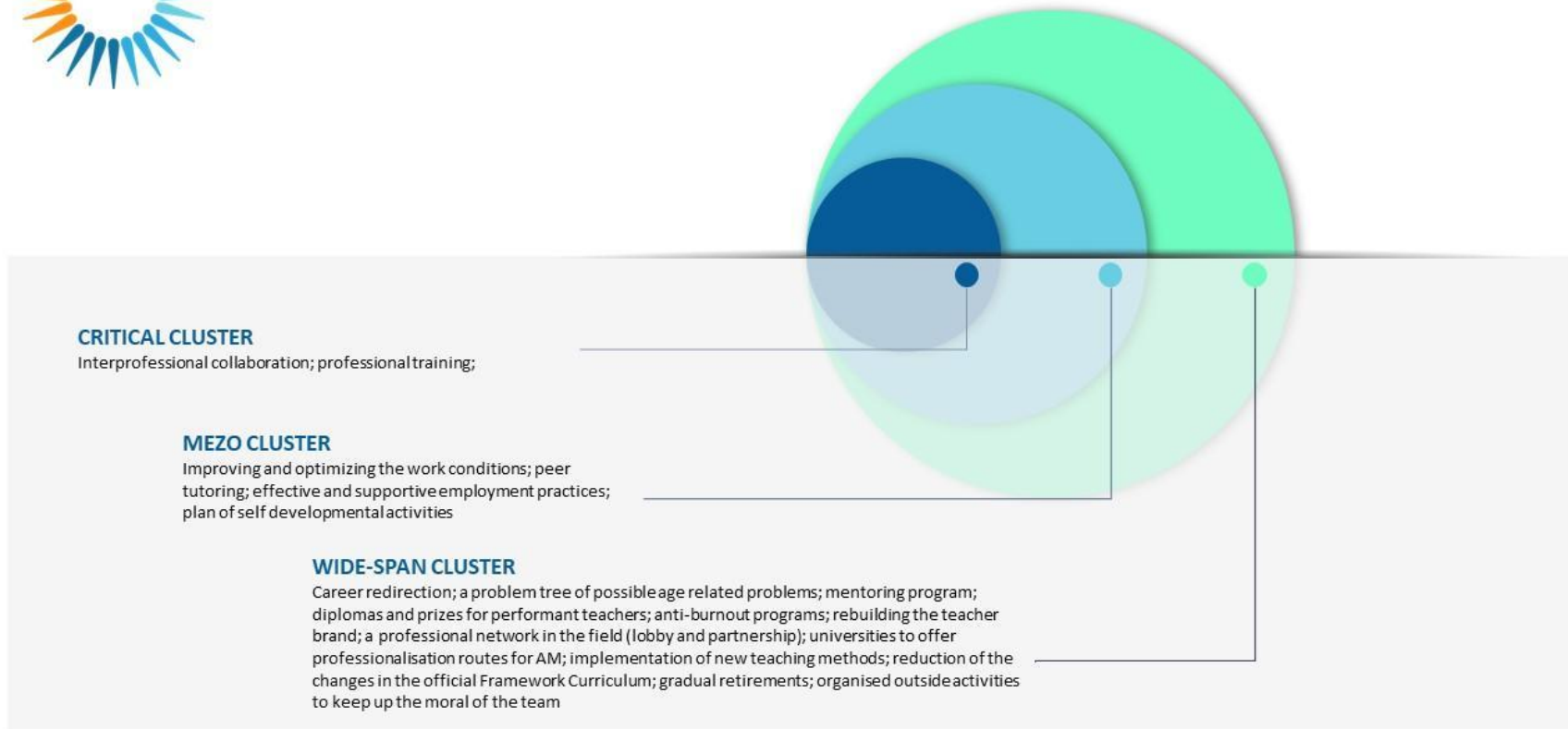
Figure 12 - Suggested measures

Professional training is both mentioned as an implemented measure and as a suggested measure, which shows us that regardless of the fact that it is found in the current practices of the majority of educational organizations studied, there is still a great need for specific professional training, especially for topics dedicated to age management. We have left in the wider cluster the specific suggestions for training regarding the prevention of burnout or well-being and mental health activities, but they also refer to this category of professional training.

It is important to note that the professional training does not refer to the training into the specialty of teaching only but mostly on the pedagogical training, the training in teaching and managing the learning of any subject.

Professional training can help older teachers stay up-to-date with the latest developments in their field, including new teaching methods, technologies, and best practices. This can help to prevent feelings of stagnation or boredom and maintain their motivation and engagement in their work by offering new challenges and opportunities for growth and development.

Professional training can offer older teachers an opportunity for career development, such as learning new skills, taking on new roles and responsibilities, or pursuing new career paths. This can help to promote a sense of purpose and meaning in their work and prevent burnout.

Professional training can be an important aspect of continuing education, which is essential for all teachers, but particularly for older teachers who may be more at risk of feeling that their skills or knowledge are outdated.

In the **Mezo Cluster**, *Improving and optimizing working conditions*, as well as *implementing effective and supportive employment practices* are external categories, referring to the intervention of the system or the management.

Improving working conditions and *implementing effective and supportive employment practices* can be an effective strategy for preventing age-related problems of teachers. Reducing stress, providing more flexible working arrangements, offering opportunities for career advancement, implementing health and wellness programs and ensuring fair and equitable treatment are specific measures that can ensure that all teachers, regardless of age, remain engaged and motivated in their work, and continue to make a positive impact on their students and the school community.

For management, promoting a culture of continuous learning and growth becomes an essential step in ensuring that all teachers, regardless of age, can remain engaged and motivated in their work, and continue to make a positive impact on their students and the school community.

The Peer tutoring and *self-developmental activities* are internal categories and address again already implemented measures, mentioned in the previous chapter.

The peer tutoring makes direct reference to the mentoring programs where older teachers can act as mentors or peer tutors for younger or less experienced teachers. This can help to keep them engaged and

motivated in their work, while also passing on their expertise and knowledge to others. Encouraging knowledge sharing among teachers, regardless of age, can help to promote collaboration and the exchange of ideas, while also preventing silos or division among teachers based on age or experience. Implementing formal mentoring programs, which pair older teachers with younger teachers, can help to provide ongoing support and guidance, while also creating opportunities for knowledge sharing and collaboration.

Implementing a plan of self-developmental activities, such as attending conferences or workshops, taking online courses, or engaging in research or writing, can help older teachers to continue learning and growing, and prevent them from feeling that their skills or knowledge are outdated.

