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PROBLEMATIKA POUŽITELNOSTI**

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**Thesis**

**DEVELOPING LANGUAGE TEACHING  
MATERIALS:  
A USABILITY TESTING STUDY**

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## ABSTRACT

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The thesis deals with the topic of language teaching materials development. Theoretical background covers information regarding commercial teaching materials use, their evaluation and adaptation. Additionally, it presents importance of textbook graphic design and usability testing. The aim of the research carried out by means of usability testing was to assess how the design supports navigation within a foreign language coursebook. For the purposes of testing, a Russian language coursebook was chosen. In order to avoid any influence by the language used in the coursebook, a group of neither Czech, nor Russian speakers was selected. The research results indicate that design tools, such as colour, headings and infographics contribute to accessibility of instructional materials if used consistently. They support navigation and help users to identify individual segments within the coursebook.

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## I. INTRODUCTION

Nowadays, knowledge of at least one foreign language is a necessity. English sustains a strong position among all foreign languages that students and professionals learn. It is a language of education, culture, business, politics and more. In modern professional society, the ability to speak English has become an obligation. Nonetheless, a capacity to communicate in more than one foreign language is very beneficial and advantageous for professional and personal life. According to the educational policy, students of Czech schools are obliged to study at least two foreign languages. Among the most frequently studied foreign languages apart from English is German, Russian, French and Spanish.

Language teachers are facing a very challenging task in terms of preparation and organization of course programs, including decision process regarding the use of instructional materials. Their preference may be towards total absence of a particular textbook or in favour for acquisition of one. Publishers provide teachers with variety of instructional materials for foreign language learning covering practically all types of target groups and purposes. The options vary from an original language textbook produced in the country of language, adapted and localised original materials to materials produced by local publishers. The amount of language teaching materials available on the market is enormous. Regardless individual motivation for textbook use, educators and learners need to know basic criteria for material evaluation in order to make the best choice out of the colossal quantity of publications.

As any other product with an interface, textbooks interact with users through graphic design tools and this interaction has to be as efficient as possible. Well-designed instructional materials have the potential to make the learning process more attractive, engaging and meaningful. Learners' expectations grow rapidly due to technological development; hence, they expect higher standards of instructional materials production and presentation.

In this thesis, I will focus on main issues aligned with language teaching materials use and development together with usability testing. I will discuss the roles textbooks play in the teaching/learning process and present recommendations regarding textbooks evaluation. I will take a closer look at the matter of instructional materials design and introduce usability testing as a research method. For the purposes of usability testing, I

have selected a recently published Russian language textbook. A group of neither Czech, nor Russian speakers participated in testing session. The aim of the research was to assess how the design supports navigation within a foreign language coursebook. The research results indicate that design tools, such as colour, headings and infographics contribute to accessibility of instructional materials if used consistently. They support navigation and help users to identify individual segments within the coursebook.

The thesis consists of several parts. First, it presents the theoretical background related to commercial teaching materials and importance of textbooks graphic design. Second, it introduces methods used in conducting the research. Third, it presents results obtained during the research and gives commentaries and explanations. At final, it provides implications based on research and its results.

## II. THEORETICAL BACKGROUND

The following chapter presents theoretical basis for the further research. The material will be divided into two individual parts. The first section of the chapter explores the matter of commercial teaching materials usage. A closer look will be taken at the main issues aligned with language learning materials role and matter of use, as well as their evaluation, acquisition and adoption. The second section of the chapter summarizes theoretical background presenting importance of graphic design and usability application in relation to textbook production and use. A specific part will be dedicated to usability testing.

### **Language textbooks**

This section explores the questions of nature and purpose of commercial teaching materials, English language teaching textbooks specifically, together with their role in teaching and learning processes. The matter of textbooks usage and their impact on both educators and learners will be discussed along with the consequences of decisions made by teachers within the teaching process.

Both teaching and learning processes are very complex and dynamic. They involve human beings hence the process will always be transformed by them (Graves, 2000). As Graves (2000) has stated, teaching is an “organic, unpredictable, challenging, satisfying and frustrating process” (p. 7). I totally agree with the statement, as both teachers and learners pass through the numerous amount of activities and events commonly influencing the process, transforming and adapting it in order to make the best use out of a concrete situation. Even though the teaching process requires serious planning and preparation, some unexpected situations may occur and unfortunately, there is always a chance of failure on both sides. While designing and planning a course for a particular learner or group of learners, the following aspects have to be considered:

- Participants of the course and other people involved (students and their background information, school administrators, parents etc.),
- Nature of course (type and purpose of course, relation to any previous course, prescribed curriculum, required tests),
- Time (length of the course, length of each class, how often the sessions will happen, relation to the entire schedule),
- Physical setting (location of school, classroom size, conditions),

- Teaching resources (availability, need of own materials development, equipment, etc.) (Graves, 2000, p. 16).

