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School Students' Motivation for Learning Sciences: How is it Influenced by Self-confidence in Science and Inquiry-based Teaching Approach?

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Abstract. The article deals with the Lithuanian school students' motivation for learning science on the basis of TIMSS 2015 data. This article analyses the influence of two factors on motivation for learning science: the self-confidence in science of school students' and teaching science using inquiry-based approach. The purpose of the research is to analyze the influence of self-confidence in science and the influence of teaching science by inquiry approach on students' motivation for learning science.

Keywords: *motivation for learning science, self-confidence in science, inquiry-based learning.*

Introduction

Science is a basis of technology and innovation, it is particularly important in today's creative society. In the first decade of the 21st century Osborne and Dillon (2008) raised the issue: "Yet in recent times fewer young people seem to be interested in science and technical subjects. Why does it happen?" (Osborne & Dillon, 2008, 5). In the second decade of the 21st century Ohle et al. (2015) confirmed the same problem: "Decreasing student interest and achievement during the transition from elementary to secondary school is an international problem, especially in science education" (Ohle et al., 2015, 1211).

The problem of motivation for learning science is contemporal and multidimensional concerning sociological, psychological, educational issues. In this study the phenomenon of motivation for learning science is consideredin psychological (self-confidence in science) and educational (engagement in learning science) approaches.

In order to determine what factors lead to motivation for learning science it is important to explain the concept of motivation. It is a great challenge because there are many different theories in psychology explaining the motivation and the factors that influence it. Scholars define learning motivation as the tendency of learners to benefit from meaningful learning activities (Wlodkowski, 1999).“To be motivated means *to be moved* to do something” (Ryan & Deci, 2000, p. 54). Motivation is a complex term in explaining thefactors that led to human behavior (Cavas, 2011; Sevinc, Ozmen, & Yigit, 2011). Expectation Value theory (EVT) considers students’ motivation as being influenced by students’ expectancy of success in a subject and by their evaluation of the task or subject (Mujtaba & Reiss, 2014). According to EVT, the expectancy of success depends on learners’ self-confidence.

Self-confidence encompasses the belief of a person in one’s ability (self-concept) and its belief in achieving some goal (self-efficacy) (Bandura, 1997; Eccles & Wigfield, 2002). According to Viljaranta, Tolvanen, Aunola, & Nurmi (2014) students’ self-confidence for learning is associated with their belief in ability for particular subjects, and with their choices of what subjects to study. Students’ self-confidence is importantin many educational spheres, usually specific to particular academic subjects (The Royal Society, 2014). Academic aspect of students’ perceptions of their own knowledge and themselves is defined as academic self-confidence (Wigfield and Karpathian, 1991). Academic success is strongly associated with academic self-confidence.

Academic self-confidence depends on academic self-concept and academic self-efficacy. According to Midgley et al. (2000) academic self-efficacy correlates with students’ perceptions of their abilities to do academic assignments. Schunk (1991) describing academic self-efficacy stated that academic self-efficacy refers to individuals’beliefs that they can fulfill given academic tasks. Altunsoy et al. (2010) state that academic self-efficacy includes beliefs in the capabilities to achieve the academic tasks. According to Marsh & Shavelson (1985) academic self-concept incorporates many forms of self-knowledge and self-evaluative feelings. Scholars state that students with higher levels of self-confidence in mathematics have significantly higher level of success in fulfillment of given tasks (Chui & Classen, 2010).

Jansen et al. (2015) analyzed students’ self-confidence in science by self-concept and self-efficacy approach and found that science self-concept was better predicted by the average peer achievement (*Big-Fish-Little-Pond Effect*), whereas science self-efficacy was more strongly affected by inquiry-based learning opportunities. There is no clear empirical support on how self-confidence in science of school students is related to motivation for learning science.

According to Riga et al. (2017), science and inquiry should go hand in hand. Inquiry corresponds to the inductive approach in education, so called ‘bottom-up’ approach, which stimulates observation, experimentation and the teacher-guided construction by the learners of their own knowledge (Rocard, et al., 2007). Inductive approach is the opposite of deductive approach or ‘top-down transmission’ approach whereas learners, passive receivers of knowledge, are forced to handle abstract notions (Rocard, et al., 2007). According to Fisher & Horstendal, (1997) understanding of the influence of motivation on learning science may lead to new insights in the teaching science in the classroom.

