

Student Learning Motivation in Latvian Schools

 [Natalja Vronska](#) Dr. paed.

Faculty of Engineering, Institute of Education and Home Economics,
Latvia University of Life Sciences and Technologies, Latvia
natalja.vronska@llu.lv

Abstract: Student motivation is highly dependent on the educators themselves, their personality, and the way of organizing and monitoring the study process. The students' interest will be roused and motivation increased if the teacher offers interesting information, applies new information technologies and various teaching methods. The use of information technologies in the school to acquire different subjects can attract students' interest; involve them in the study process, thus increasing their motivation to cooperate. However, the main role plays the teacher because the students are more or less motivated to do something, but the teacher's objective is to enlarge the student's world to be motivated. Mann – Whitney test, and Chi-square test were used to analyse the study results. The number of respondents is 453 students from Latvian school X and school Y. The aim of the study is to find the opinion about learning motivation in Latvian schools. To the questions: *How often do teachers use different methods to help you acquire the subject well and understand the study content?* significant prevalence was for the answer *sometimes* in the school X (p-value=0.000) and for the answer *often* in the school Y (p-value=0.011). *How clearly teachers explain the training topics and tasks?* significant prevalence was for the answer *it depends* in the school X (p-value=0.000) and for the answer *quite clearly* in the school Y (p-value=0.000). *How often are you invited to express your opinion, analyse and make conclusions during the lesson?* significant prevalence was for the answer *sometimes* in the school X (p-value=0.000) and for the answer *often* in the school Y (p-value=0.000).

Keywords: education, learning, teaching, motivation, information technology.

Introduction

In the modern world, there is a transition to modern teaching methods that involve the use of wireless technologies in the educational and pedagogical environment. Mobile and machine learning, a concept developed based on this idea, is one of the most important achievements in improving the efficiency and effectiveness of learning (Talan, 2020).

The latest technological developments and economic, redesigned and resized the role of lecturers and students in educational environments. Today education in the 21st century is facing big changes based on concepts, theories, principles, and methods. Motivation is probably the most important factor that educators can target to improve learning. Many theories have been postulated to explain motivation. According to K. Williams and C. Williams, the five key ingredients impacting student motivation are: student, teacher, content, method/process, and environment (Williams et.al., 2011).

E. Vero and E. Puko support that, *the student* must have access, ability, interest, and values in education. *The teacher* must be well trained, focus and monitor the educational process, be dedicated and responsive to his or her students, and be inspirational. *The content* must be accurate, timely, stimulating, and pertinent to the student's current and future needs. *The method or process* must be inventive, encouraging, interesting, beneficial, and provide tools that can be applied to the student's real life. *The environment* needs to be accessible, safe, positive, personalized as much as possible, and empowering (Vero et.al., 2017).

The author of the article considers that lecturers need to improve their professional competence in the study subject, including teaching methods.

Through the formative assessment process, a teacher can identify the strengths and weaknesses of students and give corrective feedback (Iqbal et.al., 2021).

In I. Juhņēviča's opinion, the student's motivation is greatly dependent on the teachers themselves, their personality and the way of organization and monitoring of the study process. Of course, the motivation of the student does not depend only on the school and the teacher; it depends on the family

to a great extent. The students' interest will be roused and motivation increased if the teacher offers interesting information, applies new information technologies and various teaching methods (Juhņēviča, 2014).

N. Vronska concluded that students make productive use of the various applications that are offered, value ICT (information and communication technology) as an instrument of permanent learning ($p = 0.000 < 0.05$) and value ICT as a medium of collaboration and social communication ($p = 0.009 < 0.05$). These results suggest the need to develop strategies to promote the effective use of technology resources for both students and teachers (Vronska, 2016).

The use of information technologies at school for the acquisition of different subjects can attract students' interest, involve them into the study process, thus increasing their motivation to cooperate. However, the main role plays the teacher because the students are more or less motivated to do something, but the teacher's objective is to enlarge the student's world in order to be motivated, for example, to focus on learning physics (How does motivation ..., 2016).

Y. Wang's research highlights the possibility of increasing student motivation to learn, when an important aspect is the popularization of mobile applications to improve necessary skills, as well as the demonstration of their importance and suitability for further inclusion in educational programs (Wang, 2022).

The aim of the study is to determine the student's opinion about learning motivation in Latvian schools.

Methodology

The number of respondents is 453 students from Latvian school X and school Y.