Among all above mentioned aspects, a closer look at teaching resources, teaching/learning materials and language textbooks specifically will be taken. Language textbooks sustain a strong position in classroom teaching and continue to play a fundamental role in foreign language teaching and learning process. Publishers provide teachers with a great scale of commercial materials covering practically all types of language courses and levels of language acquisition. (Richards, 2015). Nevertheless, the subject of textbooks development and further materials implementation in the teaching process remains controversial and divides teaching community into several coalitions. Some question their role and oppose their use, believing textbooks “de-skill” educators (Allwright, 1981; Richards 2015; Tomlinson, 2008); others assume there is an appropriate way to maintain the balance between total dependency on pre-made materials and individual accommodation and initiative (Cunningsworth, 1995; O'Neill, 1982).

When we talk about language teaching textbooks, we expect them to cover particular areas and summarize material, as well as present it in a logical and structured manner. The aim of textbook is to present grammatical and functional framework for the further use of individual learners (O'Neill, 1982). An important duty of textbooks is presentation of cultural and sociolinguistic background. Coursebooks accompanied by audio recording provide students with an opportunity to work on their listening and pronunciation skills. The material in the coursebook has to be clear and easy to follow with consistent and efficient instructions. The layout is expected to be appropriate and attractive for both students and teachers (Cunningsworth, 1995). Coursebooks allow students to feel the security and self-confidence. Well-structured and liable materials provide them with a sense of success and progress; they lead them to autonomous learning. Textbooks have to encourage and motivate learners in any situation (O'Neill, 1982).

### **The role of language textbooks**

The most preferable way to see the use of coursebooks is as a tool for achieving educational aims and objectives. However, these aims and objectives have to be set in terms of learner's needs. Textbooks should never become the aim itself. As Cunningsworth (1995) has stated, teachers are recommended to be “primarily concerned with teaching the language and not the textbook” (p. 5). The objectives and aims

of the teachers have to correspond as closely as possible to the aims of the coursebooks, so they both meet the needs of the learners (Cunningworth, 1995).

Textbooks play several roles in language teaching. One of them is the ability to serve as a resource of texts (spoken and written). Additionally, textbooks can be seen as a source of activities for learners' practice and communicative interaction, as well as reference resource for learners on grammar, vocabulary, pronunciation, etc. Coursebooks bring ideas for classroom activities and become great support for less experienced teachers. Cunningworth (1995) has described the perfect relationship between the teacher and the coursebook as a "partnership", where both parties share common goals to which "each side brings special contribution" (p. 7).

### **Textbooks advantages and limitations**

Depending on the way and context textbooks are used, Richards (2015) has listed their advantages and limitations. Among the main advantages the author has classified an ability to provide a syllabus for a program. It is important to underline that textbooks have to play a role of a supplement to a properly organised and well-thought-out curriculum. According to the author, textbooks help to standardize the instructions. Use of coursebooks in different classes can ensure that the students receive similar content and therefore can be tested in the same way. Publishers often produce additional learning materials for both teachers and learners, which can make the time spent on preparation more efficient. Textbooks become a great help for a teacher whose first language is not English and who lacks experience at the beginning of his/her career. Commercial textbooks usually maintain quality hence they are expected to be reliable. In general, publishers have high production standards which makes textbooks very visually appealing (Richards, 2015).

Among the disadvantages, there is potential presentation of inauthentic language, as authors usually write content for particular purposes. In addition, the presentation of the content is rather idealistic with controversial and sensitive topics being avoided. Textbooks are mostly written for a wider audience and do not reflect individual needs of learners. Unfortunately, together with the teaching manual textbooks can influence teacher's performance in a negative way, by deskilling him or her and reducing the decision making process to simple instructions and giving orders. Among other

reasons, the author has mentioned the cost of textbooks, which is usually high (Richards, 2015).

Educators have to consider both the benefits and limitations of the use of textbooks. Experts highly recommend to evaluate the material prior the use and if needed to adapt it and supplement it with other additional materials. It is important to keep in mind that one textbook might be an ideal suit for one particular situation, as it perfectly matches the needs of this concrete situation (presents the appropriate amount of material, all skills are covered in a fair equal way, teacher has no difficulties working with it) and totally unsuitable for another (Cunningsworth, 1995).

