TÜRK FEN EĞİTİMİ DERGİSİ
Yıl 16, Sayı 4, Aralık 2019

Journal of
TURKISH SCIENCE EDUCATION
Volume 16, Issue 4, December 2019

http://www.tused.org

Identifying Primary School Teachers' Health Literacy

Vincentas LAMANAUSKAS[1], Dalia AUGIENĖ [2]

[1] Prof. Dr., Šiauliai University, Šiauliai-LITHUANIA, ORCID ID: 0000-0002-4130-7899
[2] Assoc. Prof. Dr. Šiauliai University, Šiauliai-LITHUANIA, ORCID ID: n/a.

Received: 13.09.2019 **Revised:** 02.10.2019 **Accepted:** 17.10.2019

The original language of article is English (v.16, n.4, December 2019, pp.451-466, doi: 10.36681/tused.2020.0)

Reference: Lamanauskas, V., & Augienė, D. (2019). Identifying primary school teachers` health literacy. *Journal of Turkish Science Education, 16* (4), 451-466.

ABSTRACT

Health literacy (HL) not only determines people's motivation and competence levels to obtain and to understand health-related information but also strengthens their views on how to keep good health by seeking different ways. Although an interest in health literacy has significantly increased in the world since 1990, this sphere remains urgent. It is agreed that a lot of research analysing people's lifestyle peculiarities has been carried out in Lithuania, however, preserving significance of health literacy and strengthening health have not yet been explored, especially speaking about certain professional people groups. Even though school has a pivotal mission for good physical and psychic health of young generation, very little research has focused on primary school teachers' health literacy. Thereby, the need for the current research emerges. Through a qualitative research, 88 primary school teachers participated in the current research. A 5 open-ended item questionnaire was used to collect data that were further processed using the quantitative content analysis. The results indicated that knowledge about healthy lifestyle, practical behaviour and healthy lifestyle promotion were the essential components of the teachers' health literacy. Though, their parameters of main health literacy were understandable and quite well evaluated; nevertheless, they lacked knowledge and practical abilities. This research recommends that only teachers' competencies of health literacy and personal healthy lifestyle experience can contribute to students' healthy living habits.

Keywords: Content analysis, health literacy, primary school teacher, qualitative research.

INTRODUCTION

Health literacy as such is not a new thing. In the teaching context about health, the health literacy conception (HLC) first appeared in 1970 in USA (Javtokas, Sabaliauskas, Ţagminas, & Umbrasaitė, 2013). However, in the last decade of the 20th century, the development of this concept was very rapid. In scientific literature, one can find various HL definitions and models. Usually health literacy comprises personality abilities to search and to understand the conveyed information about health, and the influence of that information on possible positive changes in health behaviour. It is important to note that the significance of

Corresponding author e-mail: vincentas.lamanauskas@su.lt

health literacy in Lithuania in preserving and strengthening health is a very little researched sphere (Zagurskienė & Misevičienė, 2010), though after 2005 such research grew more intensive. Although health literacy is treated as a constituent part of health education, however, mostly it is focused on the medical aspect of the thing. For example, according to Šveikauskas (2005), health education is understood as a process during which the support is provided to the patients or their families perceiving health related information. On the other hand, the sources of human personality and health lie in the childhood. It follows from there that a very important task is to save and to strengthen physical and psychic health of the child from the early days. Thus, health education at school is very important for the further preservation and strengthening of the young human's health, this is eventually a learning outcome in schools (Paakkari, L. & Paakkari, 2012). According to Javtokas (2015), health literacy is directly related to health strengthening. People of the higher level of health literacy have particular abilities to strengthen their health and to take care of it. On the other hand, health literacy education helps to perceive health information (Guzys, Kenny, Dickson-Swift, & Threlkeld, 2015).

So, teachers play a very important role here. Their health literacy directly influences students' understanding about health, healthy way of living and so on. As researchers state, school is an appropriate place for health literacy formation (Cheng & Wong, 2015; Mirzapour Ermaki, Mirzaie, & Naghibi Sistani, 2019), and the earlier it is done, the higher is the probability to reduce the lifestyle-related diseases (Bruselius-Jensen, Bonde, & Christensen, 2017). The research conducted in Turkey, in which participated 500 primary school and senior form teachers showed that 44.0% of the teachers had very limited, and 29.8% had limited health literacy (Yilmazel & Cetinkaya, 2015). The research conducted in Iran also revealed low health literacy of the teachers. As researchers claim, limited health literacy in teachers is a barrier to enhancing the health literacy of students at schools (Ahmadi & Montazeri, 2019). However, though many schools in countries throughout the world have achieved essential outcomes in health literacy (St Leger, 2001), this question remains relevant. Health literacy promotion is in line with the WHO programme objectives "Health for All in the 21st Century" (1997). On the other hand, students' health education is one of the priority directions of Lithuanian health policy (Gudţinskienė & Česnavičienė, 2015). For the implementation of this goal, it is important that health literacy of the teachers' working with the young generation be sufficiently high. As researchers claim (Denuwara & Gunawardena, 2017; Rong, et.al), lack of teachers' as health literacy educators' competence affects students' health literacy directly unfavourably as well.

The research conducted in Lithuania with future teachers showed that students understand teacher health literacy as teacher health knowledge domain, health education abilities/skills, and teacher personal example. Teacher should have knowledge about health, different illnesses, healthy lifestyle, benefits of sport and physical activity. Teacher has to be able to transfer this knowledge to students managing educational process and education content. Teacher should set a good behavioural model to his students, has to be engaged in healthy lifestyle and to live a healthy life. On the other side, for a significant part of students, teacher health literacy was not a clear*/little understandable sphere* (Lamanauskas & Augienė, 2018).

