

A Reflection of the Quality of Education in the Use of Teaching Aids and the Importance of Lifelong Learning

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Abstract: Teaching aids have become a standard part of the educational process and their appropriate integration into education provides countless opportunities for both teachers and students, from activation of students, their better motivation to learn, more illustrative explanation of the curriculum through demonstrations, and many others. The aim of the paper is to analyse the way of using selected groups of teaching aids (namely products of nature, models, visual teaching aids and literary teaching aids) based on previous experience of graduates of secondary schools, university students at the time of the exploratory survey. The authors focused on a study of statements revealing the perception of the learners of the ability of their teachers to integrate teaching aids into their lessons. In particular, the attention was focused on the examples of bad practices or mistakes connected with the didactic aspects of the teachers of secondary schools. The target group consists of 196 undergraduates of Bachelor's degree of the Institute of Education and Communication of the Czech University of Life Sciences Prague specializing in Teacher Training who have successfully completed the course focused on the effective use of educational resources in the educational process. A questionnaire was used as tools of the survey during the academic years 2015-2016 and 2016-2017. The qualitative survey gives a look at the resulting categories of mistakes affecting the quality of education that some teachers make during their lessons when integrating teaching aids. The authors emphasize the need to be aware of such deficiencies and, in the context of the subject under investigation they underline the importance of lifelong learning.

Keywords: quality of education, teaching aids, demonstration, lifelong learning, secondary education.

Introduction

The quality of education is influenced by many factors. One of the key factors is the didactic aspect of the educational process, in this respect related to educational activities of teachers (Strategy for Education ..., 2014). Teacher education is multidisciplinary and the fundamentals of so-called professional competencies are acquired by future teachers as a part of their undergraduate studies at universities (Nemejc, 2017). This ensures that teachers have extensive subject knowledge, a good knowledge of pedagogy, the skills and competencies required to guide and support learners, and an understanding of the social and cultural dimension of education. However, to keep up with the changes, new trends and demands of today's modern society, lifelong learning and career development of teachers are key priorities. In other words, the teaching profession should be seen as a continuum, which includes initial teacher education, induction and continuing professional development (Common European Principles ..., 2009; Petty, 2014).

In the context, the authors focus specifically on *the quality of teaching and learning in terms of the didactic aspect of education through the use of teaching aids* at the level of secondary education.

There are a lot of categories of didactic material means contributing, on condition of their proper use, to more effective achieving of educational goals, to presentation and demonstration of the curriculum in different ways, to activation of students, to motivation to learn, to rationalization and intensification of the work of teachers, and many others (Nemejc, Smekalova, Slavik, 2017). As a part of didactic material means, in particular teaching aids are defined as means mediating or imitating the reality, helping to enhance the illustration (demonstration) and facilitating teaching and learning (Prucha, Walterova, Mares, 2009). A common feature of teaching aids is primarily their illustrative function (so called principle of demonstration), consisting in the fact that teaching aids affect the senses and so students get more specific and comprehensive ideas of what they are learning (Ross, Ford, Bruce, 2007). All this is connected also with other functions of teaching aids that include the following properties: they are the source of the didactic information, they have an immediate link to the curriculum and especially to learning objectives, they contribute to easier memorization of the curriculum, they motivate the students and arouse their interest in the subject matter, they fulfil the role of feedback - inform the students about how they understand the subject matter and specify the learning process, they support the self-study

since students can study on their own and out-of-school on the basis of observations, their own experience from the lessons, and the like. Students, through the use of material didactic means, form their imagination and are more effective in preparing to move from the theoretical level into the practical, real life, as they can not only hear teachers' explanations and interpretations but they are supported by the integration of appropriate didactic means in teaching and learning (Dostal, 2008; Petty, 2014). In this respect, teachers should be able to demonstrate and analyse presented teaching aids, to highlight their most essential features and to summarize it all in the whole which is emphasized by G. Petty (2014) claiming that formal definitions, abstract explanations and descriptions are not enough for most students and the more ways information is presented to students, the better they understand it.

