Differentiation: The key point for heterogenous classes in Latvia

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Abstract
One of the current problems in the context of education is the question of how to achieve students' maximum knowledge acquisition capacity, while simultaneously taking into account the diversity of each student. The aim of the article is to analyse how to more effectively achieve the standard set in the Latvian legislation, taking into account the individuality of each resident as defined in the Education Law. In this article the author analyses the results of a survey conducted in the spring 2021 as well as an interview. The participants for the survey were 50 and the participants for the interview were 9. Data was analysed using SPSS. The findings of the study and recommendation shall provide answers to all educators who seek the way how to teach more effectively in heterogenous classes.

Keywords: differentiation; foreign language classes; heterogenous classes; Latvia.

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1. Introduction

It is possible that everyone will agree that the more educated the population is, the higher the quality of public administration, which in turn promotes the development of entrepreneurship and the increase of the general standard of living in a particular country (Bitāns 2017). In order to obtain a highly educated general stratum of society, the state must provide quality education and the people can expect to have such a society only with a very good or even excellent education system (Svīķis 2017). Thus, the question of how to achieve this excellent level of education is always relevant, moreover, at a time when the individuality of each student is emphasized.

According to the latest OECD’s Programme for International Student Assessment (further – PISA) test results (PISA 2018), the Latvian education system is ranked in the middle of the list with an average of 479-496 points, in contrast to the highly rated education systems of other countries with an average of 520 points. It is important to emphasize that the results of the PISA test measure not only students’ knowledge, but also skills that show that students are able to apply the acquired knowledge in a meaningful way.

Results of the National Centre for Education of the Republic of Latvia (further – NCEL) for 2019/2020 year (NCEL 2019/2020) reflects the same mediocre indicators of Latvian students’ examination results as can be observed in the PISA test results. For example, the results of examinations of Latvian students (for example, in English as a foreign language) show that 42% of students have not reached the standard specified in Latvian education legislation (NCEL 2019/2020). In turn, the average grade in mathematics 2019/2020 is even shockingly low: 32.7%, in Latvian language and literature: 52%.

All the above results show that the current quality of education in Latvia cannot be assessed as high and competitive, which means that Latvian residents who have received education in Latvian educational institutions are less competitive than residents of other countries, e.g., from Northern region countries as Estonia, Finland.

Currently, massive changes are being implemented in the general education phase of Latvia by introducing the new education model School2030. The aim of the project “Competence Approach to Curriculum” (School2030) implemented by the NCEL is to develop, approbate and subsequently introduce in Latvia such general education content and approach to teaching from pre-school to secondary school, as a result of which students would acquire the knowledge, skills, and attitudes necessary for life today. One of the goals set in the project is that in 2021 every child and young person in Latvia will be provided with modern educational opportunities in Latvia (School2030, 2019).

The purpose of the Law on Education of the Republic of Latvia tells the same, namely, the purpose of this law is to provide every inhabitant of Latvia with the opportunity to develop their mental and physical potential to become an independent and developed personality, a member of a democratic Latvian state and society (Education Law, 1998). This means that every inhabitant of Latvia has the right to develop their potential, regardless of their individual abilities. However, all those involved in the education system expect that the quality of education received will be competitive at European and global level.

In order to achieve this and improve Latvia’s rating in the PISA test results table, it is necessary to evaluate the results of Latvian centralized examinations and teaching methods of Latvian teachers, analyse these data to come to conclusions and recommendations on how to improve these results if necessary. Given that the author of this article teaches a foreign language (German as a second language) in a Latvian general secondary school, Gaugere and Rektiņa (2021) (teaches English as a first foreign language) conducted a survey “Challenges of foreign language teachers working in secondary schools” (latv.val. “Vidusskola strādājošo svešvalodu skolotāju izaicinājumi”) directly among foreign language teachers to get answers about questions on how Latvian secondary school teachers
face problems and how to teach foreign languages effectively in classes with essentially different levels of knowledge (further – study).