Research methods:

- Theoretical methods: analysis of scientific literature.
- Data collection methods: students' questionnaire.
- Data processing methods:
 - Mann – Whitney test (the null hypothesis - there is no statistically significant difference between the answers of respondents of school X and the answers of respondents of school Y).
 - Chi-square test (the null hypothesis: the frequency of respondent answers is the same).

Statistical data were analysed with SPSS computer program.

Results and Discussion

The teacher can only introduce the student to a particular branch, but if the student is not interested in it, any further development is unlikely to be (How does motivation ..., 2016).

ICT can form environment which provides an individual approach to learning and is more suitable for the individual needs of everybody (Twigg, 2001), thereby, using video in lectures it is possible to help students improve knowledge, skills and competence which are necessary for a successful study process (Vronska, 2017).

Modern technical aids help both the teacher and the student become active cooperators, because many modern technical aids enable people to show their independence and creative activity by improving the works and projects carried out (Balašova, 2014).

Good teachers can inspire students, and effective teachers continue to hone this skill by improving their understanding of student psychology and the culture of the classroom and school (Bhoje, 2015).

Effective teachers are the "human in the full sense of the word" meaning those characterized by "humor, honesty, empathy, more democratic than autocratic able to create report with students, both individually and in groups, open, spontaneous adaptable to change" (Duta et.al., 2015).

The choice of the teaching methods is successful if the methods help create such environment that:

- facilitates the students' mental activity;
- satisfies the students' cognitive interest;

- gives students an opportunity to self-realization;
- facilitates students' independence and responsible learning by using their intellectual, will abilities and skills;
- gives students an opportunity to use their knowledge and skills of communication (Maslo, 1995).

The first research question – How often do teachers use different methods to help you acquire the subject well and understand the study content? Comparison of differences between two independent samples on the first research question was statistically analyzed with the help of the Mann-Whitney test (Table 1).

Table 1

Mann-Whitney test statistics (the first research question)

Mann-Whitney U	2.000
Wilcoxon W	17.000
Z	-2.193
Asymp. Sig. (2-tailed)	0.028

Since the p-value = 0.028 is less than the significance level of $\alpha = 0.05$, the null hypothesis can be rejected. There is a statistically significant difference between the answers of the respondents of school X and the answers of the respondents of school Y.

The frequency of the respondent answers about the first research question was statistically analysed with the help of the chi-square test (Table 2).

Table 2

Chi-square test statistics (the first research question)

Answers	school X			school Y		
	Observed N	Expected N	Residual	Observed N	Expected N	Residual
Never	7	80.4	-73.4	0	0	0
Rarely	63	80.4	-17.4	6	9.5	-3.5
Sometimes	169	80.4	88.6	14	9.5	4.5
Often	145	80.4	64.6	15	9.5	5.5
Always	18	80.4	-62.4	3	9.5	-6.5
Total	402			38		
Chi-Square	268.746			11.053		
df	4			3		
Asymp. Sig.	0.000			0.011		

Since the p-value (school X) = 0.000 is less than the significance level of $\alpha = 0.05$, and the p-value (school Y) = 0.011 is less than the significance level of $\alpha = 0.05$, the null hypothesis can be rejected. Thus, can be concluded that the frequency of respondent answers is different.

Statistically significant prevalence was for the answer *sometimes* in the sample school X (88.6) and for the answer *often* in the sample school Y (5.5).

The usage of ICT promotes individualization of the study process that depends on the qualification level, skills, individual peculiarities of acquiring the learning material, students' interests and needs; as well as it promotes the change of the students' cognitive activity character to higher self-dependency, investigative activity and aspiration to independent self-improvement and self-education, in this way the student-cantered approach is realized in acquiring of the study content (Dislere et.al., 2020).

Creating a teaching process, it is important to observe an individual and differential approach because students differ greatly, for example in some of them the visual perception prevails while in others the audio perception dominates, and the third ones need to read the text (Juhņēviča, 2014).

At every lesson, students need a clear learning aim and criteria for a good result as well as the opportunity to assess the achieved result. The student must understand what he or she can do and what he or she cannot succeed in yet as well as what should be done to improve the result (Čakāne et.al., 2016).

The second research question is: How clearly teachers explain the training topics and tasks? Comparison of differences between two independent samples about the second research question were statistically analysed with the help of the Mann-Whitney test (Table 3).

Table 3

Mann-Whitney test statistics (the second research question)

Mann-Whitney U	4.000
Wilcoxon W	19.000
Z	-1.781
Asymp. Sig. (2-tailed)	0.075

Since the p-value = 0.075 is greater than the significance level of $\alpha = 0.05$, the null hypothesis cannot be rejected. There is no statistically significant difference between the answers of the respondents of school X and the answers of the respondents of school Y.