In the case of classification, teaching aids come in different forms that differ slightly from one author to another one. K. Nemejc, L. Smekalova and M. Slavik (2017) use the following categorisation:

- *original objects and real phenomena, including products of nature* (e.g. devices and tools, equipment, works of art, samples of materials, plants and animals, rocks, herbaria, taxidermies, processes);
- *models* (showing either an object or some principle, static models or dynamic models);
- *visual teaching aids* (e.g. photos, wall paintings, drawings on the blackboard, maps, overhead projector transparencies);
- *auditory teaching aids* (e.g. musical recordings - singing, recordings of musical instruments, concerts, sound recordings of natural phenomena, spoken recordings - listening exercises, dictations, narration, radio broadcasting);
- *audio-visual teaching aids* (TV broadcasting, educational movies and videos, computer animations, internet videos);
- *literary teaching aids* (both printed and digital textbooks, workbooks and sheets, professional literature, periodicals);
- *electronic teaching aids and internet services* (computer software with an educational potential, educational applications, presentation slides, e-learning, m-learning).

In addition to the above-mentioned desirable aspects of the use of teaching aids, however, there are also extremes, such as too many teaching aids included in the teaching unit (rather distracting than supporting the learning process), few illustrative materials and teaching aids, their chaotic integration into teaching, and so on. It is therefore necessary to be able to choose the appropriate kind of teaching aids for the educational process and to apply adequate methodological principles in the use of individual groups of teaching aids, such as the principle of demonstration (visualisation) of the subject matter, the feedback principle, the principle of connection of theory and practice, the principle of individual approach to students.

Various authors worldwide are constantly discussing the issue of the use of teaching aids in the educational process. S.M. Prathoshni, V.V. Priya, and R. Gayathri (2018) confirm, based on their survey on the effect of teaching aids on the student's academic performance that many students believe that teaching aids are very useful for learning as teaching aids provide students with realistic experience, which gains their attention and helps in understanding of the concept. E. Priyambodo and S. Wulaningrum (2017) give evidence in the same line, and that all their respondents agree that the teaching learning process using the teaching aids could improve their learning motivations and similarly they point out that the use of teaching aids can increase attention, and students focus more on the learning process. V. Dislere stressed the importance of the use of teaching aids in teacher education and specifies teaching aids' location in the didactic and methodology structure (Dislere, 2012, 203-206). Active teaching/learning methods during lessons were analysed by I. Kepaliene with colleagues (Kepaliene, Zygaitiene, Jakovleva, 2016, 81).

On the other hand, research results can also be found in the scientific literature following the above-mentioned extremes associated with the use of teaching aids. For example, it has been proven by I.L. Rivero, A.L. Padron and E.Z. Izaguirrethar (2012) that teachers from their research declared an occasional use of teaching aids in the teaching and learning process, indicating that teaching aids were not integrated as a didactic component. From the above stated it is obvious that teachers play a crucial role in supporting the learning experience of their learners (Common European Principles ..., 2009), therefore, lifelong learning of teachers should be considered as a standard to ensure their continuing professional development and the provision of effective education of their students, even in the case of the integration of teaching and learning activities and resources which relate to learners' real life goals (Petty, 2014).

In the Czech school environment, the issue of teaching aids has been described only to a small extent (Jancarikova, Jancarik, 2017) and it has not been explored sufficiently. To find out insights into the above outlined, the aim of the paper is to analyse the way of using selected categories of teaching aids by the teachers based on previous experience of graduates of secondary vocational schools and grammar schools, in particular in the context of the quality of implementation of education.

Methodology

The aim of the paper was *to analyse the way of using selected categories of teaching aids (namely products of nature, models, visual teaching aids, literary teaching aids) in the context of the quality of education* based on previous experience and subjective views of graduates of secondary schools (secondary vocational schools and grammar schools) who were university students at the time of the exploratory survey. Simply said, the researchers focus on perceptions of learners on the competence of educators to work with teaching aids.