Here are a few different views on this topic, as shared by interviewees:

"It is essential to try to create co-teaching lessons because different teachers of the same subject might have different skills and everyone would benefit from the exchange. During some of my classes I have the native speaker teacher for conversation and the aid teacher for the disabled student"
(Higher Education Institute – Italy)

"We could imagine exchanges between generations of teachers in order to provide didactic skills to those who do not have them and to update the technological skills of those who do not know them."
(Higher Education Institute – Italy)

"In my opinion, a shift in the general attitude is happening and for this issue, universities can play a leading role in developing age-consciousness at all levels."
(University – Romania)

"…the managers of educational institutions - especially academic ones - could deepen the subject of aging (in the educational sector in particular but also from a general national social point of view) and offer ways of professionalization in this subject through various information campaigns, scientific events, courses, etc."
(University – Romania)

"…introduction of very extensive courses, in which the teacher chooses which one he wishes to do, according to his needs."
(University – Spain)

"…to develop measures that will allow us to train new skills among older educators as well as to provide them with training related to new technologies and the new reality."
(Kindergarten – Portugal)

"Self-education and working with yourself physically is a challenge for everyone."
(Private School - Czech Republic)

"I can envision a plan that specifies how and the total time per year a teacher should devote to recovery, recuperation, exercise, and rest. And this plan should be long-term and regular."
(Kindergarten - Czech Republic)

"Age-related physical problems should be prioritized more and the attrition rate should be considered."
(Kindergarten – Turkey)

"…my main focus is on making the teachers and staff feel that they are part of the school."
(Primary school - Czech Republic)

"Because a correct measure would have been to accept the remaining in job until 70 years old, upon request, with the agreement of the employer, agreement based on performance criteria. These performance criteria can be established based on the needs and the performance and could permit the selection of the best persons to be retained."
(University – Romania)

8.6.   Monitoring

Our respondents were also asked about the methods of monitoring age management measures or aspects related to the condition of teachers, the problems they face or feedback from relevant stakeholders.

The results highlighted some methods used with a higher frequency, some methods with medium frequency and several aspects that describe specific situations or unique methods of monitoring/evaluation of teachers.

Therefore,

- in the **Critical Cluster** we can find: *non-formal methods, analysis of the community's perception of the school/teachers* and *self-evaluation*
- in the **Mezo Cluster** we can find: *interviews & semi-structured interviews, performance criteria in deciding for retirement, financial bonuses* and *training course with final assessments*
- in the **Wide-span Cluster** we can include: *evaluations of the specific programs, updated follow-ups, in-service teachers' development plans, supervision observations, surveys for retired, reports, specific tests or monitoring statistics.*

For teachers, some examples of *non-formal methods of monitoring* age management include:

- **Reflection**: Teachers can reflect on their own experiences and observations to assess their physical, mental, and emotional well-being. This includes taking time to think about how they are feeling, what is causing stress or challenges, and what they can do to take care of themselves.
- **Peer support**: Teachers can seek support and feedback from colleagues, friends, or family members. Talking with others about their experiences and challenges helps teachers feel less isolated and more connected to a supportive community.
- **Professional development**: Attending professional development workshops or conferences can help teachers stay up-to-date on new strategies and techniques for managing stress, improving physical health, and enhancing emotional well-being.

Monitoring of Measures

CRITICAL CLUSTER
Non-formal methods; analysis of the community's perception of
the school/teacher; self-evaluation;

MEZO CLUSTER
Interviews and semi-structured interviews; performance
criteria in deciding for retirement; financial bonuses;
training courses with final assessment;

WIDE-SPAN CLUSTER
Evaluation of the specific programs; updated follow-up; in-service teacher development plan;
supervision observations; survey for the retired persons; a report; Invalsi test for students;
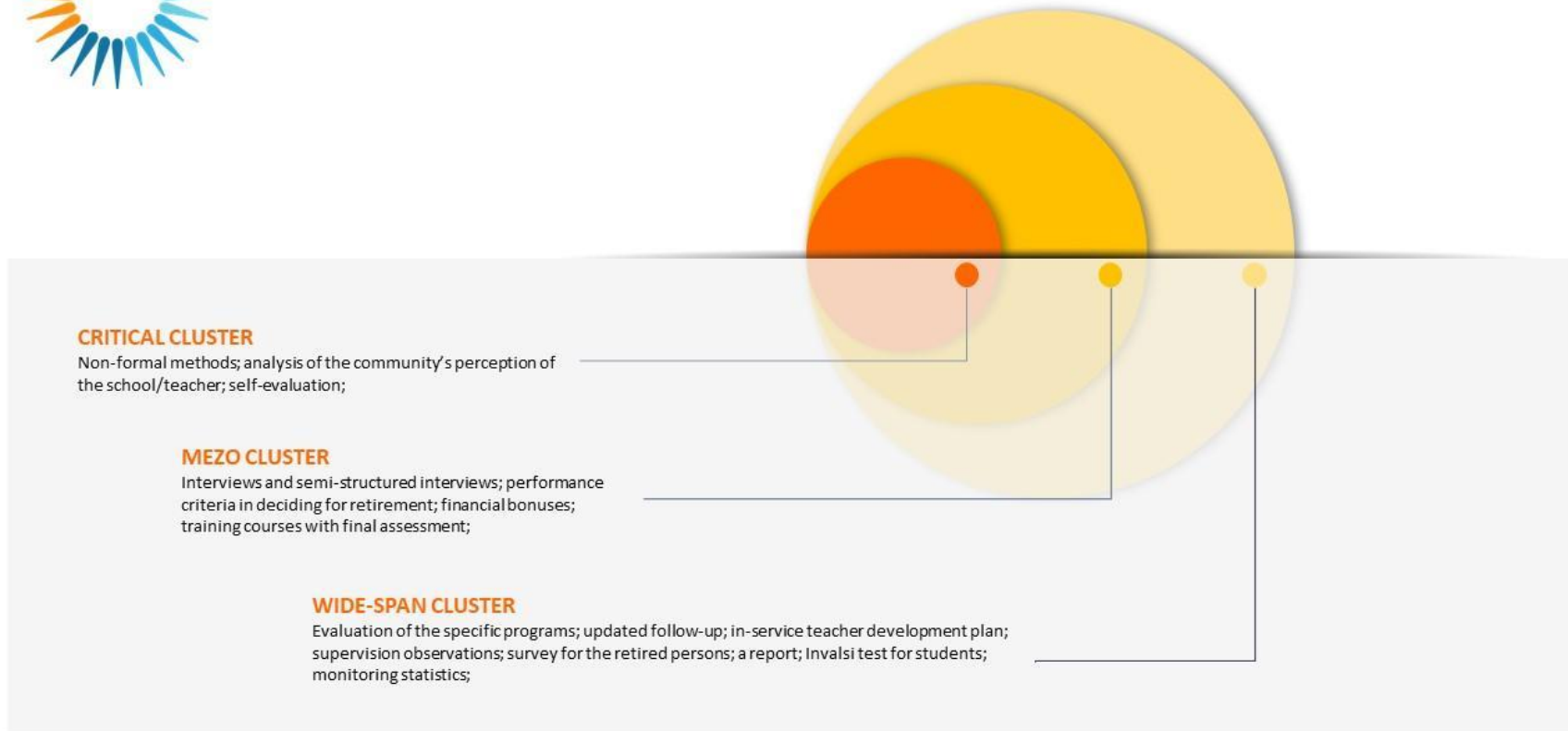monitoring statistics;

Figure 13 - Monitoring of measures

- **Mindfulness practices**: Teachers can incorporate mindfulness practices such as meditation, yoga, or breathing exercises into their daily routine to help manage stress, reduce anxiety, and improve overall well-being.
- **Journaling**: Keeping a journal can help teachers reflect on their experiences, track progress, and identify areas for improvement. Writing down thoughts and feelings helps teachers gain clarity and insight into their own health and well-being.