Thus, according to Zagurskienė et al. (2010), in the recent years, more attention is given to health literacy of the patients undergoing treatment in hospitals, for the research of health information presented to the patients by nurses. On the other hand, during the last decade, there has been carried out quite a lot of research in Lithuania, analysing people's lifestyle peculiarities (especially research focusing on the healthy way of living), increase of physical activity and other. However, health literacy significance preserving and strengthening health, health literacy improvement questions are just slightly analysed.

Especially it is true about teacher community. One can claim that in general, health literacy research in Lithuania is poor, very dispersed in interdisciplinary scientific literature, incoherent (Lamanauskas, 2018).

Thus, the main research goal was to find out primary school teachers' attitude on health literacy issue. It was aimed to ascertain how teachers understand health literacy, healthy lifestyle, what health literacy enhancement opportunities they discern, how they value personal abilities in health sphere and how they realize teacher health literacy urgency in the education process. It is expected that qualitative, empiric research results will help to effectively improve the development of primary school teachers' qualification in the aspect of health literacy promotion, and will also allow to present certain insights for health education improvement in general. Specifically, it was planned to answer the following research questions:

- What is primary school teachers' understanding of health literacy and healthy lifestyle?
- What is primary school teachers' attitude regarding health literacy improvement/promotion?
- How do primary school teachers value personal abilities necessary to find information about health, understand, estimate and apply it?
- How primary school teachers understand health literacy significance to students' education?

METHODS

a) General Research Characteristics

A qualitative research was carried out. The research was conducted in April – June 2019. In the set terms it is classified as "basic or generic qualitative research" (Merriam, 1998) because it has its relevant features. On the other hand, such research creates conditions for obtaining data about the researched phenomenon or possible new aspects of the phenomenon (Bitinas, 2002). The researchers evaluated the attitude that qualitative research (using the qualitative research method) is very eligible for examining health and questions associated with it. It is often applied in health-related scientific research (Pope & Mays, 1999; Sandelowski, 2000). Besides, it was sought to present interpretational (not as a separate variable outcome) and holistic explanation emerging from the researchers' presented answers.

b) Research Sample

88 primary school teachers from various Lithuanian primary schools (from more than 50 schools) participated in this research. The age of people participating in the research ranged from 32 to 60 years (average 46 years), and the length of teaching work experience – from 10 to 35 years. One can claim that the respondents had rather rich teaching experience.

An international programme "Apple's friends" was used to question the respondents during the seminars. The respondents' geographical distribution was wide. Following Morse (1994), the sample of 30-50 participants is appropriate for such type of research. According to Creswell (1998), a range of 20-30 participants is reasonable for qualitative samples/groups. Consequently, it is believed that such sample is fairly representative in a qualitative research and permits to draw certain conclusions. As there were few variables analysed in the research, the population analysed was basically homogenous, and such sample size is considered

appropriate (Neuman, 1997). All the respondents were women. Before the research, the respondents' verbal consent was obtained to participate in the research.

In Lithuania, primary education is a part of formal education, whose purpose is to educate an active, creative child who gained elementary literacy and social, cognitive, informational activity abilities, who acquired basic human values and is ready to study further, according to general education programmes. Children start primary school at the age of 6-7 and according to primary education programme are educated up to 10 (11) years (forms 1 to 4). Teachers with a university degree educate primary school students. Primary school teacher's activity is a very complex and manifold work of psychological and pedagogical content. It requires high morality, deep and extensive knowledge, constant interest in educational process organisation, clear professional, pedagogical direction, love to children, teaching and education theory and practice knowledge. One of teacher's education goals is to develop students' health competence.

c) Instrument

The respondents were given five open-ended questions-tasks:

- How do you understand teacher health literacy? Please explain.
- What does healthy way of living / healthy lifestyle mean to you? Please explain.
- How would it be possible to enhance/improve teacher health literacy? Please explain.
- Evaluate (describe) your abilities, necessary to find information about health, to understand, to estimate and to apply it?
- What importance do you think teacher health literacy has, teaching students to live healthy?

The presented tasks comprise overall teacher understanding about health literacy, healthy lifestyle, health literacy enhancement and personal ability evaluation. Choosing the questions, health literacy research carried out in some European Union member countries (Sørensen, Pelikan, Röthlin, Ganahl, Slonska, Doyle, … HLS-EU Consortium, 2015) was taken into account. Also, World Health Organisation (WHO) and UNESCO expert positions regarding teacher preparation for health education (Joint WHO/Unesco Expert Committee…, 1960) were evaluated. The questions were developed for the purpose of this research – to capture the teachers' understanding of health literacy issues. These are questions that do not compose a scale and are analysed individually. Additionally, such questions were presented in the earlier research and methodologically proved (Lamanauskas & Augienė, 2018).

d) Data Analysis

Because the research data were expressed in written open-end form, the obtained answers were coded. During the qualitative content analysis, it was sought to find similarities, differences and interrelations between text segments and to distinguish semantic units. Later, grouping of the most frequently repeating semantic units (subcategory distinction) was conducted. Semantically close subcategories were put into categories created referring to gathered data. In other words, the data were analysed using an inductive approach, when from separate and/or particular it is approached to a more general perspective (Luobikienė, 2000).

A qualitative content analysis type was selected, when a code system is defined, and the calculation results are arranged in tables. It was sought to ascertain how a respondent perceives/understands the analysed phenomenon, reflecting on his experience, referring to the researcher's presented questions. Following Mayring (2002) it is considered that content analysis is a valid method, allowing to make specific conclusions referring to the analysed text (verbal data array). As (content) analysis is based on interpretation, therefore category

distinction was not automatic and/or mechanic, but a creative interpretation process, seeking to decode the existing meanings in the researcher presented answers (Tidikis, 2003; Bitinas, Rupšienė, & Ţydţ iūnaitė, 2008).

Seeking to assure analysis reliability, semantic unit distinction and grouping was performed separately by two researchers. At the later stage, the researchers found a consensus regarding subcategory attachment to categories (discussion was carried out at 2-week interval). Inter-rater reliability was 88%. Referring to the recommendations of Miles and Huberman (1994), analysis reliability is appropriate and high when Inter-rater reliability is higher than 70%.