One of the current problems in the world in the context of education, is the question of how to achieve the best possible results of students’ knowledge, while simultaneously consider the diversity of each student. Also, the results of examinations of Latvian students (for example, in English as a foreign language) show that 42% of students have not reached the standard specified in Latvian education legislation. The survey “Challenges of foreign language teachers working in secondary schools”, conducted by Gaugere and Rektina (2021) shows that the main problem of Latvian secondary school teachers is the significantly heterogenous classes. In this article the author analyses the results of survey conducted in the spring 2021 and develops several recommendations for foreign language teachers.

1.1. Purpose of study

Thus, the aim of this article, is to analyse the results of the study in order to come to conclusions how to achieve the standard set more effectively in the Latvian legislation (Education Law 1998; Regulations of the Cabinet of Ministers No.416, 2019; Regulation of the Cabinet of Ministers No.747, 2018), considering the individuality of each resident as defined in the Education Law. As a result of the study and the analysis of the findings of the study and pedagogical literature, the author wants to develop several recommendations for Latvian foreign language teachers, which would be desirable to consider in order to achieve the goals of project School2030 – every child and young person will be provided with modern educational opportunities in Latvia. The findings of the study and recommendation shall provide answers to all educators who seek the way how to teach more effectively in heterogenous classes.

2. Methods

2.1. Data Collection Tool

For the study the scientific pedagogical literature and statutory acts of the Republic of Latvia were analysed, as well as the statistical data of NCEL was used. Also interviews with 9 representatives of the Latvian education sector were carried out to achieve the aim. These were in-depth interviews, performed face-to-face via conference call due to the epidemiologic restrictions of Covid-19.

2.2. Participants

The study was conducted to obtain answers of 50 foreign language teachers in Latvia. There were 9 participants for the interview.

2.3. Data analysis

The data was collected and processed with IBM Statistical Package for the Social Sciences (SPSS®) software Version 20. To assess the internal reliability of the study scale, Cronbach’s alpha was evaluated for all questions except the free text question (N=11). The internal consistency of the entire measure was average (Cronbach’s alpha 0.61).

2.4. Procedure

The study of foreign language teachers entitled “Challenges of foreign language teachers working in secondary schools” was distributed electronically in Latvia during the Covid-19 pandemic: in March, April, and May 2021, when teaching took place remotely. Foreign language teachers were selected at random by sending a questionnaire by e-mail to a random sample of schools, asking foreign language teachers to complete the study. The study was asked to be completed by foreign language secondary school teachers, due to the fact the study wanted to focus directly on the more successful acquisition
of the standard of the subject directly in secondary school. Respondents to this study conducted anonymously. Both qualitative and quantitative research methods were used for the study.

2.4.1. Preparation of the questionnaire

The questionnaire of the study was a self-evaluation questionnaire of 12 questions, and it was distributed online. Four questions were Likert-type scale (answers ranged from 1 (strongly disagree) to 4 (strongly agree)), seven questions were multiple-choice (single answer) questions, and one was free text question. The first three questions were general: 1) how long have you been teaching a foreign language? 2) about the peculiarities of which foreign language (English, German) class do you fill in the questionnaire? 3) How satisfied are you with your work as a teacher? The third of the questions, in which teachers are asked if they are satisfied with their work, was asked in order to assess whether there is a connection between teacher self-efficacy (Bandura 1977; Svence 2020) and the methods teachers use to teach a foreign language. The authors of the survey wanted to find out the same connection by including the question of how long the respondent had been working in the teacher’s profession.

The question on the type of secondary school in which the teacher works provided answers to the question of what challenges are relevant to the specific type of secondary school. Finally, the following questions are asked about the main challenges in pedagogical work, in addition to offering three, in the opinion of the study’s authors, the most common challenges in pedagogical work in secondary school: 1) lack of motivation of the students; 2) significant differences in the level of knowledge; 3) behavioural problems. These questions are to be answered on a 4-point Likert-type scale from 1 (strongly disagree) to 4 (strongly agree).

In cases when the respondent answered in the affirmative to the question whether a significant difference in the level of knowledge a problem in was one of the secondary school classes where the respondent teaches, the respondent received two additional questions about: 1) what methods the teacher works to bridge and achieve the standard specified in Latvian regulatory enactments. The answer to this question must be in free form; 2) whether you have encountered a situation where the student’s knowledge is not sufficient to reach the level specified in the Latvian education standard with the number of lessons specified for the language in the school program.