Non-formal methods of monitoring age management are useful ways for teachers to assess their physical, mental, and emotional well-being, and make positive changes to improve their overall health and quality of life.

Analysing the community perception of teachers as a method for age management can provide valuable insights into the overall health and well-being of the teaching population and identify areas where support and resources are needed. To assess community perception of teachers, it's important to identify key stakeholders such as parents, students, other teachers, school administrators, and community members. Surveys or focus groups can be used to gather feedback from key stakeholders about their perception of the health and well-being of teachers. Questions can be asked about a variety of topics such as stress levels, physical health, emotional well-being, and work-life balance.

Once feedback has been gathered, it's important to analyse the results to identify patterns or themes that emerge. This can include looking for common issues that teachers are facing, as well as areas where additional resources or support may be needed. Based on the feedback gathered, it's important to take action to address any issues or concerns that are identified. This can include providing additional resources for managing stress or improving physical health, offering professional development opportunities for improving emotional well-being, or implementing policies that support work-life balance.

By analysing the community perception of teachers as a method for age management, schools and districts can gain a better understanding of the health and well-being of their teaching population, and take proactive steps to support teachers in maintaining their health and quality of life as they age.

Self-evaluation is an important tool for monitoring age management, as it allows individuals to assess their physical, mental, and emotional well-being and identify areas where they may need to make changes to maintain or improve their health and quality of life as they age. Some of the key elements for any self-evaluation process include:

- **establishing a baseline for health and wellness** to function as a point of reference for comparison while aging. This can include things like tracking weight, blood pressure, cholesterol levels and other key health indicators.
- **monitoring changes** in order to identify areas where making adjustments to the lifestyle are needed. This can include changes in physical abilities, cognitive function, and emotional well-being. By tracking these changes, teachers and others can increase physical activity, modify their diet or seek medical treatment.

- **setting goals** for health and wellness can be a powerful tool for maintaining or improving the quality of life while aging. These goals can be related to physical fitness, cognitive function, emotional well-being, or other areas of life.
- **seeking support** from family, friends, or healthcare professionals as needed. This can include getting regular check-ups, consulting with a nutritionist or personal trainer, or participating in support groups or community programs for older adults.

From **the Mezo Cluster**, we will focus our attention to the *performance criteria that can be considered when deciding retirement*. Some respondents mentioned the fact that different systems do not have well-established criteria for determining the moment of retirement. This aspect has a significant importance at the systemic level, including at the European level: the need to raise the retirement age is being discussed throughout Europe and in many countries this topic is controversial, generating a lot of tension between governments and unions. A solution for this situation can be considered from the point of view of the performance criteria for establishing the moment of retirement.

Performance criteria can include factors such as health, job satisfaction, productivity, and individual preferences. By using these criteria, policymakers and individuals can determine when an individual is capable of retiring based on their physical and mental well-being, job satisfaction, and ability to contribute to the workforce. Retirement should be a well-informed decision that takes into account the needs of both the individual and the organization they work for.

This approach can help reduce tensions between governments and unions by taking into account individual needs and preferences. Additionally, it can help create a more flexible retirement system that enables individuals to continue working in roles that suit their skills and preferences.

The discussion on raising the retirement age in the educational sector is a complex issue that requires careful consideration of various factors. While there are potential benefits to retaining experienced and skilled professionals, it is important to also consider the potential drawbacks and ensure that any changes are sustainable and beneficial for both individuals and society as a whole.

From the **Wide-span Cluster** of monitoring approaches, we will focus on the *importance of the specific statistics* for monitoring age management for teachers, mentioned in the interviews. These statistics can be used to assess the effectiveness of policies and practices related to the aging workforce in the educational sector and may include: age distribution of teachers, retirement rates, re-employment rates, training and development, health and well-being, job satisfaction. By tracking these statistics, policymakers and educational institutions can develop evidence-based age management strategies and monitor their effectiveness over time. This can help ensure that the educational sector is able to attract, retain, and develop a skilled and diverse workforce, while also promoting the well-being and productivity of teachers of all ages.

Here are a few different views on this topic, as shared by interviewees:

"Monitoring is always ongoing because the re-alignment path is continuous. The first monitoring activity we did was through a semi-structured interview and working on the results of this interview allowed us to see in general what people were satisfied with this path taken."

(Public Office – Italy)

"by taking course supervision observations and teacher feedbacks"

(Primary School – Turkey)

"a survey was carried out in Google Forms"

(Kindergarten – Spain

"Monitoring meetings can be organised."

(Higher Education Institute – Italy)

"observing/monitoring colleagues"

(Kindergarten – Romania)

"Constant monitoring of motivation, development of management policies for mature staff, creation of a support network for the sense of inadequacy deriving from the judgment of unsuitability. Worker morale must be a focal point for the success of a job: an unsatisfied worker will not work well"

(Public Office – Italy)

" the satisfaction questionnaires addressed to the parents of the children we work with show that the parents are satisfied with what is done here, and this is the best evaluation we could receive "

(Kindergarten – Romania)

" Evaluation of the mentoring program at the end the first semester and the end of the school year provide the necessary information for the assessment and improving mentoring practices "

(VET high-school – Romania)

"These performance criteria can be established based on the needs and the performance and could permit the selection of the best persons to be retained."

(University – Romania)

"RAV (self-evaluation report), which is a school improvement plan: we monitor everything that happens in the school every three years and, based on the results, we propose an improvement plan to the teachers. The RAV is a ministerial measure, we are obliged to do it."

(Higher Education Institute – Italy)

"…regular meetings here with all teachers, especially after a stressful day, where they are engaging socially with colleagues. In talking they might get ideas about how to respond next time or simply some positive acknowledgment that things will be okay. These meetings are non-formal and sometimes I join too, sometimes I let the teachers be among themselves only."

(Kindergarten – Romania)

"We have to do a questionnaire related to school welfare and so that's where the different age-related issues come up."
(VET High-School – Italy)

"a satisfaction survey for the person who is going to take early retirement or gradual retirement"
(University – Spain)

"They also improve their competence, for example, through peer visits; if someone returns from training, they prepare information and lessons learned for their colleagues."
(Primary school - Czech Republic)

"Peer tutoring works with students and so it can also work very well between teachers"
(Higher Education Institute – Italy)

"…different types of mentoring: peer mentoring, buddy system, team mentoring and even reverse mentoring, in which the experience of young people is valued, but I strongly believe that classic mentoring can include all of these and can become the strongest partnership in education."
(VET high-school – Romania)

8.7. Advantages

The respondents mentioned several advantages of the measures and initiatives related to age management. According to the adopted model, we divided these advantages into 3 categories:

- in **Critical Cluster** we can find *continuous learning and development, active ageing* and *reflective practices & knowledge transfer*

- in **Mezo Cluster** we have: *bond with students and organisations, stimulation of intergenerational dialogue, better quality of life, increased institutional culture, growth of self-esteem for the older teachers, loyalty & retention, develop greater motivation, increase the quality of education* and *economic advantages.*

- and in the **Wide-span Cluster** we have: *increased productivity, capitalizing seniors' experience and expertise, increasing the attractiveness of the teaching profession, anticipating possible problems, more dynamic classes, increased physical fitness, application of new methods, enabling having teachers with higher qualification.*

Continuous learning and development are an important advantages of age management for teachers. We can detail the following main aspects included in this advantage:

● **keeping up with new teaching methods and technologies**: As new teaching methods and technologies emerge, it's important for teachers to stay up-to-date and adapt to new approaches in the classroom. Age management can provide opportunities for ongoing training and development to help teachers stay current and effective in their roles.