International Science and Mathematics Study (TIMSS) gives a possibility to look in the teaching science in classroomon inquiry-based approach. Oguz-Unver & Arabacioglu (2014) state that “inquiry is acquisition of knowledge from direct observations by using deductive questions” (p. 121). According to Rocard (2007), in deductive approach (top-down transmission) teachers’ role was confined to presenting the scientific facts and to giving examples. In inductive (bottom-up) approach teachers’ role corresponds to inquiry methodology, it means that at bottom-up approach teachers’ role is to give space for student’s argumentation, observation, experimentation and evaluation. TIMSS 2015 measures the teaching of science between ‘bottom-up’ and ‘top-down transmission’. There are a lot of questions in TIMSS 2015 questioner about teaching science at school by ‘bottom-up’ and ‘top-down transmission’ perspective. Scholars frequently discuss a relationship between students’ achievements and their factors on the basis of TIMSS (Akilli, 2015; Kabiri, 2017). Nagengast et al. (2012) state that while schools focus on science academic achievement, the main problem is low motivation in science activities.

In view of this, **the purpose of the article** is to analyze the influence of self-confidence in science and teaching science using inquiry-based approach on students’ motivation for learning science on the basis of TIMSS 2015 data.

The research objectives are as follows:

How does self-confidence in science influence motivation for learning science?

How does teaching science influence motivation for learning science?

How does the influence of self-confidence on motivation for learning science depend on science subject?

How does the influence of teaching science on motivation for learning science depend on science subject?

Method of research

Instruments of research. Large-scale International Mathematics and Science Study (TIMSS) research, coordinated by the International Association for the Evaluation of Educational Achievement (IEA) has provided periodic data on comparison of students' science and mathematics achievement across the nation. An interdisciplinary TIMSS 2015 study explored student self-confidence in science and motivation for learning science through reliable and valid research instruments. "TIMSS 2015 context questionnaire items were developed to be combined into scales measuring a single underlying latent construct"(Martin, 2016b, 15.1).

At TIMSS 2015 research the Students Confident in Science scale was used. This scale is applicable to three science subjects: The students confident in biology scale (SCB), The students confident in chemistry scale (SCC), The Students Confident in Physics scale (SCP) (Table 1). Variables of Students Confident in Science scale measure science self-concept (SSC) and science self-efficacy of students (SSE). We named character of variables on the theoretical basis of EVT (Sheldrake, 2016; Jansen et al., 2015) (Table 1).

Self-confidence in science and motivation for learning science in this study was analysed in the context of EVT on the basis of secondary analysis of TIMSS 2015 data of students from Lithuania.

Table 1
The statements and codes from Students confident in Science scale (Martin et al., 2016a)

Statement about confidence in subject[1]	SCB scale	SCC scale	SCP scale	Self-confidence in science
I usually do well on subjects	BSBB24A	BSBC32A	BSBP36A	SSC
Subject is more difficult for me than for my classmates	BSBB24B*[2]	BSBC32B*	BSBP36B*	SSC
Subject is not one of my strengths	BSBB24C*	BSBC32C*	BSBP36C*	SSE
I learn things quickly in subject	BSBB24D	BSBC32D	BSBP36D*	SSC
I am good working out difficult problems	BSBB24E	BSBC32E	BSBP36E*	SSC
My teacher tells me I am good at subject	BSBB24F	BSBC32F	BSBP36F	SSE
Subject is harder form me than any other subject	BSBB24G*	BSBC32G	BSBP36G*	SSC
Subject makes me confused	BSBB24H*	BSBC32H*	BSBP36H*	SSE

[1] Biology, chemistry, physics
[2] Reverse coded

Reliability analyses for factor ability of Students Confident in Science scale of students from Lithuania was provided on the basis of Cronbach's alpha (α): SBC scale – 0.85; SCC scale – 0.87; SCP scale – 0.86 (Martin, et al., 2016). In the application of factor analysis have been taken into account that variables can be measured at a range level, normally distributed (Field 2000: 444). The skewness (from -1 to +1) and kurtosis (from -1 to +1) of variable from scales (SCB; SCC; SCP) were well within a tolerable range for assuming a normal distribution. At TIMSS 2015 students were scored according to their degree of agreement with eight statements on the Students Confident in Science scale (Martin et al., 2016). The ordinal scale was transformed to interval scale. An interval scale is useful for regression analysis.