Thus, the survey was focused on a study of free statements of the respondents to *open-ended questionnaire items* about how their secondary school teachers used particular groups of teaching aids during the lessons and where, according to them, in the context of these aids their teachers probably made mistakes, if any. In other words, what must be avoided in the future to ensure the quality of education?

The exploratory survey reflects the following question as perceived by students: *What mistakes do teachers make most commonly in their lessons, if any, when using the selected categories of teaching aids?* In particular, the survey aims to find out whether and what kind of mistakes and bad practices the respondents recorded in the lessons of their teachers at secondary schools in connection with selected categories of teaching aids. Such formulated subjective statements of the students were quantified and listed as *categories of examples of common teachers' mistakes and bad practices*. The survey is of the nature of a qualitative research for its specific issues that require respondents' own detailed statements.

The target group consisted of undergraduates of Bachelor's degree of the Institute of Education and Communication of the Czech University of Life Sciences Prague (IEC CULS Prague) specializing in Teacher Training who have successfully completed the course focused on the effective use of didactic means (both material - teaching aids, educational technologies, and interdisciplinary liked also with non-material means - i.e. methods and forms of teaching) in the educational process, and so having a clear idea and experience with the effective use of material didactic means during lessons and in teaching outside the school environment.

An anonymous online questionnaire was chosen as the most relevant tool of the data collection. Namely, the following items of the questionnaire related to their own opinions and experience were given to the respondents:

1. *Products of nature:* Write down your opinion(s) on what mistakes (if any) did your secondary school teachers make most commonly in the context of these teaching aids used during their lessons.
2. *Models:* Write down your opinion(s) on what mistakes (if any) did your secondary school teachers make most commonly in the context of these teaching aids used during their lessons.
3. *Visual teaching aids:* Write down your opinion(s) on what mistakes (if any) did your secondary school teachers make most commonly in the context of these teaching aids used during their lessons.
4. *Literary teaching aids:* Write down your opinion(s) on what mistakes (if any) did your secondary school teachers make most commonly in the context of these teaching aids used during their lessons.

The four selected open-ended questions and a closed-ended item (tracking the background of the respondent - graduate of a secondary vocational school or a grammar school) were created and distributed to the respondents at the IEC CULS Prague at the end of selected courses of the academic years 2015-2016 and 2016-2017.

The total amount of respondents was 196 undergraduates, of which 120 were graduates of secondary vocational schools and 76 were those of grammar schools. Due to the personal contact of the researchers with the target groups, the response rate reached 100 %. The data were analyzed and processed using descriptive statistics, focusing on the kind of secondary school the respondents graduated from, but

regardless of their gender and age. Summarization of the empirical data enabled an insight into the investigated issue and subsequently to interpret the findings detected.

Results and Discussion

A total of 196 Bachelor students specializing in Teacher Training at the Institute of Education and Communication participated in the questionnaire survey. Specifically, they were 120 graduates of secondary vocational schools and 76 graduates of grammar schools. The respondents were asked to fill in four particular open-ended questions finding their opinion(s) on what mistakes (if any) did their secondary school teachers make most commonly in the context of the four selected groups of teaching aids (i.e. products of nature, models, visual teaching aids, literary teaching aids) used during their lessons. As each of the four questions was an open-ended item, the number of respondents' statements to each category of teaching aids was unlimited. Similarly, if the respondents did not notice any mistakes (thus bad practices) in their secondary school lessons, there was no need to write down any comment and the space to answer remained blank. It means that the number of statements does not match the number of respondents (the number of statements may be lower when the respondents have concluded that they had not noticed mistakes during the lesson of their four-year secondary school studies, or on the other hand higher, if they had several comments to bad practices of their teachers within a particular category of teaching aids).

For the four selected categories of teaching aids that were under our exploration a total of 764 statements were collected through the questionnaire survey (467 from graduates of secondary vocational schools, 297 from graduates of grammar schools), with the following frequencies:

Products of nature: 117 statements (graduates of secondary vocational schools), 81 statements (graduates of grammar schools), 198 in total,

Models: 113 statements (graduates of secondary vocational schools), 72 statements (graduates of grammar schools), 185 in total,

Visual teaching aids: 123 statements (graduates of secondary vocational schools), 70 statements (graduates of grammar schools), 193 in total.

