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THE USE OF PERSONAL KNOWLEDGE MANAGEMENT INITIATIVES BY TEACHERS IN POLAND. CONTRIBUTION TO THE DISCUSSION

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Abstract. The article discusses the issues related to personal knowledge management (PKM) and initiatives undertaken in this area by a professional group of teachers. These issues are still insufficiently researched, and thus cognitively interesting and requiring further exploration. The aim of the study was to determine the level of teachers' initiative in the area of personal knowledge management, with reference to the relationships between the variables characterizing the surveyed teachers, such as: gender, age, seniority, type of educational institution and the position held. In the study, conducted by means of a diagnostic survey method among 169 professionally active teachers, the author's Questionnaire of Personal Knowledge Management Initiatives was used. The obtained research results were statistically analyzed using the PSPP program, Gnu General Public License Version 3. The data were processed using the ANOVA analysis of variance. The applied method of standard deviations showed that the largest group of the surveyed teachers presents an average level of initiative in the field of personal knowledge management. Based on the obtained results, it can also be concluded that: women, teachers with the longest seniority, from the oldest age group, holding managerial positions; employed in kindergartens and educational non-school institutions, are characterized by a higher level of initiative in the field of personal knowledge management. The obtained research results are of practical importance both for teachers and for the organizations in which they work. They may also contribute to the introduction of new solutions in the education of future teachers at the university level, as well as to the organization of training and workshops improving and developing personal knowledge management skills among professionally active teachers.

Keywords*:* knowledge, personal knowledge management, initiative in personal knowledge management, teacher.

1. INTRODUCTION

In a knowledge-based economy, human competitiveness on the labor market is determined primarily by knowledge possessed and skillfully used in practice. Although it has always been a factor of fundamental importance for human development and security, the increase in awareness of this fact came along with the change in the conditions in which people had to live and work. Constant and often unpredictable changes (social, economic, technological, etc.) taking place in the human environment mean that achieving success in such a turbulent environment requires employees to react quickly to changes, make rational, knowledge-based decisions and actions.

Recognizing knowledge as a strategic resource of a knowledge worker entails the need to manage it appropriately using methods, tools and initiatives tailored to the needs, skills and capabilities of the

individual and the needs of the organization in which he works.

An employee who wants to become a good manager of his own knowledge must answer a number of questions, such as: which knowledge is worth developing, protecting and preserving, where is this knowledge located, how to translate knowledge into wise decisions and effective actions, how to embed knowledge in work products as well as which initiatives facilitate the management of personal knowledge (PKM). In other words, it is necessary to define what, why and how should be done so that the knowledge would bring its holder and the environment as many broadly understood benefits as possible. For this reason, it is worth paying special attention to the initiatives of personal knowledge management used by teachers. After all, in this profession, as in no other, there is a responsibility for preparing a young person for professional and social functioning in a society of knowledge and market economy.

2. THEORETICAL BACKGROUND

2.1. Personal knowledge management

Personal knowledge management as a management concept was created at the intersection of organizational knowledge management, Personal Information Management, cognitive psychology, philosophy, management and communication sciences (Pauleen, 2009; Mittelmann, 2016). It is an interdisciplinary concept which, as an explanatory perspective, is also an inspiration for the processes that are the subject of research in pedagogy, especially for labor education (Kwiatkowski, 2007), pedeutology (Kwiatkowska, 2008) or andragogy (adult education). It can be helpful in building effective strategies for acquiring, verifying and systematizing knowledge, taking into account the theory of adult learning and current changes in the area of methods/techniques of their education.

The specificity of personal knowledge management is derived from the specificity of personal knowledge as the subject of management. Personal knowledge is the knowledge possessed by an individual, gained from formal and informal instruction, memories, stories, personal contacts and relationships, books read or written, notes, documents, and photographs (Martin, 2006). It is characterized primarily by dominant and non-linear character, inexhaustibility, intangibility, elusiveness, relativity and ambiguity, simultaneity, indefiniteness of applications and effects, rapid obsolescence and heterogeneity (Toffler, 2006; Probst et al., 2002; Mikuła, 2006; Klug et al., 2001; Durant-Law, 2004; de Jong & Ferguson-Hessler, 1996). From the perspective of the implementation of the PKM concept, particular importance should be attributed to the heterogeneity of knowledge, which means the presence of various knowledge types, such as: tacit and explicit knowledge (Polanyi, 1966; Tiwana, 2003), know what, know how, know why and know who knowledge (Lundvall & Johnson, 1994), core, advanced and innovative knowledge (Tiwana, 2003), as well as general and specialist knowledge (Probst et al., 2002).

Although an in-depth analysis of the characteristics and types of knowledge is not the subject of this article, it should be emphasized that knowing them gives the opportunity to better understand the essence of knowledge and is very useful when constructing a personal knowledge management system.