Table 2
The statements and codes from Students' Engaging Teaching in Science Lessons scale (Martin et al., 2016a)

The questions about learning science: How much do you agree with these statements about your physics/biology/chemistry lessons?	**Teaching physics**	**Teaching biology**	**Teaching chemistry**
I know what my teacher expects me to do	BSBP35A	BSBB23A	BSBC31A
My teacher is easy to understand	BSBP35B	BSBB23B	BSBC31B
I am interested in what my teacher says	BSBP35C	BSBB23C	BSBC31C
My teacher gives me interesting things to do	BSBP35D	BSBB23D	BSBC31D
My teacher has clear answers to my questions	BSBP35E	BSBB23E	BSBC31E
My teacher is good at explaining science	BSBP35F	BSBB23F	BSBC31F
My teacher lets me show what I have learned	BSBP35G	BSBB23G	BSBC31G
My teacher does a variety of things to help us learn	BSBP35H	BSBB23H	BSBC31H
My teacher tells me how to do better when I make a mistake	BSBP35I	BSBB23I	BSBC31I
My teacher listens to what I have to say	BSBP35J	BSBB23J	BSBC31J

Engaging Teaching in Science Lessons scale of TIMSS 2015 encompasses inquiry-based learning (IBL) (BSBP35A-BSBP35J; BSBB23A-BSBB23J; BSBC31A-BSBC31J) (Table 2). In TIMSS 2015 the data were collected with a rank scale and after transformed to interval scale. TIMSS 2015 summarizes responses where students are enrolled in science as a single subject and transform them into interval scale (Martin et al., 2015). A reliability analysis of Students' Engaging Teaching in Science Lessons scale of students from Lithuania was provided on the basis of Cronbach's alpha (α) (Table 3).

Table 3

A reliability analysis for factorability of Students' Engaging Teaching in Science Lessons scale

The questions about learning science: How much do you agree with these statements about your physics/biology/chemistry lessons?	**Teaching physics**	**Teaching biology**	**Teaching chemistry**
I know what my teacher expects me to do	0.92	0.92	0.92
My teacher is easy to understand	0.88	0.86	0.89
I am interested in what my teacher says	0.60	0.66	0.65
My teacher gives me interesting things to do	0.64	0.71	0.67
My teacher has clear answers to my questions	0.81	0.80	0.81
My teacher is good at explaining science	0.91	0.91	0.92
My teacher lets me show what I have learned	0.84	0.84	0.86
My teacher does a variety of things to help us learn	0.73	0.71	0.73
My teacher tells me how to do better when I make a mistake	0.73	0.65	0.68
My teacher listens to what I have to say	0.85	0.83	0.88

Sample

Self-confidence in science and motivation for learning science were analysed in the context of EVT on the basis of the secondary analysis of TIMSS 2015 data of the eighth grade students from Lithuania. The sample consisted of Grade 8 (14–15 years old) students from Lithuania (N = 4347). The secondary data were downloaded from the TIMSS 2015 database (http://www.timss.org/).

Regression analysis of self-confidence in science and learning motivation for learning science of school students

Using the data from a representative Lithuania sample and well-established measures, we evaluated the influence of students' self-confidence in science on motivation for learning science. An interval scale is useful for regression analysis (Table 4).

A simple linear regression was calculated to predict student's motivation for learning sciences (physics, chemistry, biology) based on their confidence in learning science of students from Lithuania. A significant regression equation was found ($F(1, 4289) = 3816.339$, $p<0.001$), withan R^2 of .471 for motivation for learning physics. Students' motivation for learning physics equals 3.328+.641 (confidence in learning physics) score on the scale SCP.

Simple linear regression was carried out to study the relationship between motivation for learning chemistry and confidence in learning chemistry. There was a strong positive linear relationship between the two, which was confirmed with a Pearson's correlation coefficient of 0.701. Simple linear regression showed a significant relationship between motivation for learning chemistry and confidence in learning chemistry ($p<0.001$). The slope coefficient was 0.700 so the motivation for learning chemistry increases by 0.700 for each extra score of confidence in learning chemistry. The R^2 value was 0.492 so 49.2% of the variation in motivation for learning chemistry can be explained by the model containing only confidence in learning chemistry.