### **Textbooks evaluation**

A textbook selection process involves matching the material against the context in which the textbook is going to be used. Firstly, the aims and objectives of the programme have to be identified, secondly, we need to analyse the learning/teaching situation in which the textbook will be used. These two factors will give us a profile of the context for which we are selecting a tool as well as basic requirements that the product will have to meet (Cunningsworth, 1995). There are several evaluation types depending on the circumstances and the purposes for which the evaluation is being initiated. The most common and the most difficult one is the pre-use evaluation, as there is no actual experience of work with the material. Here we can only predict and assume potential performance of the textbook. The in-use evaluation refers to coursebook evaluation while the material is in actual use. This type of evaluation may be useful for newly published instructional materials and aging materials, in order to be either transformed, adapted or replaced. The post-use evaluation is based on experience and may serve for identifying strengths and weaknesses of the material, which arise over a time of constant use. This type of evaluation helps to make a decision on future materials use (Cunningsworth, 1995).

A general impression of textbooks can be formed relatively quickly. Getting an overview by looking through the book can give one an idea about strengths and weaknesses of the material. One can easily analyse the quality of visuals, layout, what the components of package are etc. This approach is appropriate for the first preliminary research in order to eliminate unsuitable materials. For the final process of textbook selection it is needed to conduct in-depth evaluation, within which it will become obvious

how particular items deal with syllabus requirements and learners needs (Cunningsworth, 1995). Several program issues need to be clarified prior textbook evaluation, specifically individual roles of textbooks, teachers and learners.

It is essential to know how well developed the curriculum is and if the objectives, syllabus and content are determined in the curriculum or this role will be assigned to the textbook. Educators are recommended to make a decision based on the amount of textbooks and additional materials used in one class anticipatorily. Besides what has been said, the author has advised teachers to consider the size of the class prior textbooks acquisition and use (Richards, 2015).

Depending on the degree of educators' experience, proficiency, knowledge and independency, decisions might be taken towards particular materials, e.g. considering their level of English, approach to work with textbooks and tendency to be rather independent within planning and performing. Subjective opinions play a crucial role in the evaluation process, as two educators may point out different features when evaluating the same coursebook. While one focuses on the way textbooks are going to be used in the class, their adaptability, flexibility and simplicity to work with; another concentrates on the theoretical orientation, pedagogical approach and validity of activities. Sometimes teachers can become "victims" of someone else's decision, as the chain of people involved in the textbooks selection process might consist of too many elements (Richards, 2015).

Learners as well as teachers have certain expectations from textbooks. They are becoming more sophisticated through the influence of technology hence they expect higher standards of production and presentation (Cunningsworth, 1995). Teachers are highly recommended to take in account learners' expectation and if possible fulfil positive ones and avoid negative ones. Educators are advised to consider the necessity of textbooks acquisition and financial ability of students in advance (Cunningsworth, 1995).

Cunningsworth (1995) has listed several criteria necessary for textbooks evaluation. According to the author, textbooks have to correspond with learners' needs well and fit and match the objectives and aims of the program. Aims and objectives may reflect learners' needs in terms of both communicative abilities and language content. These aims and objectives should determine which course materials will be used and not vice versa.

Instructional materials need to reflect learners' uses, i.e. teach them to use the language effectively for their own current and future purposes. The program should state clear aims of what students need to learn in order to make effective use of the language in personal, professional, academic and other relevant situations. The coursebook may contribute to growing confidence and learning independence by presenting authentic materials, creating realistic situations and encouraging learners to participate in activities, which will help to develop their communicative strategies and skills (p. 15). Textbooks should consider individuality of every student and play the role of a rather "facilitator" than a strict "method presenter". The role of textbooks has to be clearly stated. Language textbooks facilitate learning process, they bring the target language and the learner together, but in a regulated and controlled way (p. 17). Additionally, the subjective opinion of the evaluator has to be taken in account. The same content may seem appropriate, fitting for one, and completely unusable for another. As the author has stated "No coursebook designed for a general market will be absolutely ideal for your particular group of learners, but the aim is to find the best possible fit, together with potential for adapting or supplementing parts of the material where it is inadequate or unsuitable" (p. 5).

### **Textbooks design evaluation**

Good design attracts attention, arouses interest and motivates readers to read further. The mission of textbook design is to indicate the weight of importance of different matters within the material and show how individual parts relate to each other (Sheldon L. E., 1987, p. 90). In order to conduct a closer evaluation of instructional materials design principals, we will focus on the main design criteria, specifically relevance, accessibility and cohesion.

Relevance in terms of textbook design may refer to signpoints, audience, colour and mimesis. Presence of a heading (unit or chapter heading) has several reasons. Firstly, it attracts readers' attention. This is the main purpose of headings. Secondly, it summarizes upcoming matter. Placement and design of heading is also important. It may be highlighted by colour, size and placement (not necessary all at once). The reader may as well question the relevance of image use in relation to the topic. According to Sheldon (1987), images can "define, consolidate and provide immediacy"; they play a role of an additional statement and contextualize (p. 92). Relevance in relation to the audience may be presented in diversity of matters, e.g. in relation to variety of design to attract and interest the user,



proper selection and use of visual materials, quantity and variety of text. Colours attract attention and highlight information. It is recommended to consider the role of colours (complementing, accompanying) and general necessity of use. Mimesis in textbook design may refer to the usage of established and recognized formats, e.g. timetables, advertisements, TV programmes etc. The formats are sometimes fictitious but very often they are taken from an original source (Sheldon L. E., 1987, p. 93).