Literary teaching aids: 114 statements (graduates of secondary vocational schools), 74 statements (graduates of grammar schools), 188 in total.

To explain the data shown in Table 1 to Table 4 below the statements of the respondents for all four groups of teaching aids were quantified and allowed to create appropriate categories of the most common mistakes (bad practices) of teachers in integration of the selected groups of teaching aids. Based on analysis of all individual statements, the main categories were listed under the criterion that at least six respondents' statements appear in one of the two kinds of secondary schools. Resulting from this criterion, for statements that occurred sporadically a category "*other statements (categories not specified)*" was created for each group of teaching aids concerned in the exploratory survey. The percentage distribution of the statements was calculated proportionally in each of the categories of respondents' answers, namely individually for graduates of secondary vocational schools, those of grammar schools, as well as the sum of all the statements (concerning teachers of both secondary vocational schools and grammar schools) in each of the categories. Finally, *25 % of the most represented categories and 25 % of the least represented categories are highlighted in the results* of Table 1 to Table 4.

Students' perceptions of the use of products of nature in the educational process by their secondary school teachers

Concerning the first item of the questionnaire dealing with the evaluation of the use of the products of nature, the following statements of the undergraduates specializing in Teacher Training were investigated.

Products of nature (meant real things): Write down your opinion(s) on what mistakes (if any) did your secondary school teachers make most commonly in the context of these teaching aids used during their lessons.

Of the total number of 196 respondents (120 secondary vocational schools, 76 grammar schools), there were 117 statements of graduates of secondary vocational schools and 81 statements of graduates of grammar schools, 198 in total. In accordance with the above given criterion, eight particular categories

and one category for the other non-specified statements were created. The overview of these categories and the percentage distribution of students' statements (i.e. of the most common mistakes/ bad practices of teachers when using such teaching aids in the educational process) in relation to the type of the secondary school they graduated from are provided in Table 1.

Table 1

Products of nature: the most common mistakes (bad practices) of teachers in their integration in the educational process

Statements concerning teachers of SVS count (%)	Statements concerning teachers of GS count (%)	Categories of the most common mistakes (bad practices)	Sum of the statements concerning teachers of SVS + GS count (%)
39 (33.33)	23 (28.40)	Sending the teaching aid around the classroom distorts students' attention from the teacher's talk	62 (31.31)
16 (13.67)	16 (19.75)	Using poor quality teaching aids (e.g. worn, torn, incomplete, without important recognition characters, ...)	32 (16.16)
12 (10.26)	14 (17.28)	Imperfect knowledge of the teaching aid (unpreparedness of the teacher, inadequate description, etc.)	26 (13.13)
17 (14.53)	6 (7.41)	The teaching aid, where appropriate, is not available in large quantities	23 (11.62)
7 (5.98)	8 (9.88)	Poor visibility of the teaching aid (e.g. a small specimen)	15 (7.58)
10 (8.55)	4 (4.94)	A low rate of the use of such teaching aids	14 (7.06)
6 (5.13)	5 (6.17)	No option to explore the teaching aid closer (without activation of students)	11 (5.56)
6 (5.13)	1 (1.23)	Too fast teacher's pace when using the teaching aid	7 (3.54)
4 (3.42)	4 (4.94)	Other statements (categories not specified)	8 (4.04)
117 (100.00)	81 (100.00)		198 (100.00)

Note: SVS - secondary vocational schools; GS - grammar schools

From the didactic point of view, it is desirable that teacher talk be illustrated with a visual presentation where possible. Nevertheless, Table 1 represented by the results of the undergraduates clearly displayed that both the respondents of secondary vocational and grammar schools pointed to certain methodical mistakes of their teachers.