FINDINGS

Having carried out teacher health literacy understanding categorisation, three categories were extracted: *Knowledge about health, Practical behaviour, Healthy lifestyle promotion.* Results are presented in Table 1.

Table 1. *Teacher health literacy understanding.*

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Knowledge about health	60 (43.3)	Knowledge about health	35 (25.3)	Knows/has knowledge about healthy way of living	14 (10.2)
				Knowledge about person's healthy lifestyle	8 (5.8)
				Knowledge about health	6 (4.3)
				Realises healthy lifestyle importance	5 (3.6)
				Knows how to strengthen his/her health	2 (1.4)
		Health knowledge promotion	17 (12.4)	Ability to search and understand information about health	10 (7.4)
				Interest in healthy lifestyle	6 (4.3)
				Reading about healthy lifestyle	1 (0.7)
		Knowledge about diseases	4 (2.8)	Elementary knowledge about diseases and their prevention	4 (2.8)
		Knowledge about harmful factors	4 (2.8)	Knows the factors doing harm to human health	2 (1.4)
				Knows health risk factors	2 (1.4)
Practical behaviour	47 (33.9)	Healthy lifestyle	25 (18.0)	Healthy nutrition/ interest in healthy nutrition	12 (8.6)
				Regular gymnastic exercises and sport, movement	6 (4.3)
				Tries/is able to live healthy	4 (3.0)
				Active lifestyle	2 (1.4)
				Discharge day practicing	1 (0.7)
		Physical health nurturing	11 (8.1)	Interest in health	4 (3.0)
				Knowledge about health application in practice	3 (2.2)
				Constant care about one's health	3 (2.2)
				Has a health check up on time	1 (0.7)
		Psychic health nurturing	5 (3.5)	Good psychic health of the teacher	2 (1.4)
				Appropriate emotion control	1 (0.7)
				Appropriate stress control	1 (0.7)
				Positive attitude to changes	1 (0.7)
		Ability to provide help	4 (2.9)	Ability to provide help/first aid	3 (2.2)
				Understands how to behave during accidents	1 (0.7)
		Fighting harmful habits	2 (1.4)	Avoiding harmful habits	2 (1.4)

				Conveys knowledge about health to the learners	7 (5.1)
		Youth education		Ability to practically develop healthy lifestyle skills	7 (5.1)
Healthy lifestyle propagation	31 (22.8)			Integrates health questions into school subjects	4 (3.0)
				To cognise students' physical and psychic state	4 (3.0)
					5 (3.6)
		Sharing experience	9 (6.6)	Promotes healthy lifestyle	
				Device strengthening healthy lifestyle cognition and propagation	4 (3.0)

Note: 138 semantic units were extracted.

The first category *Knowledge about health* (43.3%) consisted of four subcategories and had the highest weight. It is obvious that primary school teachers thinking about health literacy gave priority to knowledge. The most important was *knowledge about health* (to have knowledge about healthy lifestyle, knowledge about person's healthy lifestyle, to perceive healthy lifestyle importance, to know how to strengthen their health and so on). *Health knowledge development* (ability to search and to understand information about health, interest in healthy lifestyle, reading about healthy lifestyle) was also important. *Knowledge about diseases and knowledge about harmful factors* was important as well.

The second, in accordance with importance, was the category *Practical behaviour* (33.9%). It consisted of five subcategories: *healthy lifestyle* (healthy nutrition, constant gymnastic exercises and sport, movement, ability to live healthy, active lifestyle, discharge day practicing), *physical health nurturing* (interest in health, knowledge about health application in practice, constant care about one's health), *psychic health nurturing* (good psychic health of the teacher, appropriate emotion and stress control, positive attitude to changes), *ability to provide help* (to behave appropriately during accidents, to provide first aid) and *fighting harmful habits* (avoiding harmful habits). This allows stating that an ability to demonstrate appropriate, health preserving behaviour, be an example to the surrounding people occupies an important place in primary school teachers' health literacy understanding.

The third, in accordance with importance, was the category *Healthy lifestyle propagation* (22.8%). Here, a very important position in primary school teacher health literacy understanding occupied *youth education, i.e.,* teachers claim that it is important to convey knowledge about health to the learners, to be able practically educate healthy lifestyle habits, to integrate health questions into school subjects, to cognize students' physical and psychic state. Some teachers thought that *sharing experience* was important (it is important to propagate healthy lifestyle, to cognize and propagate healthy lifestyle strengthening devices).

Teachers' healthy lifestyle understanding was analysed. Five categories were distinguished, the structure of which is presented in Table 2.

Table 2. *Healthy way living / healthy lifestyle understanding.*

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Healthy nutrition	49 (30.6)	Balanced nutrition	45 (28.1)	Healthy nourishment / nutrition	34 (21.3)
				Balanced nutrition	10 (6.2)
				Moderate nourishment	1 (0.6)
		Food quality	4 (2.5)	Quality foods	4 (2.5)
Physical	45 (27.7)	Active rest	32 (19.7)	Walk more, move	15 (9.2)
				Active rest	8 (5.0)
				Physical activity	5 (3.0)

activity			Active lifestyle	4 (2.5)
		Sport	13 (8.0)	Going in for sports Gymnastic exercises / doing exercises	11 (6.8) 2 (1.2)
Health quality	35 (21.5)	Health care	27 (16.5)	Good/perfect health Health strengthening lifestyle Organism hardening Caring about health Have periodic check-ups	13 (8.0) 6 (3.7) 3 (1.8) 3 (1.8) 2 (1.2)
		Harmful habit prevention	8 (5.0)	Avoiding/ not having harmful habits	8 (5.0)
Emotional state	17 (10.4)	Emotional stability	12 (7.4)	Good/ perfect mood Emotional stability Positive disposition Good emotional state Positive emotions	4 (2.5) 4 (2.5) 2 (1.2) 1 (0.6) 1 (0.6)
		Relations with the environment	5 (3.0)	Psychologically healthy environment Good relations with colleagues Friendly relationship with nature	3 (1.8) 1 (0.6) 1 (0.6)
Work and rest harmony	16 (9.8)	Quality rest	8 (4.8)	Appropriate rest Appropriately organised leisure time Quality sleep and rest	5 (3.0) 2 (1.2) 1 (0.6)
		Work and rest regime	8 (5.0)	Appropriate work and rest regime	8 (5.0)

Note: 162 semantic units were extracted

The most significant category was *Healthy nutrition* (30.6%). It is obvious that primary school teachers associated healthy lifestyle with balanced nutrition and food quality.