The term personal knowledge management appears more and more often in the literature, but to this day there is no single, commonly accepted definition of this concept. Personal knowledge management is defined as:

◎   ways of developing and managing an individual's personal capital (Jashapara, 2006);

◎   individual management of knowledge from a subjective perspective (Völkel 2008);

◎   knowing what knowledge we have and how we can organize it, mobilize it and use it to accomplish our goals and how we can continue to create knowledge (Martin, 2006);

◎   disciplined, comprehensive approach through which knowledge workers gather, make explicit, categorize and share what's most important to their jobs and professional development (Hobbie, 2010);

◎   managing and maintaining personal knowledge to enrich an individual knowledge database to

retrieve knowledge time-effectively so as to use, re-use and mobilize it for the benefit of the person, the organization and the community (Jain, 2011);

◎   intertwined macro-competency that involves cognitive, metacognitive, information, social and learning competencies (Cheng 2015);

◎   process of creating, sharing, and storing knowledge acquired by individuals for the sake of improving individual's ability of problem solving, decision making, competence and innovation (Tohiye & Garfield, 2017).

Personal knowledge management refers to the knowledge, experience, skills and competences of each knowledge worker, including teachers, who, due to the specific role of the school as an institution, are expected to meet new challenges. Therefore, it is the teacher as the organizer of the social learning environment that should, especially in a situation of extremely rapid and often unprecedented social transformations, accept different ways of implementing knowledge management processes.

One of the most frequently quoted classifications of knowledge management processes in the literature, applicable to both organizational and personal knowledge, is their division into: locating knowledge, acquiring it, developing it, sharing it, as well as using and preserving it (Probst 2002).

Locating knowledge consists in identifying sources of knowledge valuable for the employee, which may be: the human mind, files on a computer, personal records, other employees, experts, publications, consulting companies, the Internet, etc. In the process of locating knowledge, various methods of its visualization may be helpful, such as: knowledge maps or contact books (Almeida & Kogut, 1999; Wagner 2013; Figurska, 2019).

When a person does not have the knowledge necessary to make specific decisions and actions, it can be obtained from the broadly understood environment or developed. Acquisition of knowledge takes place through e.g., using the Internet, participating in conferences, trainings, courses, workshops, reading professional publications, etc. (Milton, 2007; Cherukunnath & Singh, 2022). Developing knowledge leads to its deepening and broadening, thanks to which the employee can meet the requirements set before him, effectively solve emerging problems and achieve the assumed goals. This process is implemented through: learning within the formal education system, working together with others, observing specialists at work, solving problems, studying professional literature, learning by trial and error, learning in a self-study group, learning "by the way", etc. (Figurska, 2012; Kvam, 2023, Kim, 2022).

Knowledge sharing consists in transferring it to other people using various means (conversation, training, lecture, joint work, etc.), tools (including ICT) and channels (formal and informal). Implementation of this process requires time, mutual trust and creating conditions enabling conversation, discussion and exchange of views. It is widely recognized that this is the most difficult knowledge management process to implement (Probst 2002; Zheng, 2017; Liu 2020; Yeboah, 2023).

The use of knowledge includes making rational decisions and actions based on the knowledge possessed and its externalization in the form of work effects, such as: products, services, procedures, standards, etc. Knowledge preservation is a process that enables people to benefit from past experiences. Its implementation requires a systematic selection of information and knowledge coming from the environment in terms of their usefulness for the individual, possibilities and ways of storing and updating them (Probst 2002; Carraway, 2011; Janah & Salim, 2018).

The described PKM processes are closely related. The degree of implementation of each of them separately affects the implementation of other processes and the effectiveness of personal knowledge management. Only effective personal knowledge management can contribute to the achievement of the individual's goals in the area of knowledge and professional development, and consequently to the success of the entire organization/institution. After all, personal knowledge becomes organizational knowledge in the course of operationalization and accumulation (Zhang, 2009).

The justification for personnel knowledge management are the benefits that the implementation of this concept brings to knowledge workers both in terms of their potential and the results of their work

(Dalkir, 2005; Blaszczuk 2004; Pauleen, 2009; Cheong & Tsui, 2010; Jain, 2011; Figurska, 2015). Personal knowledge management helps employees better cope with information overload, increases the efficiency of decision-making and actions, and facilitates problem solving. It enables employees to constantly develop and contributes to the increase of their competences, facilitates their access to sources of knowledge, which saves time related to the acquisition of knowledge and increases the efficiency of their work. PKM has a positive effect on the creativity of individuals and their self-esteem, leads to self-fulfillment and increases the joy of work, and also increases the competitiveness of people who skillfully manage their own knowledge on the labor market. A higher level of individual awareness resulting from the possession and management of knowledge also means a greater scope of individual freedom and capabilities. Personal knowledge management enables people to actively and effectively participate in various markets (financial, real, labor), so they function better in society and the economy, and also reduces the level of uncertainty in risky ventures. For this reason, it can be said that PKM has a positive impact on the broadly understood safety of the individual, including the economic one.