3. Results

A total of 50 respondents (Table 1) took part in the study, where most of them (52%) worked in secondary school. Part of the study respondents worked also in gymnasiums and state gymnasiums (30%), where, in most cases, a selection of students is organized in form of entrance exams by testing their knowledge and skills in several study subjects.

<table>
<thead>
<tr>
<th>Teachers – as study participants-characteristics</th>
<th>Groups</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State gymnasium</td>
<td>6</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Gymnasium</td>
<td>9</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Secondary school</td>
<td>26</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Secondary school with evening programme</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Professional school</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Experience as the teacher</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than a year</td>
<td>9</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>1 – 2 years</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3 – 5 years</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>6 – 10 years</td>
<td>8</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>11 – 15 years</td>
<td>26</td>
<td>52</td>
<td></td>
</tr>
</tbody>
</table>
Responding to the questions about the main challenges of the respondents as foreign language teachers, 39 respondents (78%) agreed that students’ significantly different levels of knowledge was a great challenge to teachers. The second major challenge faced by 21 respondents (42%) was the lack of motivation of students. The two additional challenges mentioned in the study – behavioural problems in the classroom and students’ generally low level of knowledge in a particular foreign language were mentioned less often – only 11 (22%) and 10 (20%) respondents agreed to these affirmations.

Thus, the survey shows that the main problem of Latvian secondary school teachers is the significantly different level of knowledge in one class, as well as the low motivation of students to learn. Analysing the answers to the question whether the Latvian state gymnasium and gymnasium, where students are usually selected in secondary school, teachers also have significantly different levels of knowledge and low motivation to learn, the study comes to the results: 1) teachers in state gymnasiums and gymnasiums also face significantly different level of knowledge and considers it one of the biggest challenges; 2) state gymnasiums and gymnasium teachers do not believe that their students have low motivation to learn.

Teachers also consistently stated (68%) that the problems of significant differences in the level of knowledge prevent the teacher from achieving the required level (standard) set by Latvian normative educational documents.

On the other hand, getting acquainted with the open answers (39 respondents out of 50) about how teachers solved a problem of significantly different levels of knowledge in their classrooms, author divided the answers into the following groups: 1) teacher performed internal differentiation (68%); 2) teacher performed external differentiation, determining different results to be achieved for groups of students (8%); 3) performs external differentiation, determining different achievable results for separate groups and also differentiates test works (2%) (Table 2).

<table>
<thead>
<tr>
<th>Differentiation type</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal differentiation</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>External differentiation</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>External differentiation and differentiated tests</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>78</td>
</tr>
</tbody>
</table>

The research did not observe statistically significant differences ($p<0.05$) between respondents’ answers based on their years of service, school type or language they taught. The research should be repeated with larger study sample to assess whether there are statistically significant differences. However, it could mean that all respondents faced similar challenge of students’ different levels of knowledge and the necessity to differentiate was actual to most of teachers disregarding their demographic or professional characteristics.

*Figure 1. Results of the Latvian Central English exam in year 2019/2020 (NCEL 2019/2020; calculations of Gaugere and Rektiņa (2021) using the statistical deviation method.*
4. Discussion

The results of the NCEL (NCEL 2019/2020) and the results of the teachers’ study show that there are some unresolved problems in the foreign language teaching process in Latvia. The results show that when starting high school, several student’s level of knowledge in foreign languages did not meet the standard that would allow a teacher with a statutory number of hours to take students to the statutory standard result (Education Law 1998; Regulations of the Cabinet of Ministers No.416, 2019; Regulation of the Cabinet of Ministers No.747, 2018).

The indicators of the study are also confirmed by the calculations of the statistical deviation of Kristine Gaugere and Andra Rektiņa of 2019/2020 Latvian Centralized Examinations results (Gaugere, Rektiņa 2021), which clearly show that in most Latvian secondary school (except gymnasiums and state gymnasiums) there are significantly different levels of knowledge.

Coming to such results, it is worth analysing in more detail the answers of educators about the way they work in classes with significantly different levels of knowledge, not only in secondary school, but already in primary school. It is also important, considering the findings based on the pedagogical literature, to come to the conclusions about whether the model implemented by Latvian teachers is the most effective in the case of significantly different levels of knowledge.