The second, in accordance with importance, was the category *Physical activity* (27.7%). The teachers accentuated here the importance of sport and active rest.

The third, in accordance with importance, was the category *Health quality* (21.5%). The teachers understood health care (good/perfect health is important, health strengthening, organism hardening, health care, periodic check-ups are important) and harmful habit prevention as health quality guarantors.

The category *Emotional state* (21.5%) was the fourth according to importance. Emotional state was understood as emotional stability (good, perfect mood, positive disposition, positive emotions and relations with the environment (psychologically healthy environment, good relations with colleagues, friendly relationship with nature).

The fifth, according to importance, was the category *Work and rest harmony* (9.8%). Work and rest harmony was understood as quality rest, and work and rest regime.

On the basis of teachers' answers, five formulated categories allow stating that primary school teachers understand healthy way of living / healthy lifestyle as a harmonious human state. Here, healthy nutrition, physical state, health quality, emotional state, work and rest harmony are important.

Having analysed teacher positions about health literacy enhancement possibilities, three categories were extracted: *Educational events, Helping the teacher, Constant learning/improvement*. Results are presented in Table 3.

Table 3. *Teacher health literacy improvement possibilities.*

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Educational events	122 (75.6)	Teaching organisation	71 (44.2)	Health seminars	35 (22.0)
				Lectures on health and healthy lifestyle topics	15 (9.3)
				Various events on health topic	5 (3.1)
				Courses on health topic	4 (2.5)
				Organise educational-health promotion activities	4 (2.5)
				Educational activities	3 (1.8)
				Improve health strengthening and healthy lifestyle knowledge dissemination	3 (1.8)
				Educational TV programmes	2 (1.2)
		Practical events	43 (26.5)	Practical activities / teachings	14 (8.6)
				Collaboration with health specialists	7 (4.3)
				Sharing experience	6 (3.7)
				Meetings with medical doctors	4 (2.5)
				Experience dissemination	4 (2.5)
				Organise healthy lifestyle camps	4 (2.5)
				Organise practical works	3 (1.8)
				Psychological activities	1 (0.6)
		Methodological issues	8 (4.9)	Appropriate/didactically prepared methodological material	8 (4.9)
Helping the teacher	20 (12.2)	Recreational support	12 (7.3)	Devote more time to relaxation	4 (2.5)
				Create relaxation rooms at schools for students and teachers	3 (1.8)
				Making possibilities for the teacher to relax well	2 (1.2)
				Good microclimate	2 (1.2)
				Active physical activity	1 (0.6)
		Workload change	5 (3.1)	Reduce teacher workload	5 (3.1)
		Responsibility increase	3 (1.8)	Increase teacher self-awareness	3 (1.8)
Constant learning/ improvement	20 (12.2)	Self-education	14 (8.5)	Self-education	8 (4.9)
				Read various literature on health topics	6 (3.7)
		Personal improvement	6 (3.7)	Constant interest in healthy nutrition	5 (3.1)
				Personal improvement	1 (0.6)

Note: 162 semantic units were extracted

The first category *Educational events* (75.6%) was of exceptional significance. It is obvious that in primary school teachers' opinion, educational process could enhance/improve their health literacy. Firstly, *teaching organisation* (44.2%) could be of great help. The teachers indicated that seminars, lectures, various events on health and healthy lifestyle topics, courses on health topic, educational TV programmes would be useful. It is necessary to organise educational-health promotion seminars, to improve health strengthening and healthy lifestyle knowledge dissemination. Teachers accentuated *practical event* (26.5%) importance as well enhancing/ promoting teacher health literacy. In teachers' opinion, practical activities/teachings, collaboration with health specialists, sharing experience, meetings with medical doctors, experience dissemination, healthy lifestyle camps, psychological activities would be useful. Not a big part of teachers would like methodological

issues i.e., appropriately/didactically prepared methodological material, which would expand their knowledge and would allow to appropriately convey it to students.

The second, in accordance with importance, was the category *Helping the teacher* (12.2%). This category showed not so much how it would be possible to expand teacher health literacy knowledge and practical abilities but expressed teacher demand to improve their healthy lifestyle and to form necessary conditions for that. Teacher answers allow asserting that recreational support was important for them, i.e., it was important that more time would be devoted to relaxation, it was necessary to create relaxation rooms at schools for students and for teachers, to improve microclimate, make physical activity more active, reduce teacher workload and so on. In teachers' opinion, it was important to increase teacher responsibility, self-awareness.

The third category *Constant learning / improvement* (12.2%), according to importance, also occupied the second place. It is obvious that personal improvement and self-education were the most convenient ways for teachers to develop their literacy knowledge and practical abilities.

Having analysed teacher answers about abilities necessary to find information about health, understand it, estimate and apply, three categories were extracted, which reflect ability levels. Results are presented in Table 4.