Many factors determine the success of personal knowledge management. The most important ones include the awareness of the role of PKM for the competitiveness of an individual in a knowledge-based economy, as well as having knowledge about the concept of PKM. In particular, initiatives enabling effective and efficient implementation of personal knowledge management processes. Therefore, the subject of subsequent considerations in this article are PKM initiatives.

2.2. Personal knowledge management initiatives

Personal knowledge management initiatives are all actions taken by an individual aimed at achieving the goal(s) of personal knowledge management. They refer to any deliberate interventions intended to enhance the distinctive capability of the individual through a systematic approach of explicating, sharing and leveraging knowledge (Chua & Goh, 2008). PKM initiatives affect how personal knowledge is created, shared and embedded in the products of human labor. They are attempts to make practical use of knowledge, to accomplish objective of the individual through the unique connection of the man, technology and content (on the basis of: Davenport & Prusak, 1998). It can be said that PKM's initiatives include actions taken on knowledge and on the basis of possessed personal knowledge. Their analysis reveals a set of patterns of used solutions that can be adapted to solve new problems.

Taking initiative (actions) in a specific area, which is one of the key competencies of employees in the knowledge-based economy, is called initiative. Initiative is a manifestation of the employee's proactive attitude, which means taking responsibility for one's own decisions and actions, going beyond the scope of one's duties, breaking the routine, finding and taking advantage of opportunities, constant searching (inspiration, ideas, new solutions, opportunities, etc.). The proactive attitude of knowledge workers is positively correlated with their creativity and innovation (Figurska & Sokół, 2020).

The initiative ness of teachers as knowledge workers in the area of personal knowledge management is related to the active search for and undertaking initiatives aimed at the implementation of PKM processes. Initiative is a characteristic that varies from person to person. Among the factors influencing the level of initiative ness of teachers, it is worth mentioning (Figurska, 2019; Irshaid & You, 2021; Prakash, 2015; Miles, 2022):

◎   the level of knowledge about the concept of PKM (including its assumptions, processes, methods, tools, initiatives, etc.), because people by nature rarely engage in something they do not know, do not understand, do not believe in,

◎   the level of skills (technical, communication) necessary to effectively apply PKM initiatives,

◎   the employee's level of self-confidence, including, in their own knowledge and skills, affecting their willingness to undertake activities that go beyond the routine that gives a sense of security

◎   the anticipated reaction of the environment (superiors, colleagues, students and other stakeholders) to the teacher's PKM initiatives, which may encourage (reward, etc.) or discourage (lack of appreciation) the employee to take such actions

◎   the degree of profitability of using specific PKM initiatives, determined by comparing the broadly understood costs associated with it (e.g., the time spent learning how to use a particular initiative, the cost of purchasing a tool necessary to implement a particular initiative, etc.) with the expected benefits (e.g., shortening the time of performing professional tasks, faster access to necessary information, greater opportunities for promotion, etc.).

Generally, it can be assumed that the higher the teacher's level of initiative in the area of personal knowledge management, the greater the probability of success in implementing this concept.

Personal knowledge management initiatives include various forms of activity based on relationships with others (e.g., superiors, co-workers, experts, etc.), as well as activities undertaken and carried out independently. Some activities are undertaken on the sole initiative of a person and are the result of decisions made regarding his development, while others are a consequence of the duties of an individual as an employee (e.g., participation in employee meetings). In general, PKM initiatives enable the implementation of personal knowledge management processes and contribute to the achievement of the PKM goal, which is a derivative of the individual's career plans and the requirements of the organization/institution.

Personal knowledge management should be undertaken consciously. This is facilitated by the development of a professional career path with subsequent stages of planned professional development. The career path determines the employee's professional goals, as well as directs the activities (including those related to knowledge) thanks to which these goals will be achieved.

An example of initiatives facilitating access to sources of knowledge is the search for information on projects related to the area of interest of the individual. This increases the potential for knowledge acquisition and development, as well as the visualization of knowledge through the creation of knowledge maps and contact books. By systematizing the ever-growing knowledge resources, knowledge maps increase the transparency of the knowledge structure and accessibility to its sources, and also enrich the context in which this knowledge is revealed (Eppler & Burkhard, 2007). On the other hand, contact books created for individual use make it easier to reach people with knowledge important for the individual and accelerate its acquisition. In this way, emerging problems can be solved faster and more effectively.