The frequency of respondent answers about the second research question were statistically analysed with the help of chi-square test (Table 4).

Table 4

Chi-square test statistics (the second research question)

Answers	School X			School Y		
	Observed N	Expected N	Residual	Observed N	Expected N	Residual
Very unclearly	4	80.2	-76.2	2	7.4	-5.4
Quite unclearly	10	80.2	-70.2	1	7.4	-6.4
It depends	177	80.2	96.8	15	7.4	7.6
Quite clearly	176	80.2	95.8	17	7.4	9.6
Very clearly	34	80.2	-46.2	2	7.4	-5.4
Total	401			37		
Chi-Square	391.731			33,676		
df	4			4		
Asymp. Sig.	0.000			0.000		

Since the p-value (school X and school Y) = 0.000 is less than the significance level of $\alpha = 0.05$ is less than the significance level of $\alpha = 0.05$, the null hypothesis can be rejected. Thus, can be concluded that the frequency of respondent answers is different.

Statistically significant prevalence was for the answer *it depends* in the sample school X (96.8) and for the answer *quite clearly* in the sample school Y (9.6).

Figure 1 discusses effective teaching strategies. The self-effectiveness and critical thinking play an essential part in promoting educational achievement and achieving learning success.

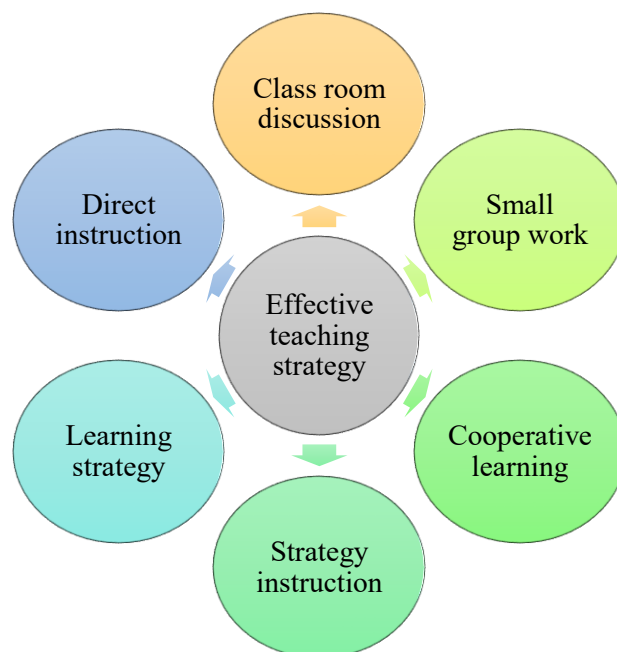


Figure 1. Effective teaching strategies (Xu & Zhang, 2021)

Learning discussion is important for all study disciplines because it allows students to interpret and collect knowledge. Encourage students with varied skills to work together through the promotion of small groups or classes. Students should develop confidence and communication abilities, and the logical thinking necessary for their lives by expressing their ideas creatively and listening to others (Xu et.al., 2021).

The third research question – How often are you invited to express your opinion, analyse, and make conclusions during the lesson? The comparison of differences between two independent samples about the third research question was statistically analysed with the help of the Mann-Whitney test (Table 5).

Table 5

Mann-Whitney test statistics (the third research question)

Mann-Whitney U	3.500
Wilcoxon W	18.500
Z	-1.886
Asymp. Sig. (2-tailed)	0.059

Since the p-value = 0.059 is greater than the significance level of $\alpha = 0.05$, the null hypothesis cannot be rejected. There is no statistically significant difference between the answers of the respondents of school X and the answers of the respondents of school Y.

The frequency of the respondent answers about the third research question were statistically analysed with the help of chi-square test (Table 6).

Table 6

Chi-square test statistics (the third research question)

Answers	school X			school Y		
	Observed N	Expected N	Residual	Observed N	Expected N	Residual
Never	15	80.2	-65.2	0	0	0
Rarely	90	80.2	9.8	1	8.8	-7.8
Sometimes	186	80.2	105.8	15	8.8	6.3
Often	97	80.2	16.8	16	8.8	7.3

Answers	school X			school Y		
	Observed N	Expected N	Residual	Observed N	Expected N	Residual
Always	13	80.2	-67.2	3	8.8	-5.8
Total	401			35		
Chi-Square	253.601			21.114		
df	4			3		
Asymp. Sig.	0.000			0.000		

Since the p-value (school X and school Y) = 0.000 is less than the significance level of $\alpha = 0.05$ is less than the significance level of $\alpha = 0.05$, the null hypothesis can be rejected. Thus, it can be concluded that the frequency of the respondent answers is different.