It is therefore possible to answer the question of the survey: *What mistakes do teachers make most commonly in their lessons, if any, when using the products of nature?*

Overall, most of the statements concerned *"distracting students' attention when circulating teaching aids around the classroom during teacher's talk"* (a total of 31.31 % of the statements) and the experience with *"using poor quality teaching aids"* (16.16 % of the statements). In addition, especially graduates of secondary vocational schools pointed out that *"the teaching aid, where appropriate, is not available in large quantities"* (14.53 % cases). It means, based on students' subjective views these are the most serious mistakes in teachers' approach and it is desirable to consider and avoid such bad practices in order to provide a quality and effective teaching and learning environment, optimally through self-reflection of teachers, feedback from their students, colleagues, through lifelong learning, and so on.

Students' perceptions of the use of models in the educational process by their secondary school teachers

The item evaluated the use of models as perceived by teacher candidates based on their subjective view and experience.

Models: Write down your opinion(s) on what mistakes (if any) did your secondary school teachers make most commonly in the context of these teaching aids used during their lessons.

Out of 196 respondents, a total of 185 statements were recorded and divided into eight particular categories. The criterion to create a specific category from at least six respondents' statements was respected. A category for the other non-specified statements was created, too. The list of the categories and the percentage distribution of students' statements (the most common mistakes of teachers when integrating models) in relation to the type of the secondary school they graduated from are displayed in Table 2. The analysis of students' statements showed that also in case of the use of models the respondents noticed various teachers' mistakes of different range during their four-year secondary school studies contributing to poorer quality of the educational process.

Table 2

Models: the most common mistakes (bad practices) of teachers in their integration in the educational process

Statements concerning teachers of SVS count (%)	Statements concerning teachers of GS count (%)	Categories of the most common mistakes (bad practices)	Sum of the statements concerning teachers of SVS + GS count (%)
22 (19.48)	13 (18.06)	No option to explore the model closer (without activation of students)	35 (18.92)
23 (20.36)	12 (16.67)	Inaccurate or chaotic description of the teaching aid	35 (18.92)
20 (17.70)	8 (11.11)	Poor visibility of the teaching aid (e.g. for students from the backside)	28 (15.14)
12 (10.62)	7 (9.72)	A low rate of the use of such a teaching aid	19 (10.27)
7 (6.19)	7 (9.72)	Too fast teacher's pace when using the teaching aid	14 (7.57)
3 (2.65)	9 (12.50)	Using poor quality teaching aids (e.g. damaged, incomplete, non-functional)	12 (6.48)
10 (8.85)	2 (2.78)	Imperfect knowledge of the teaching aid - the aspect of handling the aid (e.g. inability to take the model to pieces)	12 (6.48)
5 (4.42)	6 (8.33)	Integration of the teaching aid without any explanation or description (just referring to it)	11 (5.95)
11 (9.73)	8 (11.11)	Other statements (categories not specified)	19 (10.27)
113 (100.00)	72 (100.00)		185 (100.00)

Note: SVS - secondary vocational schools; GS - grammar schools

The question of the survey "*What mistakes do teachers make most commonly in their lessons when using models, as perceived by students?*" can be answered.

In terms of the frequency of the statements, these findings can be considered as essential for both secondary vocational and grammar schools. The quality of education can be negatively affected by the facts that there is "*no option to explore the model closer*" which means there is no relevant activation of the students (a total of 18.92 % of the statements) as well as teachers' "*inaccurate or chaotic description of the teaching aid*" (18.92 % of the statements). Statements listed in other categories appeared to a much lesser extent, however it is essential to prevent from such examples of teachers' inability to use this group of teaching aids effectively, such as "*a low rate of the use of such a teaching aid*", "*too fast teacher's pace when using the teaching aid*", "*using poor quality teaching aids*", i.e. damaged, incomplete, or non-functional models, and "*imperfect knowledge of the teaching aid*" from the point of view of handling the model.