Initiatives that require collaboration with others include: participating in discussion groups, communities of practice, brainstorming or meetings with management. Internet discussion groups bring together people with similar interests and can be created for employees of a given organization or created by and for specialists in a certain field. They are an opportunity to establish new contacts and acquire new knowledge, and also give the opportunity to achieve image benefits. Communities of practice, on the other hand, are informal groups of people who share common aspirations, passions and interests. The aim of the community is to develop the potential of its members and to create and exchange knowledge. This enables new approaches to professional problems to be developed (Skyrme, 2003).

Participation in brainstorming, the aim of which is to generate as many ideas as possible, is a popular initiative of PKM. The generated ideas enable the individual to look at the issues being the subject of the brainstorming from a different point of view, accelerate the solution of professional problems and may become an inspiration for the individual to take creative actions (Gregersen, 2018).

Participation in meetings (briefings) with the management allows the employee to "keep up to date", allows him to present one's own ideas on the forum, accelerates the flow of information (including feedback on the activities undertaken by the unit), and also allows for proper prioritization of goals and tasks.

Participation in integration trips/meetings allows educators to get to know each other better (also in terms of their knowledge, interests, etc.) and build mutual trust, which is so important for the effectiveness of the knowledge sharing process.

Another initiative is the dissemination of knowledge, passing on to other people the knowledge

acquired during trainings, seminars and conferences. Thanks to this, a person builds own position on the market, and also has a better chance of obtaining important knowledge from other people in return.

Participation in training/workshops, internships, conferences and seminars is one of PKM's most frequently used initiatives. It enables the teacher to develop knowledge and skills, as well as to establish or maintain relations with experts.

Initiatives aimed at developing the knowledge of the entity include obtaining information from stakeholders (e.g., parents, representatives of cooperating organizations), watching industry programs, using professional publications, collecting and analyzing ideas of other people as well as using the knowledge of other employees. Thanks to these PKM initiatives, the individual's knowledge resources are expanding and the range of possibilities for a unique combination of new knowledge with the existing one increases.

Other initiatives aimed at the development of knowledge include conducting own research, which enables the acquisition of unique knowledge and creates opportunities to create new solutions. It is also cooperation with research centers and universities, enabling quick access to scientific thought and its transformation into innovations in the area of applied procedures, implemented processes, designed solutions, supplied goods and services, etc.

Another initiative used as part of PKM is mentoring another person, which is conducive to the development of not only the "student", but also the mentor (Nour, 2022). These benefits include satisfaction from the achievements of the mentee, satisfaction from being perceived and recognized as an expert in a given field, the opportunity to present one's own ideas and solutions, improving one's qualifications and leadership skills, etc.

Analyzing a case study, which is a comprehensive description of the researched phenomenon, is a method of learning and teaching. This method enables confrontation of knowledge with practice, development of analytical and decision-making skills. The results of the analyzed case study can be used as a model for practical conduct or vice versa.

Performing an analysis of successes and failures after the completion of each project (After Action Review) is an initiative derived from the experience of the US Army. The goal of this initiative is to learn quickly and effectively through the analysis of past events or projects. It also makes it possible to analyze the causes and choose more adequate, better ways of proceeding in the future (Hengeveld-Bidmon, 2015).

Chaos is not conducive to personnel knowledge management. Therefore, the initiatives that facilitate dealing with the influx of information, organizing and recovering it are of great importance for the effectiveness of PKM. An example of such initiatives is the systematic documentation of incoming information, the regular organization of files on a computer or the use of a computer application to facilitate content management.

The use of personal benchmarking in the area of knowledge and competence is conducive to PKM's effectiveness Personal benchmarking consists in a systematic comparison of one's own knowledge and competence resources with those of other people (co-workers or experts) and the use of proven patterns of conduct. This initiative enables the development of an individual on the basis of learning from the best (Schwass, 1997).

The initiatives described above do not constitute the entire spectrum of PKM initiatives that can be used by teachers. It is worth remembering that their choice cannot be accidental. On the one hand, it must be dictated by the needs and skills of the employee, and on the other hand by the needs of stakeholders and the organization.

3. RESEARCH OBJECTIVE, METHODOLOGY AND DATA

The aim of the research was to determine the level of initiative of teachers in terms of their degree of involvement in undertaking initiatives related to personal knowledge management, and then to check

whether gender, age, seniority, type of educational institution, position held may significantly differentiate the level of initiative in the management of teachers' personal knowledge.

The research was conducted among 169 teachers. 86.4% of the respondents were women and 13.6% men, which is a fairly accurate reflection of the sex ratio in the population of Polish teachers, the vast majority of whom are women. There is a predominance of participants from the age group defined in developmental psychology as middle adulthood (46 years and over: 53.3% of respondents), where, according to psychologists, cognitive development in this age group is characterized not only by the stabilization of achievements, but also by their development (Olejnik, 2020).