Statistically significant prevalence was for the answer *sometimes* in the sample school X (105.8) and for the answer *often* in the sample school Y (7.3).

The use of innovative methods and information technologies at lessons help create interest in the study subject in students; however, the interest is lost quickly in case if usefulness of the taught material is missing, namely, examples of its practical application in life. If the student sees where and how the knowledge can be useful and necessary for the surrounding world, then the motivation to learn is retained. In primary schools, the students' motivation is mainly associated with the *must* say by parents, whereas in secondary schools, it depends more on the teen-agers view on the sense of the taught subject in everyday life (How does motivation..., 2016).

Attractiveness, dynamism, satisfaction, more engagement towards lessons and students' interaction and participation in the classroom are the common characteristics of an effective lesson (Iqbal et.al., 2021).

L. Skoromka has summarized the information on the interesting lesson by student's opinion based on the research work about the promotion of student learning motivation (Figure 2) (Skoromka, n.d.).

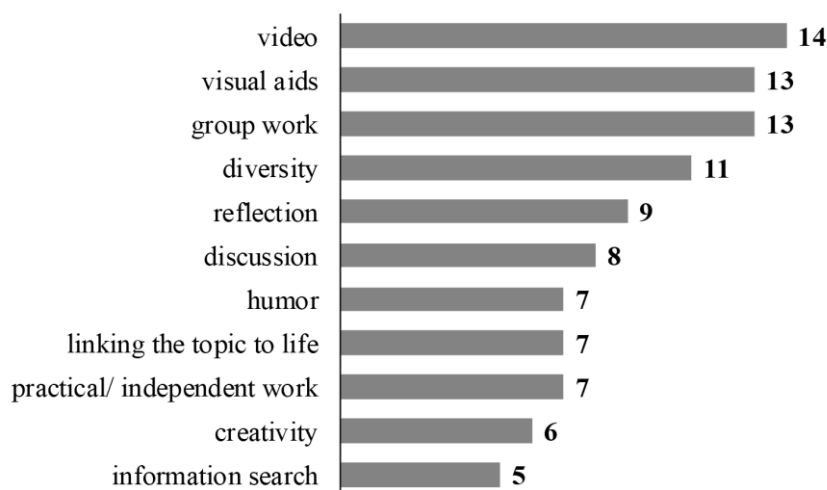


Figure 2. Interesting lesson

During practical classes teachers can use various computer programs: the capabilities of using MS PowerPoint software with sound recorders or online software Powtoon, Hot Potatoes, Canva, Postermywall. Using ICT, it is possible to improve teaching methodology, using computerized student competence tests (MentiMeter or Socrative), preparing lessons combining 3D graphics, moving images, video and audio materials. Usage of these will improve the student's learning motivation and improve the education process by cutting down the spent time for work (Dislere et.al., 2020).

An interactive whiteboard or smartphone display system that lets students see new instructional ideas will display learning content photos and videos. When technology is used to contact students while

studying physically, learning becomes more immersive and autonomous. Integrating instructional programs such as quiz-game websites in the lesson plans is an excellent way to enjoy and engage in formative evaluations (Xu et.al., 2021).

Mobile learning is a new concept, but it is rapidly evolving and expanding in the modern education segment (Hamzah et.al., 2020).

In addition, mobile learning is seen as a learning method that supports contemporary pedagogical styles, namely behavioral learning, constructivist learning, case study, collaborative, and lifelong learning (Shi, 2021).

In order to make the lesson interesting, the teacher must manage various teaching methods, be professional in his/her field, be creative, clever, joyful, and experience rich.

Conclusions

- Motivation to learn can be decisive for the young person how successful he/she will be in the future, because nowadays constantly changing conditions both in the labor market and in other fields demand to be ready to learn something new throughout the life.
- Visualization complements the teacher's talk, improves the teaching process, activates the students' cognitive activity during the lessons, thus a favourable study environment is formed that stimulates a mutual cooperation and increases students' learning motivation.
- Students are motivated by interesting teaching process that can be achieved in different ways – with new information technologies, giving examples from a real life relevant to the topic and giving practical examples or carrying out various projects and working in groups.