Students' perceptions of the use of visual teaching aids in the educational process by their secondary school teachers

As regards the analysis of the evaluation of the use of visual teaching aids (i.e. in our survey mainly posters and other wall educational pictures) by the teachers of secondary vocational schools and grammar schools as perceived by their graduates, contemporary university students, the following was found (Table 3). The research question was as follows:

Visual teaching aids: Write down your opinion(s) on what mistakes (if any) did your secondary school teachers make most commonly in the context of these teaching aids used during their lessons.

Table 3

Visual teaching aids: the most common mistakes (bad practices) of teachers in their integration in the educational process

Statements concerning teachers of SVS count (%)	Statements concerning teachers of GS count (%)	Categories of the most common mistakes (bad practices)	Sum of the statements concerning teachers of SVS + GS count (%)
21 (17.06)	13 (18.56)	Using poor quality teaching aids (e.g. torn, faded, worn with use)	34 (17.62)
19 (15.45)	10 (14.29)	Poor visibility of the teaching aid (e.g. inappropriate placement)	29 (15.03)
14 (11.38)	10 (14.29)	Inaccurate or chaotic description of the teaching aid	24 (12.43)
15 (12.20)	9 (12.86)	Outdated or not topical teaching aid (outdated information, diagrams, ...)	24 (12.43)
14 (11.38)	3 (4.29)	A low rate of the use of such teaching aids (e.g. a class decoration only)	17 (8.81)
9 (7.32)	7 (10.00)	Integration of the teaching aid without any explanation or description (just referring to it)	16 (8.29)
10 (8.13)	4 (5.71)	The teaching aid does not have a direct connection with the topic (inappropriate timing)	14 (7.25)
6 (4.88)	0 (0.00)	Inappropriate presentation of the teaching aid (blocking students' view, improper demonstration, ...)	6 (3.11)
15 (12.20)	14 (20.00)	Other statements (categories not specified)	29 (15.03)
123 (100.00)	70 (100.00)		193 (100.00)

Note: SVS - secondary vocational schools; GS - grammar schools

Of the total number of 196 respondents (120 secondary vocational schools, 76 grammar schools), 123 statements were provided by graduates of secondary vocational schools, 70 statements by graduates of grammar schools, i.e. 193 statements in total. Based on the above given criterion, eight specific categories and one category for the other non-specified statements were created dealing with the most common mistakes/ bad practices of teachers when using such teaching aids in the educational process.

Evidently, the following categories became apparent as represented by the highest frequency of the statements, both concerning the didactic approach of secondary vocational school and grammar school teachers. The answer to the survey question *"What mistakes does teachers make most commonly in their lessons when using visual teaching aids, as perceived by students?"* comes below.

Bad practices, suppose that unintentional, lowering the quality of education by the teachers' incompetence when integrating visual teaching aids are mainly as seen by the respondents: *"the use poor quality teaching aids"* (a total of 17.62 %), *"poor visibility of the teaching aid"* connected e.g. with its inappropriate placement (15.03% of the statements) or *"inaccurate or chaotic description of the teaching aid"*.

The remaining particular categories included also a certain amount of students' observations related to a didactically improper use of visual teaching aids, but these were of a much lesser extent. They related e.g. to *"outdated or not topical teaching aids"*, *"a low rate of the use of such teaching aids"* or to *"integration of the teaching aid without any explanation or description"*. Without discussions, such performance of some teachers has no benefit for the students. As G. Petty (2014) pointed out it is advisable to use such kind of teaching aids, but it is necessary to justify didactically whether the whole class can read the visual teaching aid, whether it is simple enough for the message to be clear, and/or whether it is attractive for the target group of the students.

Students' perceptions of the use of literary teaching aids in the educational process by their secondary school teachers

As for the last item of the questionnaire dealing with the evaluation of the use of literary teaching aids, the following viewpoints of the respondents were detected:

Literary teaching aids: Write down your opinion(s) on what mistakes (if any) did your secondary school teachers make most commonly in the context of these teaching aids used during their lessons.