Tab. 1

Characteristics of the studied group

Gender			
women (N-146; 86,4%)		men (N-23; 13,6%)	
Age			
up to 25 years old (N-5; 3,0%)	26-35 years old (N-21; 12,4%)	36-45 years old (N-53; 31,4%)	46 and older (N-90; 53,3%)
Seniority			
up to 5 years (N-16; 9,5%)	6-10 years (N-15; 8,9%)	11-15 years (N-22; 13%)	16 and more (N-116; 68,6)
Type of educational institution			
kindergarten (N-13; 7,7%)	primary school (N-120; 71%)	secondary school (N-25; 14,8%)	non-school institutions* (N-11; 6,5%)
Position			
managerial (N-31; 18,3%)		non-managerial (N-138; 81,7%)	
Level of education			
BA studies (N-6; 3,6%)	MA studies (N-155; 91,7%)		PhD studies (N-8; 4,7%)

* The Polish education system is also made up of non-school institutions employing teachers. These include: pedagogical libraries, psychological and pedagogical counseling centres, school dormitories, youth hostels.
Source: authors' research

In order to collect the research material, the authors used a diagnostic poll method, with the Personal Knowledge Management Initiatives Questionnaire (PKMI) developed by the authors. The construction of the Questionnaire is based on the assumptions of the model of Probst, Raub and Romhardt (2002), in which six knowledge management processes were adopted: locating, acquiring, developing, sharing, using and preserving knowledge. The PKMI questionnaire consists of 27 statements allowing to determine the degree of the examined teacher in relation to individual PKM processes. Next to each statement, there is a scale from 1 to 5, which determines the frequency of using a given type of personal knowledge management initiatives (from definitely not to definitely yes). The research participant responds to each statement by ticking a self-selected number that most accurately describes the actions performed in real life. The overall score of the respondent is the sum of the points obtained from all diagnostic statements, which can take a value from 27 to 135 points.

Statistical analyses were conducted using the PSPP program, Gnu General Public License Version 3. Data was compiled using the ANOVA analysis of variance, which was preceded by the Levene test of variance homogeneity. A significance level of $p < 0,05$ was adopted, which indicated the existence of statistically significant differences or dependencies.

4. RESULTS

The Table 2 presents initiatives that teachers can take to improve the personal knowledge management process. The results indicate that the teachers participating in the research most often take

part in trainings/workshops and look for information about projects in the area of their own interests. They least often cooperate with research centers and universities and conduct their own research.

Tab. 2

Teachers' indications regarding the frequency of PKM initiatives

Personal knowledge management initiatives undertaking by teachers	M	SD	RANK
1. I participate in trainings/workshops	4,79	0,69	1
2. I am looking for information about projects related to my area of interest	4,35	0,75	2
3. I participate in meetings (briefings) with management	4,22	0,97	3
4. I attend conferences and seminars	4,15	0,93	4
5. I pass on knowledge acquired during trainings, seminars, conferences to other people	4,12	0,88	5
6. I use professional publications	4,07	0,92	6
7. I use knowledge of other employees acquired during trainings, seminars, conferences	4,07	0,89	6
8. I develop my own knowledge maps	4,04	0,97	7
9. I collect and analyze other people's ideas	3,94	0,91	8
10. I systematically organize files on my computer	3,93	1,08	9
11. I have a clearly defined career path	3,90	0,97	10
12. after the completion of each project, I analyze the successes and failures achieved	3,83	1,01	11
13. I participate in a discussion group/groups	3,68	1,06	12
14. I take part in the so-called brainstorming	3,68	1,10	12
15. I use personal benchmarking	3,66	1,18	13
16. I watch industry programs	3,66	1,12	13
17. I obtain information from stakeholders	3,58	1,09	14
18. I systematically document the incoming information	3,57	1,13	15
19. I analyze case studies	3,54	1,13	16
20. I take part in trips or integration meetings	3,48	1,27	17
21. I use a computer application that facilitates content management	3,44	1,33	18
22. I create my own contact books	3,13	1,23	19
23. I am mentoring another person	3,10	1,15	20
24. I work in the so-called	3,00	1,27	21
25. I take part in internships	2,75	1,40	22
26. I cooperate with research centers and universities	2,67	1,27	23
27. I do my own research	2,40	1,27	24

Source: authors' research

The research results also allowed to distinguish three levels of teachers' initiative due to the degree of their involvement in undertaking personal knowledge management initiatives. For this purpose, the method of standard deviations was used. The entire sample was divided into groups with a low, average and high level of initiative, where the following criterion was used to distinguish them:
- the average level of initiative was considered to be the mean value plus/minus one standard deviation (M - 98,49; SD - 15,03);
- a low level of initiative was considered to be a value lower than the mean value by one standard

deviation (<83,46);

• a high level of initiative was considered to be a value higher than the mean value by one standard deviation (>113,52).