Table 4. *Personal abilities to find information about health, understand it, estimate and apply.*

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Perfect abilities	76 (64.7)	Information search	43 (37.0)	Able to find information in the internet	32 (27.8)
				Able to select appropriate and valuable information	6 (5.0)
				Use various information sources	4 (3.4)
				Understand information and can apply it	1 (0.8)
		Self-education	26 (21.8)	Constantly interested in health questions	8 (6.7)
				Watch various TV programmes on health topic	8 (6.7)
				Read books, various press	5 (4.2)
				Abilities are perfect	3 (2.6)
				I self-educate myself	1 (0.8)
				Know a lot on health questions	1 (0.8)
		Collaboration with specialists	7(5.9)	Consult doctors and other specialists	5 (4.2)
				Conversations with health specialists	2 (1.7)
Average abilities	26 (21.8)	Appropriate abilities	26 (21.8)	Personal abilities are good	10 (8.4)
				Abilities are sufficient	9 (7.6)
				Have suitable abilities	6 (5.0)
				Abilities are average	1 (0.8)
Satisfactory abilities	16 (13.5)	Lack of practical abilities	9 (7.6)	Abilities to apply health knowledge in education are satisfactory	4 (3.4)
				Minimal abilities	2 (1.7)
				Satisfactory abilities	2 (1.7)
				Lack of practical abilities in this sphere	1 (0.8)
		Lack of knowledge	7 (5.9)	Lack of knowledge	4 (3.4)
				There is a lot of information, it is difficult to select	3 (2.5)

Note: 118 semantic units were extracted

The first, in accordance with importance, was the category *Perfect abilities* (64.7%). It is obvious that more than half of the teachers valued perfect their abilities needful to find information about health, to understand it, estimate and apply. Teachers highly valued their *information search* (37.0%) abilities. They claimed that they were able to find information in the internet, to select an appropriate and valuable information, use various information sources, understand the found information and apply it. A big part of the teachers valued their *self-education* (21.8%) abilities very well. The teachers claimed that they were constantly interested in health questions, watched various TV programmes on health topic, read books, various press, knew a lot on health questions. A part of the teachers accentuated *collaboration with specialists* (5.9%). They were able to consult the doctors, have discussions with health promotion specialists.

Teacher answers allowed stating that a part of the teachers (21.8%) valued their abilities necessary to find information about health, to understand it, to estimate and to apply *on average.* Not a big part of the teachers (13.5%) valued these abilities *satisfactory.* They indicated that they lacked practical abilities and knowledge.

It was analysed how the respondents valued teacher health literacy significance in the education process. Two categories were extracted, the results of which are presented in Table 5.

Table 5. *Teacher health literacy significance in the education process.*

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Big significance	96 (88.2)	Versatile influence on the student	61 (56.1)	Very high significance	25 (23.3)
				Particular significance	8 (7.3)
				What the teacher knows he conveys to students	8 (7.3)
				Direct significance	6 (5.5)
				Teacher directly encourages students to live healthy	5 (4.6)
				Teacher has to know more than the programme requires	4 (3.6)
				Student's working efficiency depends on teacher's emotional and physical state	3 (2.7)
				This has a big influence on student's life	2 (1.8)
		Teacher's example influence	35 (32.1)	An appropriate example teaches most	15 (13.8)
				An appropriate example motivates students	12 (11.0)
				Teacher's personality influences children's attitude	5 (4.6)
				Teach what you live	3 (2.7)
Slight significance	13 (11.8)	Family influence	8 (7.3)	Family has to form this	5 (4.6)
				This is a family matter	3 (2.7)
		Specialist duty	5 (4.5)	Specialists have to care about health questions	3 (2.7)
				Teacher does not have any influence	2 (1.8)

Note: 109 semantic units were extracted.

The first category *Big significance* (88.2%) occupied an exceptional position. It is obvious that the biggest part of the teachers understood that teacher health literacy had a very great significance educating (teaching) students to live healthy. Teacher answers allow stating that the majority of teachers thought that their health literacy had a *versatile influence on the student* (56.1%). A big part of the teachers indicated *teacher's example influence* (32.1%) teaching students to live healthy. Teachers pointed out that an appropriate example taught

best, motivated students, teacher's personality influenced students' attitude to healthy lifestyle.

The second category *Slight significance* (11.8%) revealed that only a small part of teachers thought that to teach children to live healthy was *family duty* (family has to form this; this is a family matter) and *specialist duty*.

DISCUSSION

By this research, it was sought to ascertain primary school teachers' health literacy understanding, their position about health literacy enhancement possibilities and how they perceived teacher health literacy significance importance in the education process. Health literacy is a complex phenomenon, its investigation is rather complicated. Presumably, it is one of the reasons that there is little research in this sphere. The research show that even in economically developed countries children, teenagers and grown-ups have rather limited health literacy (Kanj & Mitic, 2009; Sørensen, Pelikan et al., 2015). The other research show that it is not clearly known how health literacy is related to their learning achievements (Samson-Daly, et al., 2016), however, there is no doubt that good health is a precondition to better learning achievements (Rubene, Stars, & Goba, 2015). It is no doubt that teachers have a direct influence on students' health literacy. Besides, it is indeed very little known about teachers' health literacy; therefore, it is necessary to expand research in this direction. The conducted research showed that in the health literacy understanding structure of primary school teachers, knowledge comprised the biggest part (43.3%), whilst healthy lifestyle propagation much less (22.8%). According to researchers, health literacy teaching results depend on school teaching methods, which in their own turn require teacher professional improvement (Rubene, et al. 2015).

Speaking about teacher healthy lifestyle, one can state that there is shortage of research concerning this attitude. The conducted research showed that one third of respondents (30.6%) related healthy lifestyle to healthy nutrition, and only a small part (9.8%) to work and rest harmony. Namely, in education process it is important that teachers try to affect students' attitude to health, to inspire a feature to care about one's health and to stick to healthy lifestyle (Gudţinskienė, 2007). On the other hand, healthy lifestyle skill education has influence not only on the learners' health and lifestyle but also indirectly positively affects community health behaviour (Whitehead, 2006). The research carried out earlier in Lithuania showed that less than half of the teachers having participated in the research (395 respondent sample) thought being ready to develop students' healthy lifestyle (Gudţinskienė & Česnavičienė, 2013).