Table 4

Literary teaching aids: the most common mistakes (bad practices) of teachers in their integration in the educational process

Statements concerning teachers of SVS count (%)	Statements concerning teachers of GS count (%)	Categories of the most common mistakes (bad practices)	Sum of the statements concerning teachers of SVS + GS count (%)
19 (16.67)	9 (12.16)	A frequent rate of the use of such teaching aids (e.g. lessons based on reading texts)	28 (14.89)
14 (12.28)	13 (17.56)	Using text teaching aids for self-study only (without explanation, teacher's talk, feedback)	27 (14.37)
18 (15.79)	8 (10.81)	Outdated or not topical teaching aid (literature, texts, ...)	26 (13.83)
14 (12.28)	9 (12.16)	Inappropriately chosen teaching aids (content, format, errors in the text)	23 (12.23)
10 (8.77)	8 (10.81)	Imperfect knowledge of the teaching aid (unpreparedness of the teacher, unfamiliarity with the text)	18 (9.57)
10 (8.77)	4 (5.41)	A low rate of the use of such teaching aids	14 (7.45)
9 (7.89)	4 (5.41)	Inappropriate integration of the teaching aid during the lesson (e.g. demonstration only to students in the front places, etc.)	13 (6.91)
4 (3.51)	6 (8.11)	Literary teaching aids are required, but during the year they are used minimally	10 (5.32)
16 (14.04)	13 (17.57)	Other statements (categories not specified)	29 (15.43)
114 (100.00)	74 (100.00)		188 (100.00)

Note: SVS - secondary vocational schools; GS - grammar schools

Of the total number of 196 respondents (120 secondary vocational schools, 76 grammar schools), there were 114 statements of graduates of secondary vocational schools and 74 statements of graduates of grammar schools, 188 in total. Altogether, eight particular categories and a category for the other non-specified statements were created. The overview of the results is provided in Table 4.

The findings clearly showed that also here the respondents recorded certain teachers' failings of different range connected with the inefficient use of literary teaching aids in the lessons during their four-year secondary schools studies, again both at secondary vocational schools and grammar schools.

It is therefore possible to answer the last question of the survey: *What mistakes do teachers make most commonly in their lessons when using literary teaching aids, as perceived by students?*

Generally, most of the statements denoting the negative didactic effects in teaching and learning concerned "a frequent rate of the use of such teaching aids" connected for example by lessons based plainly on reading texts (14.89 %), "using text teaching aids for self-study only" without explanation, teacher's talk, feedback, ... (14.37 %), "use of outdated or not topical teaching aids" (13.83 %) or "inappropriately chosen teaching aids" in the sense of the content, format, errors in the text (12.23 %). In this regard, it is recommended rather than ineffective way of using the literary teaching aids, to understand a concept different presentations and practical learning can be done for easier understanding of that concept (Prathoshni, Priya, Gayathri, 2018). In addition, it is necessary to be for the teachers to be aware of other possible aspects affecting the effectiveness of the educational process and the performance of the teacher itself. For example, the students can easily recognize the unpreparedness of the teacher for the lesson or their unfamiliarity with the text.

Conclusions

The exploratory survey reflected the following research question: What mistakes do teachers make most commonly in their lessons when using selected groups of teaching aids? If any, as perceived by their students which were university students at the time of the exploratory survey.

Undoubtedly, in the subject of interest of the researchers, there many teachers who are fully competent in terms of the didactic aspect of their performance in the process of education. Nevertheless, the findings of the authors clearly show that the respondents (of both secondary vocational schools and grammar schools) perceived various examples of bad practices, or certain didactical mistakes, when integrating products of nature, models, visual teaching aids and literary teaching aids in their lessons. As a result, in terms of the quality of education it means that such an integration of teaching aids may be counterproductive as students could easily lose their attention, they are not activated by the teacher, there is no interaction between the teacher and the students, and finally there is no reason to make the lesson diverse in this way.