Accessible materials possess the following characteristics: clear reading path, high quality text presentation and layout, teacher and reader friendliness. The reading path is essential in terms of access. The information has to flow from one part of the text to another, from the text to the images or diagrams. Coursebooks may contribute to learners' motivation if designed properly. Well-designed instructional materials stimulate learners' interest and help them to move further within the book. When looking at a coursebook, one should feel interested in the presented topic. The layout is expected to be helpful in finding the way around the page. It has to be obvious from the page what language work learners will focus on. Work with coursebooks has to be effortless and intuitional for both teachers and learners. (Sheldon L. E., 1987, p. 95).

Cohesion in terms of textbook design refers to the consistency of all components within the book. Individual components of the material have to hold together in terms of accessibility and visibility. Here we can mention uniformity of page allocation to units. A different length of units may be confusing to students, as it may seem that a longer unit is more important than the shorter one. Appropriate and well thought out use of colour plays crucial role in the textbook design. The meaning and function of colour use has to be clear, relevant, professional and pleasant. Design conventions used within the book contribute to accessibility; they indicate what is happening and help to hold a page or other unit together. In order to achieve cohesion, individual design items have to be used consistently. (Sheldon L. E., 1987, p. 97).

### **Adapting textbooks**

One of the most challenging aspects of coursebooks use is to engage students with the material they are going to be working with, meaning motivating them and arousing their interest before they open the book (Harmer, 2007). Commercial teaching materials usually need to be adapted, in order to become more suitable

for the particular situation. According to Cunningsworth (1995), the adaptation process may vary and take several forms:

- Content can be modified, added, deleted or reorganised. In line with the factors related to learners' background, needs, aims, previous experience, knowledge etc., some content may be modified in order to make a better fit to particular situation. In case that the coursebook contains too much or not enough material, some parts of the book may be skipped or added. It is upon teachers' decision to reorganise activities within the unit if the situation requires so.
- Tasks can be modified and extended. Teacher may modify or extend activities and exercises in order to give them additional focus or make them more personalized (Cunningsworth, 1995).

As Richards (2015) has stated, the ability to be able to adapt commercial materials in different way is “an essential skill for teachers to develop”. Through the process of adaptation, not only the educator does make the content a better teaching resource but he/she also brings it closer to learner's needs. Usually the adaptation process takes place continuously, as teachers need more time to work with the book and discover issues which might not be apparent at the beginning (Richards 2015).

Despite the impact and influence of technology on educational process, textbooks take part in most language programs. There is no doubt that they provide a useful resource for both learners and teachers. Textbooks have to be seen as one of many possible resources to support educators while preparing an effective teaching program. Teachers need to gain experience and perhaps training in order to be able to modify and adapt available materials.

### **Importance of textbooks design**

We can easily notice that presentation of information in the world around us is becoming increasingly visual. Great demonstration of transformation from audial and textual to visual presentation may be observed in many spheres, for instance in telecommunication, advertising, social media etc. Textbooks design has to correspond with the modification and standards of learners' perception. The expectations of students regarding presentation of materials are very high nowadays. Nevertheless, well designed textbooks have the potential to make the learning process more attractive, engaging and meaningful (Behnke, 2016). It may activate such mechanisms as visual processing,

analytical thinking, verbal reasoning, testing hypotheses, posing questions; consequently stimulate learners' cognition (Behnke, 2018).

Wertheimer's (1923) Gestalt Theory principles of figure/ground, proximity, similarity, and continuity are among widely used and recognised design rules. Another fundamental theory applied in the context of graphic design is Cognitive Theory of Multimedia Learning by Richard Mayer (2009). The theory is based on 12 principles of dynamic and static images, as well as spoken and written text usage, discussing how people learn effectively from the combination of them (Behnke, 2018). Information designers (Edward R. Tufte and Robert E. Horn) created several principles of visualisation and communication of complex information (data or ideas) so that the content becomes clear and memorable, attracts attention and stimulates curiosity. The knowledge from above mentioned Gestalt theory, cognitive theory of multimedia learning and information design may provide a serious theoretical base for approaching textbook design, which includes typography, layout and images (Behnke, 2018).