Also a significant regression equation was found ($F(1,4313) = 3242.912$, $p<0.001$), withan R^2 of .429 for motivation for learning biology. Students' motivation for learning biology equals 3.207+0.656 (confidence in learning biology) score on the scale SCB.

Results of simple linear regression of motivation for learning different science (physics, chemistry, biology) was described by the unstandardized beta (*B*), the standard error for the unstandardized beta (*SEB*), the standardized beta (β), the *t* test statistic (*t*), and the probability value (*p*) (Table 4).

Table 4
Linear regression analysis: Motivation for learning sciences and science self-confidence of school students

Variables	B	SEB	β	t	p
1. Self-confidence in learning physics	0.641	0.010	0.686	61.777	0.000
2.Self-confidence in learning chemistry	0.700	0.011	0.701	64.532	0.000
3. Self-confidence in learning biology	0.656	0.012	0.655	56.947	0.000

The unstandardized beta (*B*) represents the predictor variable (confidence in learning physics, chemistry, biology) and the dependent variable (motivation for learning physics, chemistry, and biology). So for variable Confidence in learning physics unstandardized beta ($B = 0.641$) is used, this mean that for every one score on the scale SCP increase in Variable 1 (confidence in learning physics), the dependent variable increases by 0.641 score on the scale of motivation similarly, for Variable 2 (confidence in learning chemistry) the dependent variable increases by 0.700, for every one score on the scale SCB increase in Variable 3 (confidence in learning biology), the dependent variable increases by 0.655 score on the scale of motivation.

The probability level (p) tells whether a predictor variable (confidence in learning physics) significantly predicts the dependent variable motivation for learning physics ($p>.050$) (Table 1). Also a predictor variable (confidence in learning chemistry) significantly predicts the dependent variable (motivation for learning chemistry) ($p>.050$), and predictor variable (confidence in learning biology) significantly predicts the dependent variable motivation for learning biology ($p>.050$).

As shown (Table 4) the probability level (p) significantly predicts the dependent variable motivation for learning science in all cases: physics, chemistry, biology. Unstandardized beta (B) is the highest at motivation for learning chemistry.

A simple linear regression was performed to predict student's engagementin learning science lessons using inquiry approach (BSBP35A-BSBP35J; BSBB23A-BSBB23J; BSBC31A-BSBC31J) based on confidence in learning science (Table 5). A significant regression equation was found ($F (1, 4295) = 1841.459$, $p<.001$), withan R^2 of .300 for engagement learning physics lessons. Students' engagement in learning physics lessons equals 4.159 + .564 (confidence in learning physics) score on the scale SCP. Also a significant regression equation was found ($F(1, 4301) = 5191.902$, $p<.001$), withan R^2 of .292 for students' engagement in learning chemistry lessons. Students' engagement in learning chemistry lessons equals 4.099 + .562 (confidence in learning chemistry) score on the scale SCC. The same situation was revealed with students'engagement in learning biology lessons: ($F(1, 4310) = 1396.928$, $p<.001$), withan R^2 of .245. Students' engagement in learning chemistry lessons equals 4.575 + .507 (confidence in learning biology) score on the scale SCB.

Data of linear regression show that the probability level (p) significantly predicts the dependent variable of students' engagement in learning science lessons in all subjects: physics, chemistry, biology (Table 5). Unstandardized beta (B) is the highest at students' engagement in learning biology lessons.

Table 5

Linear regression of students' engagement in learning science lessons using inquiry approach and self-confidence in science

Variables	B	SEB	β	t	p
1. Confidence in learning physics	0.564	0.013	0.564	32.241	0.000
2. Confidence in learning chemistry	0.562	0.013	0.562	29.932	0.000
3. Confidence in learning biology	0.507	0.014	0.507	33.581	0.000

Linear regression analysis revealed that confidence for learning significantly predicts both: students' motivation for learning science (Table 4) and students' engagementin learning science lessons (Table 5).

Discussion

The presented study deals with school students' motivation for learning science by two approaches: internal – students' self-confidence in science and external – the teaching science on inquiry-based approach. The presented research helped to clarify the importance of school students' self-confidence in science education, and the influence of science teaching by inquiry perspective on motivation for learning science.