- **enhancing subject matter knowledge**: Ongoing learning and development can also help teachers deepen their subject matter knowledge and expertise, which can lead to more effective instruction and better student outcomes.
- **preparing for leadership and mentoring roles**: Age management can help to prepare experienced teachers for leadership and mentoring roles, such as serving as department heads, curriculum coordinators, or mentor teachers. These roles can provide opportunities for career growth and can also contribute to a stronger and more effective teaching team.
- **boosting teacher confidence and job satisfaction**: Ongoing learning and development can also help to boost teacher morale and job satisfaction by providing opportunities for personal and professional growth. When teachers feel supported and challenged, they are more likely to feel engaged and committed to their work.
- **attracting and retaining high-quality teachers**: By offering ongoing learning and development opportunities, schools and education institutions can attract and retain high-quality teachers who are committed to continuous improvement and growth. This aspect is mentioned separately in the wider cluster.

Active aging is another important advantage of age management for teachers. Active aging refers to the process of optimizing opportunities for health, participation, and security in order to enhance quality of life as people age. Mentioned reasons for which active aging is an important advantage of age management for teachers include:

- **improving physical and mental health**: Age management strategies always include initiatives to promote physical activity, healthy eating, and stress reduction, which can help to improve teachers' physical and mental health. This leads to increased energy, better mood, and better overall quality of life.
- **enhancing work-life balance**: Age management strategies also include initiatives to promote work-life balance, such as flexible work arrangements or reduced workloads. This can help teachers to better manage their time and responsibilities, and to maintain a healthy balance between work and personal life.
- **providing opportunities for social engagement**: Age management provides opportunities for teachers to remain socially engaged, through initiatives such as mentoring, volunteering, or participating in community activities. Social engagement is important for mental and emotional well-being, and helps teachers to remain connected to their colleagues and communities.
- **supporting lifelong learning**: Age management provides opportunities for lifelong learning, which can help to keep teachers engaged and stimulated. By providing opportunities for professional development and career growth, age management can help to ensure that teachers continue to learn and grow throughout their careers.
- **encouraging positive attitudes towards aging**: Age management helps to promote positive attitudes towards aging, both among teachers and within the broader community. This can help to reduce age-related stereotypes and discrimination and to create a more inclusive and supportive environment for older adults.
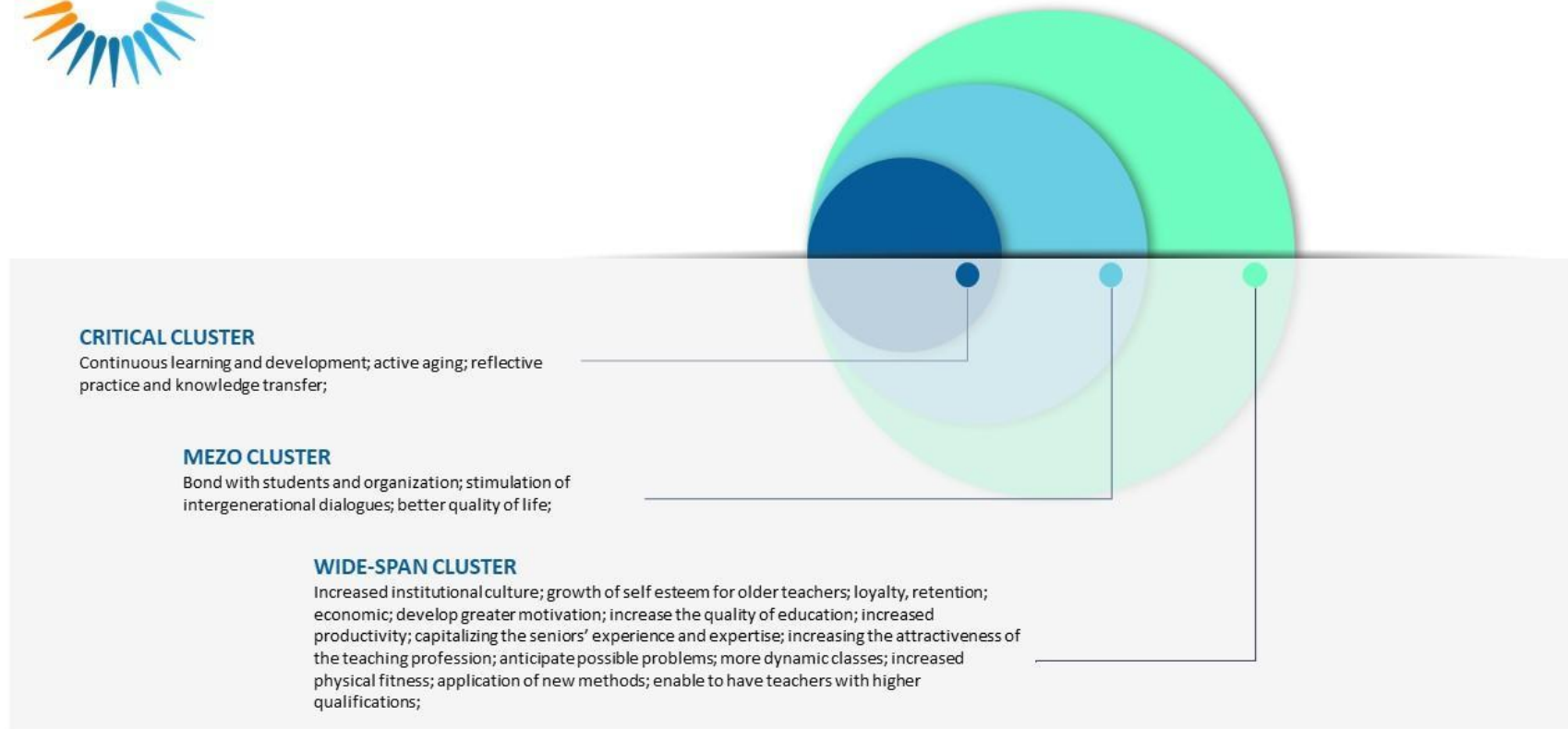
Figure 14 - Advantages

Reflective practices and knowledge transfer are considered also important advantages of age management for teachers. They can help teachers to learn from their experiences and to continually improve their teaching practice. By reflecting on their teaching methods and outcomes, teachers can identify areas for improvement and develop new strategies to support student learning. Age management can provide opportunities for experienced teachers to share their knowledge and experience with less experienced colleagues. This can help to support knowledge transfer within the teaching team, and can also help to ensure that valuable insights and approaches are not lost as teachers retire or leave the profession.

Knowledge transfer can also help to support succession planning, by ensuring that there is a smooth transition of knowledge and expertise from one generation of teachers to the next. This can help to maintain institutional knowledge and can also help to ensure that teaching quality remains consistent over time.