The results are presented in Table 3.

Tab. 3

Descriptive statistics of teachers' levels of initiative in PKM

N	M	Min.	Max.	SD	Levels of initiative																	
					Low level						Average level						High level					
					N	%	M	Min.	Max.	SD	N	%	M	Min.	Max.	SD	N	%	M	Min.	Max.	SD
169	98,49	55	129	15,03	27	15,97	74,52	55	83	6,57	111	65,68	98,43	84	113	8,03	31	18,34	119,58	114	129	3,82

Source: authors' research

The first level of initiative indicates a low degree of involvement in undertaking PKM initiatives. In this group of teachers (N=27), the average number of points per initiative ranges from 2.04 to 3.07. This indicates that most initiatives are not applied by them. It is worth noting that the use of some of the PKM initiatives included in the study is part of the teacher's work and is part of the professional duties (participation in meetings or training). Therefore, the achieved low score indicates a lack of or low involvement in the application of other initiatives. On the one hand, a low level of initiative allows teachers to perform their work at an acceptable level, but on the other hand, it does not indicate a willingness to develop.

The second level of initiative is the average degree of involvement in undertaking PKM initiatives. This level is represented by the largest group of respondents - 111 people. Among the teachers included in this group, the average number of points per PKM initiative ranges from 3.11 to 4.19. This level of initiative indicates that teachers use initiatives not only required by regulations and duties, but also, to a greater or lesser extent, other initiatives. The average level of initiative allows teachers to do their job well, but it does not significantly increase their competitiveness on the labour market.

The third level of initiative means a high degree of involvement in undertaking PKM initiatives. This level is represented by the 31 teachers participating in the study. The average number of points per PKM initiative among the respondents included in this group ranges from 4.22 to 4.78. This proves that teachers use many different initiatives that enable the effective implementation of PKM processes. A proactive attitude in using PKM initiatives gives teachers the opportunity to work at a level that goes beyond the applicable standards, building their high competitiveness on the labour market. The high level of initiative of such teachers makes them perceived as "teachers with passion".

Tab. 4

Teachers' initiative in PKM by gender

Gender	Initiative			ANOVA	
	N	M	SD	F	p
Women	146	99,48	14,53		
Men	23	92,22	16,90	4,74	0,031
Total	169	98,49	15,03		

Source: authors' research

The analysis of the results obtained by the respondents by gender (Table 4) shows that women (N=164) compared to the group of men (N=23; M=92.22; SD=16.90) achieved a higher level of initiative in PKM (M=99.48; SD=14.53)

Tab. 5

Teachers' initiative in PKM by age

Age	Initiative			ANOVA		Post-hoc tests					
	N	M	SD	F	p	1-2	1-3	1-4	2-3	2-4	3-4
to 25	5	95,20	17,44								
25-35	21	93,24	11,82								
36-45	53	95,68	15,50	2,89	0,037	0,790	0,945	0,351	0,523	0,021	0,023
46 and more	90	101,56	14,82								
Total	169	98,49	15,03								

Source: authors' research

The results presented in Table 5 indicate that the group most often using initiatives in their personal knowledge management strategies (PKM) are teachers aged 46 and over (N=90; M=101.56; SD=14.82). Statistically significant differences concerned the results obtained by teachers from the oldest group and teachers from the 36-45 age group (N=53; M=95.68, SD=15.50) and the group in the 25-35 age group (N=21; M=93.24, SD=11.82)

Tab. 6

Teachers' initiative in PKM by seniority

Seniority	Initiative			ANOVA		Post-hoc tests					
	N	M	SD	F	p	1-2	1-3	1-4	2-3	2-4	3-4
up to 5 years	16	94,31	15,24								
6-10	15	90,47	10,16								
11-15	22	93,73	17,37	3,84	0,011	0,467	0,903	0,089	0,508	0,010	0,034
16 and more	116	101,01	14,51								
Total	169	98,49	15,03								

Source: authors' research

Seniority is a factor that significantly differentiates teachers' initiative in managing personal knowledge (Table 6). The analysis of averages indicates the highest frequency of taking initiatives among teachers with the highest seniority, exceeding 16 years of activity in the profession (N=116; M=101.01, SD=14.51) and significantly lower among teachers indicating seniority in between 11 and 15 years (N=22; M=93.73, SD=17.37) and between 6 and 10 years of service (N=15; M=90.47, SD=10.16).