As the results reveal that, there are some teachers who are unable to integrate these teaching aids effectively it is desirable for the teachers to be aware of such possible deficiencies, which may have a negative impact on the quality of the educational process. In this regard, the authors underline the significance of the self-reflection of teachers, sharing of experience and information with their colleagues, the learning by continuous feedback from their students and they point to the important role of lifelong learning. In the case of lifelong learning, the continuous process of the development of knowledge, intellectual abilities, competencies and practical skills for example through informal individual activities (retraining courses) or informally in the form of self-education from everyday activities (activities at work, leisure time, and so on) cannot be neglected.

The authors believe that the results could be useful for educational policy makers, for institutions preparing teachers for their future career and for teachers themselves, although, they are aware that the issue of the evaluation of the effective integration of didactic means in the educational process requires much more attention and therefore more extensive studies are planned in the future.

Bibliography

1. Common European Principles for Teacher Competences and Qualifications. (2009). The European Commission. Retrieved from <http://www.pef.uni-lj.si/bologna/dokumenti/eu-common-principles.pdf>
2. Dislere V. (2012). Methodology Structure for Training Teachers of Home Economics and Technologies. In V. Dislere (Ed.), *The Proceedings of the International Scientific Conference Rural Environment. Education. Personality (REEP)*, 5. Jelgava: LLU TF, 201-208. Retrieved from <http://llufb.llu.lv/conference/REEP/2012/REEP-2012-proceedings-E-ISSN-2255-808X.pdf>
3. Dostal J. (2008). *Učební pomůcky a zásada názornosti (Teaching Aids and the Principle of Visualisation)*. Olomouc: Votobia. (in Czech)
4. Jancarikova K., Jancarik A. (2017). Teaching Aids and Work with Models in E-Learning Environments. *Electronic Journal of e-Learning*, 15(3), 244-258.
5. Kepaliene I., Zygaitiene B., Jakovleva A., (2016). Overview of Active Learning/Teaching Methods for Development of School Students' Entrepreneurship. In V. Dislere (Ed.), *The Proceedings of the International Scientific Conference Rural Environment. Education. Personality (REEP)*, 9. Jelgava: LLU TF, 81-88. Retrieved from <http://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X-81-88.pdf>
6. Nemejc K. (2017). Training and Development of Secondary School Teachers of Foreign Languages for the Effective Integration of Educational Technologies: An Exploratory Survey. In *EDULEARN2017 The Proceedings of the 9th International Conference on Education and New Learning Technologies*, Barcelona: IATED Academy, 5117-5125.
7. Nemejc K., Smekalova L., Slavik M. (2017). Teaching Aids Requiring Educational Technologies in the Context of Evaluation of Education. In *EDULEARN2017 The Proceedings of the 9th International Conference on Education and New Learning Technologies*, Barcelona: IATED Academy, 5126-5135.
8. Petty G. (2014). *Teaching Today: A Practical Guide*. Cheltenham: Nelson Thornes.

9. Prathoshni S.M., Priya V.V., Gayathri R. (2018). Effect of Teaching Aids on Student's Academic Performance in Professional Courses. *Drug Invention Today*, 10(12), 2358-2361.
10. Priyambodo E., Wulaningrum S. (2017). Using Chemistry Teaching Aids Based Local Wisdom as an Alternative Media for Chemistry Teaching and Learning. *International Journal of Evaluation and Research in Education*, 6(4), 295-298.
11. Prucha J., Walterova E., Mares J. (2009). *Pedagogicky slovník (Pedagogical Dictionary)*. Praha: Portal. (in Czech)
12. Rivero I.L., Padron A.L., Izaguirre E.Z. (2012). Didactics of the Use of ICT and Traditional Teaching Aids in Municipal Higher Education Institutions. *Journal of New Approaches in Educational Research*, 1(1), 33-40.
13. Ross J.A., Ford J., Bruce C.D. (2007). Needs Assessment for the Development of Learning Objects. *The Alberta Journal of Educational Research*, 53(4), 430-433.
14. Strategy for Education Policy of the Czech Republic until 2020 (2014). Ministry of Education, Youth and Sport of the Czech Republic. Retrieved from http://www.vzdelavani2020.cz/images_obsah/dokumenty/strategy_web_en.pdf