While selecting appropriate instructional materials, Cunningsworth (1995) has recommended noticing design and organisation of the product; the author has listed the following among the main issues:

- Entire source package and its components (workbooks, teacher's books, mp3, and additional materials),
- Content organization (in relation to structures, functions, topics, skills, etc.),
- Sequence of content (concerning complexity, "learnability" and usefulness),
- Appropriateness of grading and progression,
- Presence of sufficient recycling and revision,
- Simplicity to orient around the course book,
- Accuracy of layout (p. 3).

Essential principles that a "learning-friendly" layout should be based on are clarity, coherence and consistency. However, resource style, learning objectives and learner characteristics may influence the adequacy of instructional materials layout (Behnke, 2018, p. 386). Researchers had revealed little students' attention to images (Behnke, 2015), tendency to ignore presence of visuals within textbooks (Schotz et al. 2014) and difficulties in decoding graphic visualisation (Pintó and Ametller, 2002; Testa, 2014). Based on these outcomes, can be assumed that despite the massive presence of visuals in everyday life,

students need to be guided and taught how to work with images (visual literacy) (Behnke, 2018, p. 387).

To summarise the importance of graphic design, several issues may be pointed out. Visual materials in good quality design have to be presented in a clear and coherent way. Layout through the entire textbook has to guide the user and enable him/her to identify relevant information. It is important to mention the presence of visual and textual linking between related materials and reader-friendly typography, which will not complicate work with the material (Behnke, 2018).

## **Usability**

Let us assume, as long as there is a product and a user, there will always be an interaction between them. A product can have different appearance, purpose and manner although almost all products have an interface. The interface becomes the first thing users get in touch with when performing any kind of manipulation with the product. The main goal of product designers and developers is to make this interaction effective, simple and successful. A product in our case is a textbook, and the teacher or student is a user.

Dumas and Redish have stated (1999), “usability means that people who use the product can do so quickly and easily to accomplish their own tasks” (p. 9). The authors have defined four fundamental points on which the statement bases:

- Usability means focusing on users

In order to design a good product it is necessary to know exactly which target group it will be made for. It is important to know the users and understand the way they think (Dumas & Redish, 1999). Product designers have to cooperate and work closely with them. In case of textbook design, teachers and foreign language learners will be considered as target users of the product. Teachers play a role of important decision-makers in the process of textbook acquisition; they evaluate content and quality of coursebooks and present materials to learners. Hence, the category of “teachers as textbook users” cannot be omitted. Thus, the materials have to satisfy teachers’ needs, too. In her recent publication (2017) Elena Railean, defines fundamental elements of teacher-centred design; the elements are as follows: visibility, accessibility, language, readability, learnability,

usability and legibility (p. 67). Work with a textbook requires teacher's creativity and motivation. A textbook in teacher's hands functions as an educational tool.

- People use product to be productive

A product can be defined as “easy to use and learn” in terms of several criteria. Firstly, users consider the time factor, in other words, how long it takes to complete what they need to. Secondly, an important role belongs to the number of steps they have to perform. In addition, the last factor is users' success following fulfilling right actions (Dumas & Redish, 1999). Designers have to be aware of the fact that the target group uses the product in order to achieve their own personal goals. The primary goal of language students is foreign language acquisition. Personal aims of students however differ based on their individual needs and objectives.

- Users are busy people trying to accomplish tasks

Users are in general concerned with productivity that they often connect with usability. The product is a tool to make the work process effective and successful. The tolerance level for the time spent on learning and using the tool is very low (Dumas & Redish, 1999). A textbook can be also considered as a tool on the way of users'/learners' language learning; hence, it has to make the studying process simple and effective. Students should not spend too much time on learning the textbook and the way to use it.

- Users decide when a product is easy to use

When designing a new product, developers have to consider the time and effort a typical user will be willing to spend figuring out how to use the product or do the task. Unfortunately, many functions and options of devices/tools are being left unused due to difficulties and time required to be spent on learning (Dumas & Redish, 1999). When working with a textbook, learners have to receive clear information what content is necessary to cover, which parts of the material are additional and can be omitted and where extra information for fast and curious learners is located.

Jakob Nielsen, a usability expert, has identified the following components of usability:

- Learnability stands for the system to be easy to learn;
- Efficiency brings the high level of productivity, once the system has been learnt;

- Memorability means an easy and long lasting way to remember the system;
- The amount of errors has to be very low;
- Satisfaction refers to the system to be pleasant to use (Barnum C. , 2001)

Given the fact that the product is difficult to use and does not bring satisfactory, would make users simply skip work with it or will drive them away and make try to find ways avoid it. Even if users have bought the item or were forced to do so, disappointment may be damaging and long-lasting. In the learning process, the price would be too high if students' motivation to language acquisition will be lost due to poorly designed textbook.