Reflective practices and knowledge transfer can also help to promote collaboration and teamwork within the teaching team. By sharing ideas and approaches, teachers can work together to develop more effective teaching strategies and to support each other in their professional growth.

From the **Mezo Cluster**, we focus on *Developing strong bonds with students and the organization* as an important advantage of age management for teachers. Teachers who have been in the profession for a long time have had the opportunity to build strong relationships with their students. This can help to create a positive learning environment, where students feel comfortable and supported, and are more likely to engage in learning. Teachers who have been with an organization for a long time have also a deep understanding of the school culture and values. This can help them to effectively communicate these values to their students and to support the overall mission and goals of the organization. Experienced teachers have had the opportunity to work with a wide range of students with different learning styles and needs. This can help them to better understand the needs of their current students and to adapt their teaching strategies accordingly. By providing a stable and consistent presence, teachers can help to create a sense of safety and security for their students.

Building trust and rapport, understanding student needs, supporting school culture, providing continuity, and mentoring new teachers, experienced teachers can make a significant contribution to the success and effectiveness of the teaching team and the organization as a whole.

Stimulating intergenerational dialogue is another important advantage of age management for teachers, by encouraging diversity, facilitating knowledge transfer, promoting understanding and respect, encouraging professional growth, and enhancing the learning experience.

As we mentioned earlier, experienced teachers can provide valuable knowledge and experience to new teachers, helping to ensure that teaching quality remains consistent over time. In addition, younger teachers can bring new ideas and approaches to the team, which can help to keep teaching practice fresh and up-to-date. When teachers from different generations work together, they can create a more dynamic and engaging learning experience for their students. By collaborating on projects and sharing their experiences and perspectives, teachers can create a rich and diverse learning environment that can help to prepare students for the challenges of the future.

Age management can help to encourage diversity within the teaching team by promoting the integration of different generations. This can help to ensure that a range of perspectives and experiences are represented, which can lead to more creative and innovative teaching strategies.

Age management can contribute to *better quality of life for teachers* by reducing stress and burnout, supporting career progression, improving the work environment, enhancing job security, and building social connections. By promoting a healthy and supportive work environment, age management can help to ensure that teachers are able to continue to make a positive contribution to the education system over the long term.

From the **Wide-span Cluster**, we would like to make some comments related to *the increasing* attractiveness of the teaching profession. Many of the respondents mentioned this as a problem facing educational systems, especially in recent years. When researching this issue, we found out that indeed, the attractiveness of the teaching profession has been dropping in some European countries. In Germany, for example, the number of students enrolled in teacher training programs has declined by more than 20% since 2010, according to data from the German Federal Statistical Office. In many European countries, teachers are paid less than other professionals with similar levels of education. According to Eurostat data, in 2019, the average monthly salary of a primary school teacher in the European Union was €2,971, compared to an average salary of €3,901 for all professions. Many European teachers report high levels of stress and workload. According to a 2018 survey by the European Trade Union Committee for Education, 77% of European teachers reported feeling stressed by their job, while 70% reported working more than 45 hours per week. In some countries, there are limited opportunities for career progression within the teaching profession. This can make the profession less attractive to young professionals who are seeking opportunities for advancement. In some countries, teachers report feeling that they have limited autonomy in their work and are not respected by society. This can make the profession less attractive to young professionals who are seeking meaningful and respected careers.

These factors can have a negative impact on the attractiveness of the teaching profession, particularly for young professionals who are considering entering the field. Age management policies and practices can have a positive impact on the attractiveness of the teaching profession by promoting career development, work-life balance, flexible work arrangements, health and wellness support, and recognition and respect for teachers of all ages.

Here are a few different views on this topic, as shared by interviewees:

"My colleagues and I do not see them as old teachers, but as experienced teachers, and therefore we see them as an advantage rather than a problem."
(Primary school – Turkey)

"It can also be an advantage for the department, especially economic."
(University – Spain)

"Sometimes, older teachers shoot the younger ones down as well, though. Putting a motion on campaigning to end age discrimination at schools will be one of the biggest advantages to establish peace between the teachers and secure success."
(High-School – Turkey)

"This has become a practice that greatly facilitates the work of schools because it allows us to make the best use of the few resources we have. By creating networks, the few resources become sufficient to provide a service."
(VET High-School – Italy)

"…the enhancement and re-enhancement of the personnel involved"
(Public Office – Italy)

"Enhancement of generational differences, promotion of intergenerational dialogue, enhancement of diversity as an innovation factor and improvement of the corporate climate. The work and personal experience of the worker was treated as strength and not weakness within the path. This allowed us to enhance the skills already acquired and to discover new ones going forward with the path and with the new job."
(Public Office – Italy)

"…reflective practice as an opportunity for deepening and renewal of the act of teaching-learning-evaluation through own reflections on his activity"
(VET high-school – Romania)

"…the experienced teachers are getting more qualified and, implicitly, growth "self-esteem" and professional satisfaction"
(VET high-school – Romania)

"…older staff can draw on their life experience and offer students careers and pastoral advice that younger staff might not be able to."
(University – Romania)

"Valuing seniors, capitalizing on their experience and expertise, strengthening their position"
(Counselling Centre – Romania)

"the years of experience and the ability to learn play in his favour"
(VET High-school – Spain)

"there are many people aged 60 and over 60 who are extraordinarily and new to innovative and open to capturing new ways of being in a classroom context and in fact are an inspiration for students"
(High School – Portugal)

"…the harmonious environment and peace in the workplace."
(Primary school - Czech Republic)

"Having colleagues in contact with each other makes the relationship between the school administration and teachers more transparent"
(Primary school – Turkey)

"There is a good relationship between the groups and each group supports the other in many ways. For instance, the more experienced teachers sometimes have problems to use technology in the classes and the younger teachers give them a hand to learn how to use the technology, applications or programs, so there is no discrimination against each other."
(High-School – Turkey)

"…experienced older teachers have definitely skill set that only comes with having taught hundreds of classes."
(High-School – Turkey)

8.8. Disadvantages

The respondents also identified some significant disadvantages of age management measures.

In the collected data, we noticed a *greater homogeneity of the answers*, which is concentrated on **a single important disadvantage**, mentioned in many interviews, followed by several other identified disadvantages that refer to particular, situational contexts at the organizational level.

The **Critical Cluster** includes, in this case, the biggest reported disadvantage of age management measures for teachers is the *cost*. *Implementing age management strategies can require a significant investment of time and money*. For example, providing training and professional development opportunities for teachers can be expensive, as can providing additional support and resources for teachers who are transitioning to retirement.

However, it's important to note that while there may be an upfront cost associated with age management, the long-term benefits can outweigh these costs. By investing in age management strategies, schools and educational institutions can ensure that they are able to retain experienced teachers who can continue to provide high-quality education to students. This can lead to better educational outcomes, which can have positive effects on both the students and the wider community.

In addition, implementing age management measures can help to reduce costs associated with staff turnover and recruitment. When experienced teachers retire or leave the profession, schools may be faced with the cost of recruiting and training new teachers to replace them. By retaining experienced teachers and providing them with the support they need to continue working, schools can save money in the long run.