Bibliography

1. Balašova, T. (2014). Ways to Encourage Younger Teenagers' Learning Motivation at the Latvian Language Lessons. *The Proceedings of the 53. International Scientific Conference*. Latvia, Daugavpils, Daugavpils University. https://dukonference.lv/lv/content_53 (in Latvian)
2. Bhoje, G. (2015). *The Importance of Motivation in an Educational Environment*. India: Laxmi Book Publication.
3. Čakāne, L., & Dzenis, M. (2016). Mācību saturs kompetenču pieejā: ko tas nozīmē skolotājam? (Content of learning in the competence approach: what does it mean for the teacher?) <https://ej.uz/ky5o> (In Latvian)
4. Dislere, V., Pridane, A., Vronska, N., & Lice-Zikmane I. (2020). *Development of Home Economics Education for Life Quality in Latvia*. Jelgava: Latvia University of Life Sciences and Technologies (LLU), 76 p. DOI: 10.22616/llu9789984483689
5. Duta, N., Tomoica, E., & Panisoara, G. (2015). Desirable characteristics defining to describe an effective teacher. *7th World Conference on Educational Sciences*, (WCES-2015), Novotel Athens Convention Center, Greece. DOI: 10.1016/j.sbspro.2015.07.383
6. Hamzah, A., Hidayatullah, A. F., & Persada, A. G. (2020). Discovering trends of mobile learning research using topic modelling approach. *International Journal of Interactive Mobile Technologies*, Vol. 14(9), p. 4–14. <https://doi.org/10.3991/ijim.v14i09.11069>
7. *How does motivation to learn come from?* (2016). <https://www.e-klase.lv/aktualitates/zinas/karodas-motivacija-macities?id=11444> (In Latvian)
8. Iqbal, Md.H., Siddiqie, S.A., & Mazid, Md.A. (2021). Rethinking theories of lesson plan for effective teaching and learning. *Social Sciences & Humanities Open*. <https://doi.org/10.1016/j.ssaho.2021.100172>
9. Juhņēviča, I. (2014). Skolēnu motivācija lielā mērā ir atkarīga no skolotāja (Student motivation depends on the teacher). <https://www.e-klase.lv/aktualitates/zinas/skolenu-motivacija-liela-mera-ir-atkariga-no-skolotaja?id=10188> (In Latvian)
10. Maslo, I. (1995). *Skolas pedagoģiskā procesa individualizācija un diferenciācija* (Individualization and Differentiation of School Pedagogical Process). Rīga: RaKa (In Latvian)
11. Shi, Y. (2021). The use of mobile internet platforms and applications in vocal training: Synergy of technological and pedagogical solutions. *Interactive Learning Environments*. <https://doi.org/10.1080/10494820.2021.1943456>

12. Skoromka, L. (n.d.). Skolēna mācīšanās motivācijas veicināšana un paaugstināšana (Promoting Pupils' Learning Motivation). <https://ej.uz/i46b> (In Latvian)
13. Talan, T. (2020). The effect of mobile learning on learning performance: A meta-analysis study. *Educational Sciences: Theory & Practice*, Vol. 20(1), p. 79–103. <https://doi.org/10.12738/jestp.2020.1.006>
14. Twigg, C. A. (2001). *Innovations in Online Learning: Moving Beyond no Significant Difference*. Center for Academic Transformation, Rensselaer Polytechnic Institute.
15. Vero, E., & Puko, E. (2017). The Importance of Motivation in an Educational Environment. *Formazione & Insegnamento*, Vol. XV (1), p. 57-66. DOI: 107346/-fei-XV-01-17_05
16. Vronska, N. (2017). Use of Videos to Support Teaching and Learning in the Study Process // The Proceedings of the International Scientific Conference Rural Environment. Education. Personality (REEP), 10. Jelgava: LLU, p. 321-327. https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-321-327.pdf
17. Vronska, N. (2016). ICT Competences as a Necessary Part of Professional Qualities at the Latvia University of Agriculture. The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality* (REEP), 9. Jelgava: LLU, p. 122-127. <http://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X.pdf>
18. Wang, Y. (2022). Music education: Which is more effective – Traditional learning or the introduction of modern technologies to increase student motivation? *Learning and Motivation*, Vol. 77, p.1-11. <https://doi.org/10.1016/j.lmot.2022.101783>
19. Williams, K., & Williams, C. (2011). Five key ingredients for improving motivation. *Research in Higher Education Journal*, Vol. 11, p. 1-21. <http://aabri.com/manuscripts/11834.pdf>.
20. Xu, T., & Zhang, B. (2021). Improving thinking skills in early childhood using effective teaching strategies. *Aggression and Violent Behavior*, p.1-10. <https://doi.org/10.1016/j.avb.2021.101704>