Dumas and Redish (1999) have listed several ideas how to ensure product usability. At first, developers should consider usability at the very early stages of the process of textbook production in our case. Secondly, the involvement of users throughout the development process would help to eliminate or minimize the number of flows and errors. While developing a textbook, school teachers and students have to participate in the process, they give feedback on the book and provide developers with ideas and opinions regarding potential errors and areas to be improved. Moreover, the last, but not less important, is the need of usability testing (Dumas & Redish, 1999).

### **Principles, guidelines and local rules.**

Dumas and Redish (1999) have stated that the way to successful product development has to be based on several essential principles and guidelines of user appropriate interface design. The main principle applicable to interface and documentation design is to be consistent in the choice of words, formats, graphics, and procedures (p. 53). Authors have declared this principle stands on research (Teitelbaum & Granda, 1983) that shows better performance and faster learning where users' actions are consistent. In the textbook context, consistency may be explained in terms of lecture structure, tasks formulation and use of visual materials. Readers should know exactly and immediately what particular colours, signs or formats stand for. Tasks have to be clear and concrete.

Principles can be referred to goals; guidelines however present actual steps how to achieve these goals. Guidelines differ according to the needs and specifics of the product. Besides guidelines, developers have to be provided with concrete instructions, called "local rules", which would help to eliminate varieties of approaches to one guideline (Dumas & Redish, 1999). As an example in textbook development,

internal rules for graphic designers can be mentioned. Publishing houses usually have their own principles and consistency in textbooks design, e.g. use of signs and pictograms, publishing standards, work with sidebars, colours etc. Additionally, internal rules for cooperation between editors and authors exist. The above mentioned approaches and principles, provide a great context for usability testing and product evaluation.

### **Usability testing**

One of the very common techniques professionals use to measure effectiveness of user-interface interaction is usability testing of a given product or service. The aim for using such a technique is to ensure that the target audience can use the product to perform a concrete task effectively and successfully (Kortum, Hebl, & Oswald, 2014).

The primary goal of usability testing is to improve the usability of the product, a textbook in our case. We assume that any product that people use has an interface, it can be software, hardware or a document, and hence every interface can benefit from usability testing (Dumas & Redish, 1999). Many other techniques, methods and practices may be used within usability testing, e.g. ethnographic research, participatory design, focus group research, surveys, walk-throughs, open and closed card sorting, experts or heuristic evaluations and follow-up studies (Jeff & Chisnell, 2008, p. 17). Usability tests differ according to particular testing needs and purpose. Nonetheless, every usability test shares the following characteristics:

- The fundamental goal of testing is to improve the usability of a product;
- The participants should represent real users;
- The participants work on real tasks;
- A tester observes and records what participants do and say;
- A tester analyzes the data, diagnoses the errors and recommends changes to correct the errors (Dumas & Redish, 1999).

### **Usability testing process**

The testing process is a very complex one. It consists of several stages, including planning, preparing, conducting and analysing. Planning plays an essential role in the testing process. Experts recommend developing a test plan, in which main issues aligned with planning activities are stated. The formats of a test plan may vary according to the type of a test and the degree of formality required by the testing organisation (Jeff &

Chisnell, 2008). However, following sections are the most common ones included in the test plan.

1. Purpose, goals, and objectives of the test have to be stated at the very beginning of the process. Here the main reasons for performing the test have to be described. The important point is that the testing is tied to business goals within the company, in which the product is developed and that testing is the most suitable technique for addressing the opportunity or problem.
2. After identifying main objectives and goals of the test, the research questions have to be formulated. They need to be as “precise, accurate, clear, and measurable (or observable) as possible” (Jeff & Chisnell, 2008, p. 69).
3. An important section of test plan is description of participants’ characteristics. This section of the test plan describes the characteristics of the end users of the product or document which will be tested. An important matter to keep in mind while creating a user profile is a right amount of participants. Depending on the level of testing formality, the number of participant may vary. Nevertheless, four to five participants representing one audience cell will expose up to 80% of usability deficiencies of a product for that particular audience (Jeff & Chisnell, 2008, p. 72).
4. In the following section, the method or test design will be presented. It is important to describe in detail how the research will happen, starting from participants’ arrival until their departure. It is an essential part of the test plan, as it enables the team members to visualise the procedure and act accordingly as well as help moderator to stay focused.
5. Following the method description, we need to summarize the actual list of tasks participants will be performing during the session.
6. The section related to test environment, equipment, and logistics describes the environment testers will attempt to stimulate during the session and the equipment testers will use.
7. Here the roles and qualities of test conductors or moderators will be presented. It would be beneficial to mention that moderators have to know the product very well yet not to be developers or writers (Dumas & Redish, 1999). A good moderator has to possess the following characteristics in order to make the best use out of the testing situation. Test conductors have strong theoretical knowledge



of user-centred design; they are quick learners, good listeners, organizers, coordinators and communicators. They are flexible, empathic and comfortable with ambiguity, they are also able to stay alert for a long time and think in wider context.