Teacher literacy promotion is very important. The conducted research showed that the biggest part of the respondents (75.6%) considered educational activities (mostly teaching organisation and practical events) as the main health literacy promotion device. This also corresponds to general attitude that teaching about health significantly improves health literacy, providing a possibility to learn healthy lifestyle. This is also accentuated in Ottawa charter (World Health Organization, 1986), in which it is said that effective teaching about health promotes health literacy.

So, the result analysis of the carried out primary school teacher health literacy research (interest in health, healthy lifestyle and students' ability to live healthy education aspects) though, in a way, revealed a sufficiently wide, exhaustive teacher health literacy understanding (knowledge about healthy lifestyle, practical behaviour, healthy lifestyle propagation), however, a big part of teachers lacked knowledge and abilities in this sphere. A similar situation was also in the research conducted by Kalinkevičienė, Česnavičienė, and Ustilaitė (2016), which revealed that sufficient or good health literacy in healthcare sphere was characteristic only of 30.4% teachers, in disease prevention sphere – of 38.3% teachers,

and health promotion sphere – of 25.4% teachers. Having calculated general health literacy index, it was stated that insufficient health literacy was characteristic of 29.2%, doubtful – of 42%, sufficient – of 23.1%, and perfect – only of 5.7% teachers having participated in the research. Knowing what important influence educational institution and teachers have on child's knowledge acquisition, skill and habit formation, it is obvious that it is important to provide help to the teacher developing health literacy competence. Whitley, Smith, and Vaillancourt (2012) noted that teacher health literacy which comprised knowledge about health, abilities to search information about health, understand it, estimate and apply in everyday life, make decisions for maintaining quality of life had influence on effective children's health education. Only the competence of health literate teachers and personal healthy lifestyle experience can contribute to students' healthy lifestyle education (Byrne, Pickett, Rietdijk, Shepherd, Grace, & Roderick, 2016). The conducted research showed that teachers understood that their health literacy and personal example had a great significance developing students' healthy lifestyle demand, promoting knowledge about health. Therefore, teachers are willing to promote their health literacy during various educational events, receiving a versatile support.

Reflecting research results it is obvious that there exist gaps in primary school teachers' health literacy understanding, which reveal a certain inadequacy to existing health literacy concept. For example, one of the essential health literacy components, such as disease prevention and prophylaxis is very poorly expressed. Inadequacy in health literacy understanding also shows a very concentrated attention to knowledge about health component, but especially small attention to health knowledge propagation, i.e. to youth education to live healthy. Health education general programme (2012) is prepared in Lithuania, however, in primary education the programme is being implemented integrating it into the other subject programme content and into non-formal education. Such programme realisation can determine episodical knowledge about health literacy conveyance, but not practical health knowledge realisation. Such situation possibly also influences primary education teachers' concentration only to knowledge about health. The other important factor determining primary education teachers' concentration to knowledge about health is primary education teachers' preparation programme content. In the programmes, one study subject related to children's health education is studied (e.g. Health and sexuality education or Human safety and health education and so on), in which the main attention is devoted to knowledge, but not to practice. It is obvious that education context mostly determines students' education to live healthy: teachers perceive students' health improvement social value and significance, however lack didactic competence, i.e. specific knowledge and abilities to educate students' healthy way of living value attitudes. On the other hand, teachers acknowledge students' health education importance in primary school, and integrate health knowledge into lessons, apply certain health education strategies. Unfortunately, the majority of primary school teachers feel having no competence in students' health education sphere.

CONCLUSIONS and IMPLICATIONS

It was stated that primary school teachers' health literacy understanding comprised three main components: *knowledge about health* (knowledge about health, about diseases/illnesses, about harmful habits), *practical behaviour* (healthy lifestyle, physical and psychic health nurturing, ability to provide support, fight with harmful habits) and *healthy lifestyle propagation,* which was concentrated *to youth education* and *sharing experience.*

Primary school teachers understood healthy way of living/healthy lifestyle as a harmonious human state, which was composed of *healthy nutrition, physical activity, health*

quality, emotional state, work and rest harmony. Healthy nutrition, physical activity and *health quality were especially accentuated.*

Seeking to enhance/improve primary school teachers' health literacy, various *educational events* would serve best for this. Teachers suggested *organising teachings*, *practical events*, preparing *methodological issues*. They accentuated that it was necessary to *help the teacher*, i.e., they expressed teachers' demand to improve their own healthy lifestyle and to form necessary conditions for that. For the teachers, *recreation support*, *workload change*, self-awareness, *responsibility increase,* were necessary seeking to promote health literacy competence. A part of the teachers indicated *constant learning / improvement* seeking high health literacy.

The biggest part of primary school teachers valued *perfectly* their abilities needful to search information about health, understand it, estimate and apply. A part of the teachers valued their abilities needful to find information, understand it, estimate and apply *on average.* A small part of the teachers valued *satisfactory* teacher abilities needful to find information about health, understand it, estimate and apply. Teachers noted that they lacked knowledge and practical abilities.

Exceptionally big part of primary school teachers claimed that teacher health literacy educating (teaching) students to live healthy had *big significance* because it had a versatile influence on the student, showed an example.

Scientific literature analysis revealed that health literacy as a specific literacy form was becoming more and more relevant solving manifold society health problems. Modern school is obliged not only to nurture and take care of students' physical and psychic health, but also to teach children to live healthy, to form a positive attitude to one's own health seeking to avoid harmful habits. Taking care of one's health becomes an important part of an education process. In order to correspond to these challenges, teachers and the whole school community have to take on an important role upon themselves. Only the competence of health literate teachers and personal healthy lifestyle experience, and healthy lifestyle propagation can contribute to students' teaching to live healthy, to form their health literacy. More than one-third of the teachers evaluated their abilities needful to search information about health, understand it, estimate and apply on average or satisfactory. Therefore, it is obvious that it is necessary to concentrate one's attention to future and current teacher education on health literacy questions, that teacher insufficient health literacy does not become an obstacle in students' health literacy implementation.