Furthermore, age management measures can also contribute to a positive workplace culture, which can lead to increased productivity and job satisfaction among teachers. When teachers feel valued and supported, they are more likely to be motivated to do their best work, which can benefit both themselves and their students.

Disadvantages

CRITICAL CLUSTER
High investment of time and money;

MEZO CLUSTER
Lack of determination to keep learning/to change; measures dependent on the system (public policy); loss of qualified personnel; an open attitude between both sides in necessary; mentors need specific training;

WIDE-SPAN CLUSTER
Locking down high positions for more years; need for talent and availability on the part of the trainer; risk of keeping inefficient seniors in the system; sometimes may disrupt other activities; once the team in functioning, it is hard to insert someone new; need for constant practice; lack of a standard for solving problems;
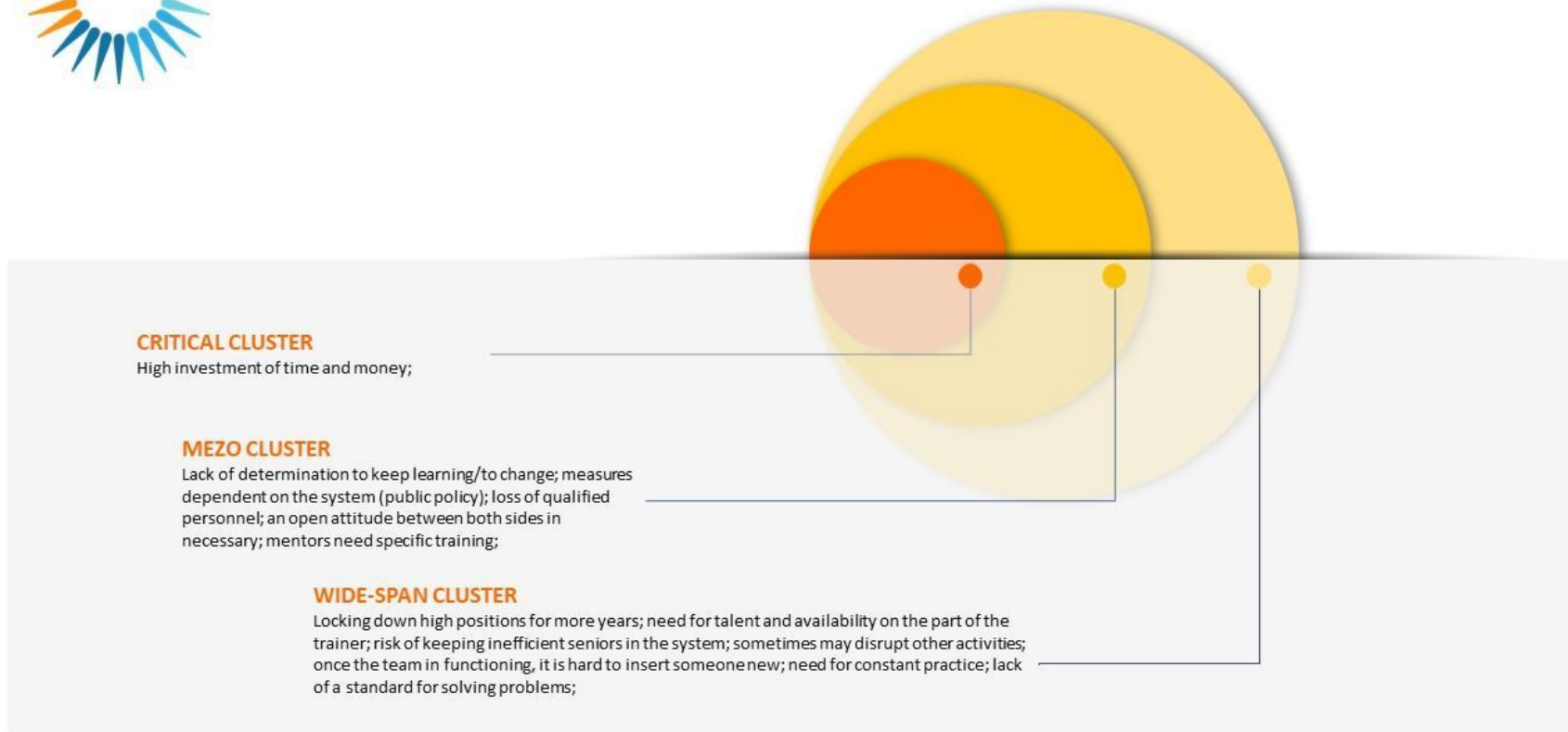
Figure 15 - Disadvantages

The **Mezo Cluster** includes: lack of determination to keep learning/to change, measures depend on the system (public policies), open attitudes between both sides and mentors need specific training.

In this cluster, a significant disadvantage of age management for teachers is *a lack of determination to keep learning or to change*. As teachers age, they may become set in their ways and resistant to change. This can make it difficult to implement new technologies, teaching methods, or curricula, which can be detrimental to students.

In addition, if teachers are not willing to engage in continuous learning and development, they may struggle to keep up with new developments in their field. This can lead to a knowledge gap and a decline in the quality of education that they are able to provide to students.

However, it's important to note that this is not necessarily an inherent disadvantage of age management, but rather a challenge that needs to be addressed through effective implementation of age management measures. For example, providing professional development opportunities that are tailored to the needs and interests of older teachers can help to keep them engaged and motivated to learn. Creating a culture of continuous learning and improvement can also help to encourage older teachers to stay up-to-date with new developments in their field. It's important to recognize that not all older teachers will be resistant to change or lack a willingness to learn. Many older teachers are highly motivated and committed to their profession, and are eager to continue learning and improving throughout their careers.

The effectiveness of age management measures can be impacted by *public policies*. For example, if government funding for age management programs is inadequate or if public policies do not prioritize age management, it may be more difficult for schools and educational institutions to implement effective age management measures. In many cases, public policies can be a positive force for age management, providing support and resources to schools and educational institutions to help them retain and support older teachers. For example, governments may provide funding for professional development opportunities or for programs that help teachers transition to retirement. In addition, public policies can help to create a supportive environment for age management by promoting awareness of the importance of retaining and supporting older teachers.

The **Wide-span Cluster** includes more specific and contextual disadvantages related either to the specific career momentum or to the represented organization. This cluster includes: *talent and availability of trainers is needed, risk of keeping inefficient seniors in the system, locking down high positions for more years (in academic system), disruption of other activities, difficult integration of new people, need for constant practice, lack of a standard for solving problems.*

The interviews also revealed that **the issue of age management in schools is often overlooked or ignored**, particularly in comparison to other issues facing the education sector.

One reason why age management issues are overlooked in schools is that there is often a focus on attracting new teachers to the profession, rather than retaining experienced teachers. We consider that retaining

experienced teachers is critical to maintaining the quality of education and ensuring that students receive the support and guidance they need to succeed.

Another reason why age management issues are ignored is that there may be a lack of awareness about the impact of aging on teachers and the teaching profession. For example, older teachers may face health issues or caregiving responsibilities that impact their ability to work full-time, and may require more support to continue working.