8. The last but not less important is the section related to data collection, evaluation measures, report contents and presentation. Here how the testing results will be reported and presented has to be described (Jeff & Chisnell, 2008).

### **Usability testing limitations**

Testing does not guarantee total success of the product, and even an accurately designed and performed formal test will never ensure product's usage. The reasons for this statement are: 1) testing is always conducted in an artificial situation; 2) the gained results do not prove that the product will actually work; 3) participants are rarely truly representatives of the target group, 4) testing is not always the best technique to use (Jeff & Chisnell, 2008).

Language textbooks sustain a strong position in teaching and learning processes and play pivotal role in language classes. Despite the views of experts who criticize the use of textbooks for teaching language, language teachers across the globe continue to use them (Tomlinson, 2012, p. 158). Regardless the fact that almost every coursebook needs to be adapted to fit a particular context, the goal for language textbooks designers remains clear: produce high quality materials in terms of content as well as visual presentation. Designing a language textbook is a very complex and multi-dimensional task. It requires deep understanding of the objectives of the language curriculum, great knowledge of the theories of language learning and their pedagogical implications as well as profound insights into graphic design principles and criteria.

In this chapter, I focused on theoretical presentation of foreign language teaching materials use. I pointed out importance of evaluation and adaptation of textbooks, giving closer insight into matter of instructional materials design. Additionally, I presented usability testing which will be used as a testing method in the following chapter.

### III. METHODS

This chapter directly correlates with the previous one, where the matter of textbooks nature and use together with the importance of textbooks design and usability testing were introduced. The theoretical knowledge presented earlier will be applied to the usability testing of a particular product. The chapter will introduce the publishing process and a product itself together with details of usability testing process.

#### **Publishing process**

Here I describe a publishing process I have been involved in. Publishing houses analyse markets and conduct research to collect feedback from schools and teachers regarding teaching materials. Based on the results and needs, new projects are being established. A team of authors, editors, graphic and multimedia designers, proofreaders, consultants, members of marketing and production departments start their work on a new textbook series. After the first part of manuscript is delivered to editors, the process of editing and layout creation takes place. Several rounds of feedback on the layout and manuscript have to be performed at this stage. After collecting feedback on content and visuals, the manuscript is being sent to schools in order to conduct pilot project implementation. The part of textbook, usually several units, is actually taught in the classroom. Teachers and marketing consultants collect the feedback and hand it back to the editors for final amendments and revisions. Afterwards, the manuscript in its final layout has to be sent to the Ministry of Education in order to obtain an approval. The process of certification takes up to three months during which final works on textbooks are being carried out.

When considering a frame of a new language textbook, editors and authors focus on its content and structure. Either Common European Framework of Reference for Language or Framework Educational Programme define content of most coursebooks. The number of units and length are defined by the hours individual grades are supposed to spend on language learning classes. Textbooks differ from each other according to the subject and content. Nonetheless, almost all textbooks consist of an introduction and a list of contents. In this part, language textbooks usually present the content divided into individual skills practice, giving learners and teachers better understanding of the matter to be learnt and practised. Individual units have their own fixed internal structures. A workbook could be either implemented into the coursebook or separated

from it. In case a workbook is a part of a textbook, there are several ways of designing it. Practicing exercises can be individually located through the units and at the end of the whole unit. Another option is to present the workbook at the end of the textbook, i.e. learners would need to browse through the whole book in order to find a particular exercise.

At the very beginning of the coursebook, it is advisable to include a table of contents, a scheme of lecture structure and explanation of signs used through the material, e.g. navigation signs, classification of individual tasks and additional information. One of the first pages is usually dedicated to publishing information consisting of authors' names, review of responsible team, incl. editors, proof-readers, designers, technical production information, eventually approval details, year and print order, copyright and more.

## **Test plan**

### **Tested product**

For the purposes of usability testing, I used a Russian language coursebook published by a local publishing house. The course package consists of three coursebooks (A1, A2, B1) with incorporated workbooks and tests, mp3 recordings available online, teachers' books, i-books, an app for vocabulary practice and other online materials. For this moment, first and second books have been launched; the third book is to be published in 2020. The textbook is designed for young adults and adult learners whose native language is Czech.

The first coursebook is made for beginners. The material is organised in a structured matter. An overview and explanation of symbols and signs used, together with the table of contents and curriculum summary can be found at the very beginning of the coursebook. The book consists of one introduction unit, in which the Cyrillic alphabet is presented, eight full units with incorporated workbook sheets (workbook), and two test sections. The units internal structure is accompanied by different colours. All units are divided into several segments, more accurately two-page spreads. The first two-page spread is an introduction, usually very visually appealing and engaging. A two-page spread related to grammar and phonetics can be observed after. Later on, dialogues and lexicology are presented. A two-page spread of text comprehension and cultural

studies is placed before the final four pages of workbook sheets, located at the end of every unit. The tests are situated after the fourth and eighth units.