Seeking to develop primary education teachers' health literacy, it is necessary in university study programmes to devote more attention to practice. Already working teachers should periodically increase qualification according to purposefully prepared programmes, helping to develop health literacy competence. School, having traditionally concentrated attention to children, personnel health and well-being considers it an understandable thing. However, one cannot expect that teachers will take up an activity related to health strengthening with enthusiasm, if they do not feel themselves that their health is taken care of (in a wider sense, their health literacy).

REFERENCES

Ahmadi, F., & Montazeri, A. (2019). Health literacy of pre-service teachers from Farhangian University: A cross-sectional survey. *International Journal of School Health*, *6* (2), e82028. doi: 10.5812/intjsh.82028.

Bitinas, B. (2002). *Pedagoginės diagnostikos pagrindai* [Basics of pedagogical diagnostics]. Vilnius: Vilniaus pedagoginio universiteto leidykla.

Bitinas, B., Rupšienė, L., & Ţydţiūnaitė, V. (2008). *Kokybinių tyrimų metodologija* [Qualitative research methodology]. Klaipėda: S. Jokuţio l-kla.

Byrne, J., Pickett, K., Rietdijk, W., Shepherd, J., Grace, M., & Roderick, P. (2016). A longitudinal study to explore the impact of pre-service teacher health training on early career teachers' roles as health promoters. *Pedagogy in Health Promotion*, *2* (3), 170–183. https://journals.sagepub.com/doi/abs/10.1177/2373379916644449.

Bruselius-Jensen, M., Bonde, A. H., & Christensen, J. H. (2017). Promoting health literacy in the classroom. *Health Education Journal*, *76* (2), 156–168. https://doi.org/10.1177/0017896916653429.

Cheng, N. Y. I., & Wong, M. Y. E. (2015). Knowledge and attitude of schoolteachers towards promoting healthy lifestyle to students. *Health*, *7*, 119-126. http://dx.doi.org/10.4236/health.2015.71014.

Creswell, J. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.

Denuwara, H. M. B. H., & Gunawardena, N. S. (2017). Level of health literacy and factors associated with it among school teachers in an education zone in Colombo, Sri Lanka. *BMC Public Health*, 17(1), 631. doi: https://doi.org/10.1186/s12889-017-4543-x.

Gudţinskienė, V., & Česnavičienė, J. (2013). Mokytojų ţinios apie sveikatą ir sveiką gyvenseną kaip mokinių sveikos gyvensenos ugdymo prielaida [Teachers' knowledge of health and healthy lifestyle as a precondition for the development of the healthy lifestyle of pupils]. *Socialinis darbas / Social Work*, *12* (1), 121-136.

Gudţinskienė, V., & Česnavičienė, J. (2015). Mokytojų poţiūris į integruotą sveikatos ugdymą ir vaidmuo jį įgyvendinant [Teachers' views on integrated health education and the role in its implementation]. *Acta Paedagogica Vilnensia*, *34*, 74-88.

Gudţinskienė, V. (2007). *Mokymas sveikai gyventi: teoriniai ir praktiniai aspektai* [Teaching healthy living: Theoretical and practical aspects]. Vilnius: VPU leidykla.

Guzys, D., Kenny, A., Dickson-Swift, V., & Threlkeld, G. (2015). A critical rewiev of population health literacy assessment. *BMC Public Health*, *15*, 215. doi:10.1186/s12889-015-1551-6.

Health for all in the 21st century (1997). Geneva: World Health Otganization. Retrieved from http://applications.emro.who.int/docs/em_rc44_10_annex_en.pdf.

Javtokas, Z., Sabaliauskas, R., Ţagminas, K., & Umbrasaitė, J. (2013). Suaugusių Lietuvos gyventojų sveikatos raštingumas [Health literacy in Lithuanian adults]. *Visuomenės sveikata*, *4* (63), 38-46.

Javtokas, Z. (2015). *Sveikatos stiprinimo konspekto papildymas* [Supplement to the health promotion synopsis]. Vilnius, p. 1-32. Retrieved from http://smlpc.lt/media/file/Skyriu_info/Kvalifikacijos_tobulinimas/Lektura/2015-03-17%20Sveikatos%20stiprinimo%20konspekto%20papildymas,%202015.pdf.

Joint WHO/Unesco Expert Committee on Teacher Preparation for Health Education, World Health Organization & UNESCO. (1960). *Teacher preparation for health education: Report of a Joint WHO/Unesco Expert Committee* [meeting held in Geneva from 2 to 7 November 1959]. Geneva: World Health Organization. Retrieved from https://apps.who.int/iris/handle/10665/40458.

Kalinkevičienė, A., Česnavičienė, J., & Ustilaitė, S. (2016). Iššūkiai vaikų sveikatos ugdymui XXI a. mokykloje: mokytojų subjektyvus sveikatos raštingumas [Challenges for children's health education in the 21st century at school: Teachers' subjective health literacy]. Konferencija Mokytojas šiandien ir rytoj: tarp realybės ir lūkesčių [Conference Teacher Today and Tomorrow: Between Reality and Expectations. November 2016, Vilnius). Vilnius. Retrieved from

https://www.researchgate.net/publication/318598282_Issukiai_vaiku_sveikatos_ugdymui_XXI_a_mokykloje_mokytoju_subjektyvus_sveikatos_rastingumas

Kanj, M., & Mitic, W. (2009). *Health literacy and health promotion definitions, concepts and examples in the Eastern Mediterranean region*. This paper was prepared as a working document for discussion at the 7th Global Conference on Health Promotion, "Promoting Health and Development: Closing the Implementation Gap", Nairobi, Kenya, 26-30 October 2009. Retrieved from https://www.dors.it/documentazione/testo/201409/02_2009_OMS%20Nairobi_Health%20Literacy.pdf.