The results of the study clearly show that teachers deal with significantly different levels of knowledge, mostly using internal differentiation methods. Among the methods of internal differentiation, the answers to the study mostly mention such methods as: 1) diversification of tasks; 2) creation and use of memos/notes; 3) the weakest students are offered additional consultations; 4) pair work. Some answers show that teachers teach the average level of the class in order to be in the middle for lower and upper students. Also, the teachers who were interviewed by study authors, expressed the opinion, that they chose to teach the average level of study material in order to reach the average level of the class. The answers in many cases showed that there was no clear strategy on how to teach a heterogenous class.

The findings of the study did not show a correlation between the duration of teacher work / satisfaction with the teaching profession and the methods used by the teacher in the classroom with significant different knowledge levels. According to the author’s experience in the school, a student who has not acquired basic skills in a foreign language is not able to successfully perceive further knowledge of foreign languages and use the acquired skills. The ability to learn of student with significantly different levels of knowledge is very different in terms of speed, content, and perception, as each of these students has a different level of knowledge at the time of joint learning at a standard level set by the state.

According to the findings of the last decade in the education system in the world, each child is considered an individual personality, and his or her individual needs must be considered in order to determine the most appropriate teaching methods for the child (School2030 Conference; Pumpsurs ...
2019 and Svence 2020). Pedagogical research of modern times indicate (Helmke, 2013) that the education system has already deviated from the outdated 7-G model “the same students, in the same class, at the same time, receiving the same task, achieve the same result”.

In the practical work of the author, the author is convinced that students who have a significantly lower level of knowledge in the class, if she/he learns according to the same results with the rest of the class, have low involvement in the tasks, because the result is difficult for the student to achieve and sometimes even incomprehensible. Therefore, by continuing to learn the following topics in the lessons, a student who has gaps in knowledge is not ready to acquire new knowledge until the gaps in the existing ones have been eliminated. In the German pedagogical literature, Brinitzer (2013) confirms the opinion of the author, that is, significant differences in levels with variation of different activities in heterogeneous language groups.

Ballweg et al. (2017) and Pape (2017) mentioned methods such as difficulty levels of different tasks, different scope of the task, different learning methods, different topics of interest) the teacher cannot balance, in which case the students have to be divided into different levels of learning. Researchers Slavin and Cheung (2016) have achieved positive results on a differentiated approach to student learning by dividing students into cooperation groups with the introduction of the US School Reform Success for All. This method of teaching, based on several years of scientific evidence, has shown that students in cooperation groups, setting out the results to be achieved by these students, are better off than in the process of learning in one-class heterogeneous groups. Hattie (2013) also indicated in his research that homogeneously formed classes and internal differentiation have little effect on the equalization and effective improvement of students' knowledge. Reciprocal teaching, feedback, metacognitive strategies have the most significant impact.

In cases where there is a significantly different level of knowledge in one class, the biggest expected risks without differentiation are as follows:

1) the learning process does not take place (for both weak and strong students).
2) learning motivation decreases, which is essential in any process of acquiring new knowledge.
3) weak students will practically not be able to successfully apply the knowledge acquired in a foreign language.

For the learning process to be successful - purposeful and effective - it is necessary to provide a set of factors at the same time. As Svence (2020) emphasizes, “When a student feels good, is satisfied with the learning environment, the classroom climate, the brain releases endorphins, which creates a feeling of euphoria and stimulates the brain, so the learning experience is pleasant and successful. And on the other hand, when the learning environment is unpleasant and causes stress and negative emotions, cortisol is released, causing the student to flee or fight without leaving the strength to learn, and cortisol impairs emotional memory.” This finding is also confirmed in the German literature by Brinitzer (2013), who indicated that a positive climate is a very important factor in increasing motivation to learn a particular language.