It is important for schools and education policymakers to prioritize age management issues and take steps to address them. This can include implementing policies and practices that support older teachers to continue working, such as flexible work arrangements, opportunities for professional development, and health and wellness support. By doing so, schools can ensure that the teaching profession remains sustainable and effective, and that students continue to receive the best possible education.

Here are some relevant quotes, as shared by interviewees:

"…closing down positions, and this will happen especially in the top leadership decision-making and decision-influencing positions, positions occupied by those who are at the end of their careers."
(University – Romania)

"…how to finance such activities, as they are not cheap. We cannot do it from fees (tuition fees) and budget contributions."
(Kindergarten - Czech Republic)

"…it can also lead to mistakes where they do not master the problem of the time and generation."
(Primary School – Turkey)

"…keeping inefficient seniors in the system"
(Counselling Centre – Romania)

"…the economic question"
(Elementary school – Italy)

"It can also be a big disadvantage for the department, especially economic."
(University – Spain)

"…the turnover in education is huge, and investing in people who won't be here in two years is not logical."
(Primary school - Czech Republic)

"There is no real policy for the management of employees with reference to age in the field of education"
(VET High-School – Italy)

"Young people are made to wait longer to access a university career and the economic benefits are only apparent. In the context where in practice non-performance is not sanctioned, such a policy can only prolong

it."
(University – Romania)

"Being stuck in the past."
(Private School - Czech Republic)

"Learning new things and changing your perspective take time and the process is full of pain in the beginning."
(High-School – Turkey)

"New teaching strategies and methodologies are very often linked to the computer aspect, to the use of information technology, which is lacking in colleagues, sometimes in their fifties or sixties. But in my opinion, it is not only training that is lacking, but also the willingness to make a commitment to increase, as if this were somehow struggling"
(Elementary school – Italy)

9. Conclusions

From an educational point of view, the age of teachers is an important variable in ensuring a quality teaching and learning environment. The age of teachers can have both positive and negative impacts on the quality of teaching and learning. Some potential positive impacts of an aging teaching workforce may include their years of experience and wisdom, as well as their ability to mentor and guide younger teachers. However, some potential negative impacts of an aging teaching workforce may include difficulties in keeping up with changing technologies and teaching methods, reduced energy levels, and increased risk of health problems that could lead to absenteeism or retirement. It is important for educational policymakers and administrators to consider these potential impacts and to develop strategies for managing the age composition of their teaching workforce.

Based on the main results of this study, we propose a **possible SWOT analysis for age management** for teachers:

Strengths:

- Experienced teachers bring a wealth of knowledge, wisdom, and professional expertise to the classroom
- Senior teachers often serve as mentors for new or younger teachers, providing guidance and support
- Older teachers have developed strong relationships with students, parents, and the community over time
- Experienced teachers are often seen as valuable assets by schools and districts, and may be compensated accordingly
- Age management programs can help retain experienced teachers who may be considering retirement.

Weaknesses:

- Older teachers may struggle to adapt to new teaching technologies, methods, or curricula
- Senior teachers may be less willing or able to take on additional workloads or responsibilities, such as coaching or supporting extracurricular activities
- Older teachers may be more prone to health issues or physical limitations that could affect their ability to perform certain job duties
- Age management programs can be costly to implement and maintain.
- Age discrimination may occur, where older teachers may be perceived as less capable or valuable than younger teachers.

Opportunities:

- Schools and educational communities can offer training and support for older teachers to help them keep up with new technologies, methods, or curricula
- Experienced teachers can be utilized as mentors or trainers for new or younger teachers, helping to improve overall teacher quality and retention

- Schools and educational communities can offer flexible scheduling and work arrangements for older teachers who may need to reduce their workload or take on different roles as they approach retirement
- Retaining experienced teachers through age management programs can help maintain a stable and knowledgeable teaching staff.
- Age management programs can help identify and address age-related health issues, such as ergonomic adjustments in the classroom or opportunities for physical activity.

Threats:

- Aging populations in many countries may put a strain on the education workforce, leading to shortages of qualified teachers
- Schools may face budget constraints that limit their ability to implement age management programs.
- Schools and districts may be forced to make budget cuts or reduce the number of teaching positions, which could disproportionately affect older teachers
- The COVID-19 pandemic has created new challenges and uncertainties for teachers of all ages, and may exacerbate existing age-related concerns such as health and safety risks
- Unemployment issues that may be linked with bad age management measures or economical/social crisis

It is important to recognize the value that experienced teachers bring to the classroom and the benefits of retaining them through age management programs. Schools should develop strategies that promote the continued professional development of older teachers and provide opportunities for them to mentor younger teachers. In addressing the weaknesses and threats of age management programs, schools should take steps to ensure that age management programs are cost-effective and that they do not discriminate against older teachers. There are opportunities to identify and address age-related health issues in the classroom, which can benefit both older teachers and their students. This may involve making ergonomic adjustments to the classroom or providing opportunities for physical activity and exercise.

Final notes

Having a diverse range of teachers in terms of age and experience can offer unique benefits to students. For example, younger teachers may bring a fresh perspective and be more familiar with modern teaching technologies, while older teachers may have more experience and wisdom to share. A mix of different ages can also help ensure that there is a good balance of enthusiasm and stability in the teaching staff. However, as we discussed earlier, the aging of the teaching workforce can address challenges, particularly if there are not enough new teachers entering the profession to replace those who are retiring.

Each age category of teachers has its unique strengths and weaknesses, and a diverse mix of teachers of different ages can bring valuable perspectives and skills to the learning environment. However, it is also important to note that age alone is not necessarily an indicator of teaching quality or effectiveness, and other factors such as training, motivation, and support can also play important roles in determining the quality of the learning environment.

10.   Definitions and terms of reference

Age management is a comprehensive approach to optimizing the health and well-being of individuals as they age, with a focus on maintaining their physical and mental abilities, and overall quality of life. It involves a range of strategies and interventions that address the challenges of aging and promote healthy aging.

Some common definitions and terms of reference used in the context of age management include:

Active aging: The process of optimizing opportunities for health, participation, and security to enhance the quality of life as people age. Active aging involves taking an active approach to maintaining physical, mental, and social well-being.

Health span: The period of a person's life during which they are healthy and free from serious disease or disability. Health span is a key focus of age management, with the goal of extending the period of time that a person remains healthy and active.

Longevity: The length of time that a person lives. Age management aims to optimize longevity by promoting healthy lifestyle habits, reducing the risk of disease, and addressing age-related health issues.

Age-related health issues: Health issues that are more common among older individuals, such as arthritis, osteoporosis, and cognitive decline. Age management strategies aim to address these issues through preventive measures and early intervention.

Retirement planning: The process of preparing for retirement, including financial planning, lifestyle planning, and social planning. Age management may include retirement planning as a way to help individuals prepare for and transition into retirement.

Geriatrics: The branch of medicine that focuses on the health and care of older adults. Geriatric specialists are trained to identify and address the unique health needs of older individuals and may play a key role in age management.

Ageism: Prejudice or discrimination against individuals based on their age. Ageism can be a significant barrier to effective age management, as it may lead to negative stereotypes or assumptions about older individuals and limit opportunities for healthy aging.

Social engagement: The process of participating in social activities and maintaining connections with others. Social engagement is an important aspect of age management, as it has been linked to improved mental health and well-being among older adults.