Lamanauskas, V., & Augienė, D. (2018). Pre-service teacher health literacy: understanding, development, significance aspects. In A. Jober, M. Andree & M. Ideland (Eds), *Future educational challenges from science and technology perspectives. XVIII IOSTE Symposium Book of Proceeding* (pp. 152-165). Malmö: Malmö University. Retrieved from https://doi.org/10.24834/978-91-7104-971-1.

Lamanauskas, V. (2018). Teacher health literacy: Why does it matter? *Problems of Education in the 21st Century*, *76* (1), 4-6.

Luobikienė, I. (2000). *Sociologija: bendrieji pagrindai ir tyrimų metodika* [Sociology: General fundamentals and research methods]. Kaunas, 188 p.

Mayring, P. (2002). Qualitative content analysis: Research instrument or mode of interpretation? In M. Kiegelmann (Ed.), *The role of the researcher in qualitative psychology* (pp. 139-148). Tübingen: Ingeborg Huber.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Jossey-Bass Publishers: San Francisco, CA.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook.* USA.

Mirzapour Ermaki, R., Mirzaie, M., & Naghibi Sistani, M. M. (2019). Oral health literacy and health behavior of primary school teachers in Babol. *Journal of Health Literacy*, *3*(4), 66-74.

Morse, J. M. (1994). Designing funded qualitative research. In Denizin, N. K. & Lincoln, Y. S., *Handbook of qualitative research* (2nd Ed). Thousand Oaks, CA: Sage.

Neuman, W. L. (1997). *Social research methods: Qualitative and quantitative approaches* (3rd ed.). Boston: Allyn and Bacon.

Paakkari, L., & Paakkari, O. (2012). Health literacy as a learning outcome in schools. *Health Education*, *112* (2), 133-152. https://doi.org/10.1108/09654281211203411.

Pope, C., & Mays, N. (1999). *Qualitative research in health care* (2nd ed.). London: by the BMI Publishing group, BMA House, Tairstock square.

Rong, H., Cheng, X., Garcia, J. M., Zhang, L., Lu, L., Fang, J., Le, M., Hu, P., Dong, X., Yang, J., Wang, Y., Luo, T., Liu, J., & Chen, J. (2017). Survey of health literacy level and related influencing factors in military college students in Chongqing, China: A cross-sectional analysis. *PLosOne*, *12* (5), e0177776. doi: 10.1371/journal.pone.0177776. eCollection 2017.

Rubene, Z., Stars, I., & Goba, L. (2015). Health literate child: Transforming teaching in school health education. In. *Society. Integration. Education*, Vol. 1 (pp. 331-340). Rezekne: Rēzeknes Augstskola. http://dx.doi.org/10.17770/sie2015vol1.314.

Samson-Daly, U. M., Lin, M., Robertson, E. G., Wakefield, C. E., McGill, B. C., Girgis, A., & Cohn, R. J. (2016). Health literacy in adolescents and young adults: An updated review. *Journal of Adolescent and Young Adult Oncology*, *5* (2), 106-118. doi: 10.1089/jayao.2015.0059.

Sandelowski, M. (2000). Combining qualitative and quantitative sampling, data collection and analysis techniques in mixed – method studies. *Research in Nursing and Health*, *23* (3), 246 – 255.

Sørensen, K., Pelikan, J. M., Röthlin, F., Ganahl, K., Slonska, Z., Doyle, G., … HLS-EU Consortium (2015). Health literacy in Europe: Comparative results of the European health literacy survey (HLS-EU). *European Journal of Public Health*, *25* (6), 1053–1058. doi:10.1093/eurpub/ckv043.

St Leger, L. (2001). Schools, health literacy and public health: Possibilities and challenges. *Health Promotion International*, *16* (2), 197–205. doi: https://doi.org/10.1093/heapro/16.2.197

Sveikatos ugdymo bendroji programa [Health education general program]. Vilnius: ŠMM. Retrieved from https://www.smm.lt/uploads/documents/vidurinis_ugdymas/SVEIKATOS%20UGDYMO%20BENDROJI%20PROGRAMA.pdf.

Šveikauskas, V. (2005). Sveikatos raštingumo ugdymo sistemos ypatybės [Peculiarities of the health literacy education system]. *Medicina*, *41* (12), 1061-1066.

Tidikis, R. (2003). *Socialinių mokslų tyrimų metodologija* [Social science research methodology]. Vilnius: Lietuvos teisės universiteto leidybos centras.

Yilmazel, G., & Cetinkaya, F. (2015). Health literacy among schoolteachers in Çorum, Turkey. *Eastern Mediterranean Health Journal*, *21* (8), 598-605.

Whitehead, D. (2006). The health-promoting school. What role for nursing? *Journal of Clinical Noursing*, *15*(3), 264-271. https://doi.org/10.1111/j.1365-2702.2006.01294.x.

Whitley, J., Smith, D., & Vaillancourt, T. (2012). Promoting mental health literacy among educators: Critical in school-based prevention and intervention. *Canadian Journal of School Psychology*, *28* (1), 56–70. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.875.7298&rep=rep1&type=pdf.

World Health Organization, WHO (1986). *The Ottawa Charter for Health Promotion*. WHO. Retrieved from http://www.who.int/healthpromotion/conferences/previous/ottawa/en.

Zagurskienė, D., & Misevičienė, I. (2010). Skirtingų sveikatos raštingumo lygių pacientų nuomonė apie slaugytojų teikiamą sveikatos informaciją [Opinion of patients with different health literacy levels about health information provided by nurses]. *Medicina*, *46* (1), 27-34.