Self-confidence has emerged as a highly effective predictor of students' motivation in learning (Sheldrake, 2016). Zimmerman (2000) noticed that educators have long recognized the role of students' beliefs about their academic capabilities on their motivation for learning but self-conceptions regarding academic performance initially proved difficult to measure in a scientifically valid way (Zimmerman, 2000). TIMSS 2015 instruments are designed for measurement of students' self-confidence in science and motivation for learning science. We measured the influence of Lithuanian school students' self-confidence in science on their motivation for learning science. In this study we used the TIMSS 2015 data on Lithuania school students' self-confidence.

As it was mentioned earlier in this study self-confidence encompasses self-concept and self-efficacy (Bandura, 1997; Eccles, 2009). Jansen et al. (2015) have analysed students' self-confidence in science by self-concept and self-efficacy aspect on PISA 2006 data. Jansen et al. (2015) revealed that science self-concept was better affected by the average peer achievement (*Big-Fish-Little-Pond Effect*), whereas science self-efficacy was more strongly predicted to be affected by inquiry based learning. The results of Jansen et al. (2015) confirmed that students' science self-confidence was predicted by external factor: social comparison (the average peer achievement) and inquiry based learning. Our research confirmed the role of external factor on school students' motivation for learning science. The data of our research revealed that teaching science on inquiry-based approach positively influences the motivation for learning science and this influence does not depend on science subject (biology, physics, chemistry).

Bandura (1986) analysed self-efficacy of people and suggested that self-efficacy would play a larger role because "the types of outcomes people anticipate depend largely on their judgments of how well they will be able to perform in given situations" (Bandura, 1986, 392). There is growing evidence that self-efficacy beliefs are correlated with domain-specific self-concepts (Bandura, 1986). Almost a decade later, Pajares and Miller (1994) used path analysis procedures to examine the predictive and mediational roles of these two constructs in mathematical problem solving by college students. Math self-efficacy was more predictive of problem solving than was math self-concept. We didn't separately analyze science self-concept and science self-efficacy influence on students' motivation for learning science. We followed the attitudes of psychologists (Sheldrake, 2016; Marsh & Shavelson, 1985) that self-confidence of learners' is a complex and hierarchical structure that embraces self-concept and self-efficacy. We have identified that self-confidence in science statistically significantly influence school students' motivation for learning science.

Students' beliefs in their academic capabilities play an essential role in their motivation (Cavas, 2011; Jansen, Scherer, & Schroeders, 2015). The findings of Nilsson (2016) showed a significant positive correlation between students′ biology achievement and self-efficacy beliefs, intrinsic motivation and extrinsic motivation. Nilsson (2016) states that self-efficacy beliefs and motivation for learning biology positively influence students′ achievements in biology. We didn't analyze the influence of self-confidence in science on achievements in science. But we highlighted the statistically significant correlation between motivation for learning science and self-confidence in science (Table 4). The strongest statistically significant correlation was found between students' self-confidence in chemistry and motivation for learning science. The weakest statistically significant correlation was detected between students' self-confidence in biology and motivation for learning science. However, both correlations are strong and their numerical values differ slightly.

Our research has some limitation. We used linear regression in order to reveal the influence of external factor (teaching science by inquiry approach) and internal factor (science self-confidence) on motivation for learning science of school students on the TIMSS 2015 data from Lithuania. It would be valuable to examine how self-confidence in science and teaching science on inquiry-basedapproach influence students' motivation for learning science using others databases from other TIMSS countries. Pathway analysis could be applied in order to compare the influence and weight of internal and external factors on school students' motivation for learning science.

Despite this limitation, our linear regression data from the second decade of the 21st century confirm the historic wisdom of educators of the tenth decade of the 20th century that students' self-beliefs about academic capabilities do play an essential role in their motivation (Zimmerman, 2000). We revealed that self-confidence in science plays a more important role than teaching of science using inquiry-based approach.

Conclusions

The results of linear regression show that the self-confidence in science of school students' statistically significantly influences the motivation for learning science. The connection that exists between students' motivation for learning science and self-confidence in science is statistically significant.

Teaching of science on inquiry approach also statistically significantly influences the motivation for learning science. Linear regression shows that the probability level (p) significantly predicts the dependent variable students' engagement in learning science lessons in all subjects (physics, chemistry, biology) based on inquiry approach.