Tab. 7

Teachers' initiative in PKM by type of educational institution

Type of educational institution	Initiative			ANOVA		Post-hoc tests					
	N	M	SD	F	p	1-2	1-3	1-4	2-3	2-4	3-4
kindergarten	13	107,23	10,70								
primary school	120	97,27	15,32								
secondary school	25	96,08	13,34	3,25	0,023	0,022	0,028	0,970	0,715	0,038	0,042
non-school institutions	11	107,00	15,00								
Total	169	98,49	15,03								

Source: authors' research

The results presented in Table 7 indicate that teachers working in kindergartens (N=13; M=107.23, SD=10.70) and in non-school institutions – pedagogical libraries, psychological and pedagogical counseling centres, school dormitories, youth hostels (N=11; M=107.00, SD=15.00) – are characterized by greater PKM initiative in comparison with primary and secondary school teachers.

Tab. 8

Teachers' initiative in PKM by position

Position	Initiative			ANOVA	
	N	M	SD	F	p
managerial	31	110,10	12,16		
non-managerial	138	95,88	14,40	26,00	0,000
Total	169	98,49	15.03		

Source: authors' research

The analysis of the results (Table 8) shows a statistically significant dependence. Hence, it can be assumed that performing managerial functions may contribute to a higher level of initiative of personal knowledge management (N=31; M=110.10; SD=12.16) compared to employees who do not perform such functions (N=138; M=95.88; SD=14.40).

5. DISCUSSION

The research conducted among 169 professionally active teachers shows that teachers more often undertake initiatives related to the performance of their duties and resulting from the specificity of their work (imposed from the outside) than initiatives resulting from independent decisions regarding their own development. The PKM initiatives most often undertaken by teachers are: participation in trainings and workshops, updating knowledge (searching for information on undertakings related to the area of interest) and participation in meetings, conferences and seminars.

The largest group among the surveyed teachers (N=111) presents an average level of initiative in the field of personal knowledge management, which allows them to perform their professional duties well, but without increasing their competitiveness on the labor market.

It should be noted that the management of personal knowledge by teachers is not a new issue, but still insufficiently researched. Different approaches to this concept and different areas of research can be found in scientific publications.

Sudibjo and colleagues (2022) raised the issue of empowering personal knowledge management among teachers in Indonesia. They noticed that there is a gap in knowledge regarding the contribution of PKM at the individual level within organization. To address the gap mentioned authors investigated the combined effects of transformational leadership, information and communications technology (ICT) literacy, and organizational learning toward teachers' PKM in the context of school in Indonesia. Their research confirmed that ICT literacy, transformational leadership, and organizational learning culture positively affect PKM. This is also confirmed by Tippins (2003), who emphasized that more and more teachers (researchers) became aware of the need to adopt a culture based on continuous learning, so that teaching programs could be periodically updated to meet changing demands.

Cheng and colleagues (2015), emphasizing that supporting the sustainable development of teachers as professionals is a critical issue in teacher education, proposed a curriculum framework in pre-service teachers training program to develop teachers' personal knowledge management competency. Mentioned above framework "provides pre-service teachers with different degree of opportunities to carry out instructional design, lesson implementation and reflection through e-learning and collaborative action research activities".

Alamen & Tasir (2015), investigating to what level secondary school teachers manage their

knowledge in Malaysia, found that they most often use practices related to retrieving information while the least frequently use practices related to presenting information. Mentioned authors concluded that teachers spend more time in collecting information than in sharing this information.

Yang and colleagues (2018), based on the four knowledge transformation modes of the SECI model and PKM's processes, proposed teachers' personal knowledge management tools and application strategies. On the other hand, Cui and colleagues (2019) indicated that in the era of big data, teachers should continuously transform knowledge into the ability of self-sustainable development, constantly improve ourselves, and build up personalized knowledge.

In another article (Wang 2018) an evaluation index system for college teachers' knowledge management was put forward, thanks to which the levels of KM presented by them were evaluated. The results of the study showed that academic teachers achieved the highest level in the area of knowledge acquisition, the average level – in the area of knowledge organization and its development, and the lowest level - in the area of knowledge innovation.

Mohammadi Gheshlsgh and Seyed Abbaszadeh (2022) provided a model for promoting the abilities of personal knowledge management in teachers, in which the main components of PKM include: "creating communication and retrieval skills in oneself" and "the ability to analyze and present the information". Mentioned authors emphasized the importance of the main components and identified dimensions of teachers' PKM for the application of learning skills in acquiring knowledge. Therefore, these factors should be included in teachers' educational program in order to promote their abilities in the field of personal knowledge management.

Abdullah and Talib (2012) examined the possibility of enhancing teaching and management performance based on personal knowledge management techniques. They found that PKM skills were related to individual-level knowledge acquisition, storage, dissemination and application, as well as collective-level teaching cooperation and knowledge sharing. Research conducted by the aforementioned authors also showed that teachers' pedagogical knowledge was not well managed because their PKM skills were affected by time-wasting.

Cheng (2015) emphasized the importance of empirical studies on PKM as they "provide frameworks for teacher educators to articulate how pre-service teachers exercise their PKM competencies to organize retrieved information, and internalize them into their pedagogical knowledge via analysis or collaboration".