So - the first prerequisite - a positive learning environment and as little stress as possible. The educator must be aware that a student, just like an adult, gets under a lot of stress if he/she receives a task that does not correspond to his/her knowledge and cannot be performed. The vicious circle ensues because: “Those who feel unable to succeed are unlikely to put much effort into learning.” (Svence, 2020, pp. 28) Also: “This vicious cycle may be such that the student does not actually have the motivation to learn the subject and does not have the competence in the subject. Worse, it can lead to a general feeling of helplessness, in which the student has no faith in his or her abilities and no motivation to learn a subject at school.” (Svence, 2020, pp. 33). Belief in one's own ability to succeed or self-efficacy is mentioned as one of the key elements in the learning process by a number of pedagogy and psychology researchers (Bandura 1977; Lunenburg 2013; Thurman 1999; Millrood 2002).
Also Hattie (2013) in his research has shown that ability to give the meaningful feedback to the student has a positive impact to the student’s ability to reach the set learning goals. So - the second prerequisite - belief in one's ability to succeed, understand the task, complete it, and receive positive feedback, which would motivate to become more actively involved in the learning process.

The first and second prerequisite for effective teaching is to look for ways for the teacher to work effectively in a heterogeneous classroom. In essence, differentiation allows for a “child-centered” approach to the learning process: the teacher will go to meet the student where he/she is, rather than at an imaginary point defined by the educational standard or, in other words, start and implement the learning process at the student's level.

Both the School2030 materials and articles (School2030 Conference and Interview, 2020) and other recent pedagogical materials (Pumpurs 2020 and Svenč 2020) emphasize the need to move away from the idea that everyone should meet the same standard - each student has their own pace and vision for learning and situations:

1) The learning process corresponding to the level of knowledge (regardless of the level of knowledge) promotes a positive learning experience - the student receives a task / challenge corresponding to his / her level, achieves success and, consequently, further motivation. As the reform pedagogue M. Montessori mentioned, “(...) differentiation means that a person is assessed as a whole, and not only one aspect of the person is considered. (...) therefore, her motto was "learn to learn" and "help me to learn it for myself" (Montessori quoted by Knauer 2007, 5).

2) Students whose knowledge exceeds the standard set of knowledge remain interested and challenged to learn, thus further developing their knowledge, and developing excellence. Višņakova(2010) points out that the majority of gifted children do not use their full potential. They are characterized by any of the following characteristics: low self-esteem; a feeling of inferiority, which can manifest itself as carelessness, unreliability, even hostility towards others; dislike of school and teachers; weak motivation for learning.

3) Students whose knowledge lags significantly behind the standard knowledge are provided with the opportunity to fill the knowledge gaps and achieve the standard knowledge, thus providing them with the opportunity to fully participate in the learning process, maintaining and increasing motivation to learn.

Thus, the third important element for the student to learn effectively, achieve results and be motivated - the result to be achieved corresponding to the student's level of knowledge.

Finally, a number of pedagogical literatures emphasize that it is extremely important what learning methods are used in order for students to achieve the learning results. According to meta-cognitive research (Hattie 2013), this is, for example, the mentioned reciprocal teaching method (Palisca, Brown 1984), formative assessment methods. Cooperative learning methods have also shown effective results (Slavin, Cheung 2016). However, the acquisition and effective application of these methods require special skills that Latvian teachers could acquire and deepen by learning the techniques of these methods from skilled and experienced professionals.

5. Conclusion

Due to the distance learning process and general fatigue among teachers, the study was conducted by interviewing and surveying only a small proportion of foreign language teachers. Although there are significant differences in the level of knowledge in almost all Latvian secondary school classes, it would be necessary to conduct more extensive research on what differentiation methods teachers use in their lessons. Perhaps practical observations should also be made during teachers' lessons; thus, more specific conclusions could be drawn about the differentiation methods used by teachers and the necessary improvements.
Summarizing all the findings and the high percentage of significantly different levels of knowledge in one class (heterogenous classes) indicated in the study, the following recommendations can be made to foreign language teachers of Latvia and other countries:

1) create a positive learning environment for students.
2) give positive feedback on the completion of the task to students.
3) set a learning result which corresponds the student's level of knowledge, however, at the same time, the result should be challenging for each student.
4) in order to achieve the learning result, teachers should use methods that in meta-cognitive research have the greatest impact on the increase of students' knowledge.
5) improve skills of teachers by informing them about the latest research on providing positive and meaningful feedback and about the most effective methods of organizing work in highly heterogeneous classes.

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