Multidisciplinary approach: A comprehensive approach that involves multiple disciplines or fields of study working together to address a common problem or challenge. Age management often involves a multidisciplinary approach, bringing together experts in geriatrics, nutrition, physical therapy, and other fields to address the various aspects of healthy aging.

Prevention: The process of taking steps to prevent or reduce the risk of disease or health issues. Age management often involves a preventive approach, including measures such as healthy lifestyle habits, regular check-ups, and screenings to identify and address health issues before they become more serious.

Functional capacity: The ability of an individual to perform the activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Functional capacity is a key focus of age management, as maintaining or improving an individual's ability to perform these activities can help to promote independence and quality of life.

Resilience: The ability of an individual to adapt and cope with stress or challenges. Resilience is an important aspect of age management, as older adults may face a range of challenges such as health issues, loss of loved ones, or changes in living situation.

Cognitive training: Exercises or activities that are designed to improve cognitive function, such as memory, attention, and problem-solving. Cognitive training may be a component of age management, as maintaining cognitive function is important for overall quality of life.

Telehealth: The use of technology to deliver healthcare services remotely. Telehealth may be a useful tool for age management, as it can allow older adults to access healthcare services from the comfort of their own homes, reducing the need for travel and potentially improving access to care.

Age-friendly community: A community that is designed to be accessible and supportive for older adults, with features such as safe sidewalks, public transportation, and community centres. Age-friendly communities may be an important aspect of age management, as they can help to promote social engagement, physical activity, and overall quality of life for older adults.

Functional decline: A gradual or sudden loss of physical or mental function that can occur with aging or due to other factors such as illness or injury. Age management may involve strategies to prevent or delay functional decline, as maintaining physical and mental function is important for overall health and quality of life.

Polypharmacy: The use of multiple medications by an individual to manage one or more health conditions. Polypharmacy is a common issue among older adults and can lead to adverse effects or drug interactions. Age management may involve strategies to reduce unnecessary medications and promote safe and effective medication use.

Palliative care: A specialized type of medical care that focuses on managing symptoms and providing comfort to individuals with serious illnesses or end-of-life care needs. Palliative care may be an important aspect of age management for older adults with chronic or serious health issues.

Frailty: A condition characterized by reduced physical function, increased vulnerability to stressors, and an increased risk of adverse health outcomes. Frailty is a common issue among older adults and may be a focus of age management interventions to prevent or delay its onset.

Life course perspective: An approach to understanding health and wellness that considers the social, environmental, and biological factors that influence health over the course of an individual's life. The life course perspective may be used in age management to help identify and address factors that may influence healthy aging and wellness.

Inflammaging: The chronic, low-level inflammation that can occur with aging. Inflammaging may contribute to a range of age-related health issues, such as cardiovascular disease, diabetes, and Alzheimer's disease. Age management may involve strategies to prevent or reduce inflammaging and its negative effects.

Sleep hygiene: A set of habits and practices that are designed to promote healthy sleep. Sleep hygiene may be an important aspect of age management, as getting sufficient high-quality sleep is important for overall health and well-being.

Age-related macular degeneration (AMD): A condition that affects the central part of the retina and can cause vision loss or blindness. AMD is a common issue among older adults and may be a focus of age management interventions to prevent or manage its onset.

Healthy life expectancy (HLE): The number of years that an individual is expected to live in good health, without the presence of significant health issues or disabilities. HLE may be a key focus of age management interventions, as it reflects the number of years that an individual can expect to maintain good physical and mental function.

Silver economy: The economic activity that is generated by the consumption and production needs of older adults. The silver economy may be an important aspect of age management, as it can contribute to economic growth and development, as well as the well-being and quality of life of older adults.

Sarcopenia: The age-related loss of muscle mass and function. Sarcopenia may contribute to reduced mobility, functional decline, and an increased risk of falls in older adults. Age management may involve strategies to prevent or delay sarcopenia, such as physical exercise and nutrition interventions.

Social isolation: A condition in which an individual lacks social contact or feels disconnected from others. Social isolation is a common issue among older adults and may contribute to poor physical and mental health outcomes. Age management may involve strategies to promote social engagement and connection, such as community programs or social support networks.

Cognitive reserve: The brain's ability to compensate for age-related changes or damage by using alternative neural networks. Cognitive reserve may help to delay or prevent the onset of cognitive decline or dementia in older adults. Age management may involve strategies to build cognitive reserve, such as engaging in mentally stimulating activities or learning new skills.

Long-term care: A range of services and supports that are designed to meet the ongoing health and personal care needs of individuals who require assistance due to age, illness, or disability. Long-term care may be an important aspect of age management for older adults who require additional support or assistance with daily living activities.

Senescence: The process of biological aging, characterized by a decline in cellular and physiological function over time. Senescence can lead to a range of age-related health issues, such as cardiovascular disease, cancer, and neurodegenerative disorders.

Centenarian: An individual who has lived to be 100 years of age or older. Centenarians are a growing demographic group and may provide insights into the factors that contribute to healthy aging and longevity.

Workability: The ability of an individual to effectively perform job-related tasks, taking into account their health, functional abilities, and work environment. Workability may be influenced by a range of factors, such as age, physical health, mental health, and job demands.

Work capacity: The physical and mental abilities that are necessary to perform job-related tasks. Work capacity may be influenced by a range of factors, such as age, fitness level, and job demand.

Work engagement: The degree to which an individual is emotionally and cognitively invested in their work. Work engagement may be influenced by a range of factors, such as job satisfaction, motivation, and work environment.

Job demands: The physical, mental, and emotional requirements of a particular job. Job demands may include physical demands (such as lifting or standing for long periods), cognitive demands (such as problem-solving or decision-making), and emotional demands (such as dealing with difficult customers or clients).

Work-related musculoskeletal disorders (WRMSDs): Injuries or disorders that affect the muscles, joints, and/or nerves and that are caused or aggravated by work-related factors, such as repetitive motions or awkward postures. WRMSDs may be a significant barrier to workability, particularly for older workers.

Work-Life Balance: A state of equilibrium between an individual's professional and personal life, allowing them to achieve a sense of harmony and satisfaction in both areas.

Flexible Working: A type of working arrangement that allows employees to adjust their working hours, location, or both, to better suit their personal needs.

Workplace Wellness: A holistic approach to employee health and wellbeing that focuses on physical, mental, and emotional wellbeing.

Stress Management: A set of techniques and strategies used to help individuals manage their stress levels and improve their overall wellbeing.

Mental Health: A state of emotional and psychological wellbeing that enables an individual to function in society and meet the demands of everyday life.

Work-Life Integration: A way of managing work and personal life that allows individuals to combine the two in a way that is beneficial to both.

Workplace Culture: The shared values, beliefs, and attitudes of an organization that shape the way employees interact with each other and the organization as a whole.

Promote physical activity: Encourage older adults to engage in regular physical activity, such as walking, swimming, or cycling.

Promote mental activity: Encourage older adults to engage in activities that stimulate the mind, such as reading, writing, or playing games.

Promote social activity: Encourage older adults to engage in activities that involve interacting with other people, such as attending social events, volunteering, or participating in group activities.

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