The influence of external factor – teaching science on inquiry approach and internal factor – self-confidence in science does not depend on science subject (physics, biology, chemistry). The research revealed that self-confidence in science of school students' influence motivation for learning science greater than teaching science on inquiry approach.

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Mokinių gamtamokslinių dalykų mokymosi motyvacija: kaip ją sąlygoja pasitikėjimas gamtamoksliniais gebėjimais ir tyrinėjimu grindžiamas mokymasis

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Straipsnyje nagrinėjama Lietuvos mokinių, kurie dalyvavo tarptautiniame TIMSS 2015 tyrime, gamtamokslinių dalykų motyvacija ir ją sąlygojantys veiksniai: mokinių pasitikėjimas savo gamtamoksliniais gebėjimais ir gamtamokslinių dalykų mokymasis taikant tyrinėjimu grindžiamą mokymąsi. Tyrimo tikslas – atskleisti mokinių pasitikėjimo savo gamtamoksliniais gebėjimais ir tyrinėjimu grindžiamo mokymosi reikšmę gamtamokslinių dalykų mokymosi motyvacijai. Tyrimo tikslui pasiekti iškelti tyrimo uždaviniai: 1) ištirti, kaip pasitikėjimas gamtamoksliniais gebėjimais sąlygoja gamtamokslinių dalykų mokymosi motyvaciją; 2) nustatyti, kaip tyrinėjimu grindžiamas gamtamokslinių dalykų mokymasis sąlygoja mokinių gamtamokslinių dalykų mokymosi motyvaciją; 3) ištirti, ar mokinių pasitikėjimo savo gamtamoksliniais gebėjimais įtaka gamtamokslinių dalykų mokymosi motyvacijai yra sąlygojama gamtamokslinio dalyko turinio; 4) nustatyti, ar tyrinėjimu grindžiamo gamtamokslinių dalykų

mokymosi įtaka mokinių gamtamokslinių dalykų mokymosi motyvacijai priklauso nuo gamtamokslinio dalyko turinio.

Mokinių gamtamokslinių dalykų mokymosi motyvacija nagrinėjama remiantis Lūkesčių-Verčių teorija, atliekant antrinę Lietuvos mokinių TIMSS 2015 tyrimo duomenų analizę. Tyrimo duomenys buvo atsisiųsti tik gavus TIMSS tyrimo sekretoriato pritarimą naudoti nemokamai tyrimo TIMSS 2015 duomenis (duomenų bazės adresas: http://www.timss.org/). TIMSS 2015 tyrimo imtis reprezentatyvi ir patikima, o tyrimo instrumentai yra validūs ir patikimi. Tyrimo tikslui pasiekti buvo taikoma linijinė regresija. Ją taikant buvo siekiama išspęsti tyrimo uždavinius, atsižvelgiant į išorinius (tyrinėjimu grindžiamas mokymasis) ir vidinius (mokinių pasitikėjimas savo gamtamoksliniais gebėjimais) gamtamokslinių dalykų mokymosi motyvacijos veiksnius.

Linijinės regresijos duomenys rodo, kad mokinių pasitikėjimas savo gamtamokslinių dalykų gebėjimais statistiškai reikšmingai sąlygoja mokinių gamtamokslinių dalykų mokymosi motyvaciją. Ryšys tarp mokinių gamtamokslinių dalykų mokymosi motyvacijos ir jų pasitikėjimo gamtamoksliniais gebėjimais yra statistiškai reikšmingas.

Linijinės regresijos rezultatai rodo, kad tyrinėjimu grindžiamas gamtamokslinių dalykų mokymasis taip pat statistiškai reikšmingai sąlygoja mokinių gamtamokslinę motyvaciją. Linijinės regresijos rezultatai atskleidė, kad tiek išoriniai veiksniai (tyrinėjimu grindžiamas mokymasis), tiek vidiniai veiksniai (mokinių pasitikėjimas savo gamtamoksliniais gebėjimais) statistiškai reikšmingai sąlygoja mokinių gamtamokslinių dalykų mokymosi motyvaciją ir ši priklausomybė nepriklauso nuo gamtamokslinio dalyko turinio (fizika, chemija, biologija).

Esminiai žodžiai: *motyvacija mokytis gamtos mokslų, pasitikėjimas savimi gamtos mokslų srityje, tyrinėjimu grįstas mokymasis.*

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