It seems that the issue of personal knowledge management among teachers analyzed by other authors proves that our project fits well into this research area, filling a certain gap that we discovered. Of course, this is a kind of contribution to further in-depth discussion, research, and comparative analysis that would include a larger sample of teachers, not only from Poland, but also from other countries.

6. CONCLUSIONS AND RECOMMENDATIONS

Reflections from the conducted research among professionally active teachers give rise to the development of several practical recommendations regarding the initiative of the mentioned professional group. First of all, the fact that seniority is positively correlated with the level of initiative of teachers indicates that initiative increases with the development of teachers' knowledge and experience. Therefore, it is worth promoting mentoring among teachers based on partnership between more and less experienced teachers. Mentoring enables knowledge sharing (e.g., about PKM initiatives), which leads to the development of knowledge and experience of the mentored person. It is also proposed to organize workshops for teachers in the field of personal knowledge management and self-management in time. As a result, the possibilities of practical application of rationally selected PKM initiatives may increase, which will undoubtedly be beneficial for teachers, school (as an institution, organization), students and other stakeholders.

It also seems reasonable to design a course during pedagogical studies in which students learn the essence of personal knowledge management in the theoretical and practical dimension (Piekarski, 2016).

The study shows that teachers (to a greater or lesser extent) use PKM initiatives - even if they are not aware that the actions taken are part of personal knowledge management. However, this concept requires a comprehensive approach. From comprehensive knowledge about PKM, identification of goals to be achieved, through knowledge of PKM initiatives, the ability to determine the degree of usefulness of initiatives, to monitoring the effects of using initiatives, and in the case of unsatisfactory results - identifying obstacles and barriers in order to eliminate them. In addition, a comprehensive approach to PKM requires the teacher to take into account the conditions of the broadly understood environment, including the needs of the institution and its stakeholders, actions taken by other teachers, family situation, legal regulations, and many other factors.

Personal knowledge management is a process that never ends for a teacher as a knowledge worker. Therefore, achieving the assumed goal of PKM becomes the starting point for identifying further goals that the teacher wants to achieve in the area of knowledge and knowledge management.

7.   LIMITATIONS AND FUTURE DIRECTIONS OF RESEARCH

The main limitation of the conducted study is the size of the research sample, hence the transfer of the obtained results to the entire population of teachers may be subject to error. Therefore, further research on the initiative of teachers in the area of personal knowledge management on a larger group of participants is planned. It is also planned to conduct a series of interviews with teachers in order to deepen the knowledge on the determinants of teachers' initiative.

It should be noted that due to the importance of the issue, this is the first in a series of articles on the management of personal knowledge by teachers that the authors intend to publish.

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Ірена Фігурська, Гжегож Пєкарський, Єва Пітров. Використання вчителями в Польщі ініціативів управління особистими знаннями. Внесок до дискусії. *Журнал Прикарпатського університету імені Василя Стефаника*, **10** (3) (2023), 122-138.

У статті розглядаються питання управління особистими знаннями і ініціатив, зроблених в цій області серед професійної групи вчителів. Це питання досі недостатньо вивчене і, отже, пізнавально цікаво та вимагає подальшого вивчення. Метою проведеного дослідження було визначення рівня ініціативності вчителів в області управління особистими знаннями урахуванням взаємозв'язків між змінними, що характеризують вивчаються вчителів, такими як: стать, вік, стаж роботи, тип установи, займана посада. Дослідження проведено серед 169 професійно активних вчителів з використанням методу діагностичного обстеження, з використанням авторської анкети ініціатив з управління особистим знанням. Отримані результати дослідження були піддані статистичні аналізі з використанням програми PSPP, Gnu General Public License Version 3. Дані були отримані за допомогою дисперсійного аналізу ANOVA. Застосований метод стандартних відхилень показав, що найчисленніша група серед опитаних вчителів представляє середній рівень ініціативності в області управління особистими знаннями. На підставі отриманих результатів також можна зробити висновок, з більш високим рівнем ініціативи в області управління особистими знаннями характеризуються жінки, вчителі з найдовшим стажем роботи, з найстарішої вікової групи, ті які займають керівничі посади та працівники в дитячих садах та позашкільних навчальних закладах. Отримані результати досліджень мають практичне значення як в одиничному вимірі-професійно активних вчителів , а також організацій, які їх наймають. Вони можуть допомогти у веденні в них рішень у навчанні майбутніх вчителів на рівні вищих навчальних закладів, а також для організації тренінгів та семінарів з удосконалення та розвитку навичок управління особистими знаннями серед професійно активних вчителів.

Ключові слова: знання, управління особистими знаннями, ініціативність в управлінні особистими знаннями, вчитель.