### **Purpose and goals**

The purpose of the testing is to assess how the design supports navigation within the whole coursebook. Our goal is to evaluate users' ability to easily identify individual segments of the coursebook. Additionally, I would like to find out which design tools users find the most helpful and efficient.

### **Research questions**

Based on the previously stated goals, I have formulated my research questions:

- How well can users navigate themselves through the whole coursebook?
- Are users able to easily identify individual sections of the coursebook?
- Are users able to easily identify individual segments of the unit?
- Which design tools do users notice and use most while performing the tasks?
- How well can users identify the meaning and purpose of colour?

### **Participants' characteristics**

The textbook is primarily designed for students of high schools and participants of language courses, therefore the age of the target group cannot be strictly stated. Still I can characterise the target group age as young adults and adult learners. Russian language is the users' second foreign language studied at school. I assume users' experience with language textbooks is primarily based on English language learning materials, as English is the first foreign language students learn at school. The native language of the target group is Czech. In addition, the instructions within the coursebook are in Czech, hence for usability testing I have selected a group of non-Czech speakers, in order to conduct research based on strictly visual perception.

The age of testing participants varies from twenties to late thirties. All of them are employed European residents, with a university degree. They speak at least two foreign languages; hence, I expect them to have experience with foreign language learning materials, textbooks in particular.

## **Method**

For the purposes of usability testing, I conducted a face-to-face interview with each participant separately. The session consisted of several parts: pre-test arrangements and introduction to the session, background interview, tasks and post-test debriefing. During the pre-test arrangements and introduction to the session, participants were informed about the testing process length, general plan, recording and other session details. A background interview was designed in order to discuss participants experience with language textbooks and to obtain data on textbook relevance to the audience. After, participants had to perform the actual tasks, some of which were timed. In general, the talk-aloud method was used, which enables participants to freely express their feelings and thoughts. During the post-test debriefing, the participants were asked general questions in order to obtain qualitative data and follow up on any error or problem that came up within the session.

### **List of test questions and tasks**

Prior the actual testing tasks, participants were required to answer the following question and to comment on the task in order to obtain general idea of their background related to language textbooks use:

- Do you recall any particular textbook from your past?
- Briefly, describe your experience with language textbooks.

After, participants were given a tested product, the Russian language coursebook. At that moment participants saw the book for the first time. The moderator asked them question related to coursebook relevance to the audience or target group. Based on strictly visual impression, they had to define:

- For whom is the coursebook intended?

The usability testing tasks are based on the previously stated testing goals and research questions. First six tasks are related to general accessibility of the textbook design and navigation. Tasks 7 and 8 focus on colours used as a graphic tool. Task 9 was designed in order to assess design tools participants notice and use most while performing the tasks. Testing tasks are as follows:

- List individual sections of the coursebook.
- Identify number of units in the coursebook.

- Identify beginning and ending of all units.
- Identify beginning and ending of test sections.
- Identify individual segments within the unit.
- Identify first pages of workbook sheets in all units.
- List principal colours of the coursebook.
- Name what these colours stand for.
- Name graphic tools which helped you to orient yourself within the coursebook.

During the debriefing section, the participants were asked two questions in order to obtain additional qualitative data:

- Do you find the coursebook well organised and systemized?
- Would you be motivated to work with it?

### **Test environment, equipment, and logistics**

The testing took place in different locations. Some participants came to the moderator's apartment, others preferred to be tested at their own apartment. The testing process did not require any special equipment. During the testing, the following equipment was used:

- Hard copy of the coursebook,
- Orientation script,
- Mobile phone with recorder,
- Chargers,
- Set of tasks printed on paper,
- Laptop.

### **Moderator**

The moderator and the participant were present in the same room. Moderator's role was to introduce the session, conduct a short background interview, and then introduce tasks as appropriate. Additionally, the moderator asked unscripted follow-up questions in order to clarify participants' behaviour. The moderator recorded the interviews and made additional notes.

## **Data collection**

During the interview, I collected both performance and preference data. The collected data are based on the previously formulated research questions. The performance data represent measures of participant behaviour, including errors, number of accesses of the help, time needed to perform every task. Preference data represent measures of participants' opinion or thought process, including participants' answers to questions, their ranking and other.

In this chapter, I presented a detailed description of my research methods and all actions conducted within the usability testing sessions. Based on theoretical knowledge, I provided a closer insight into the testing plan specifying every section in relation to planning and performing testing. In the following chapter, I will focus on results and outcomes of the testing.

#### IV. RESULTS AND COMMENTARIES

In this section, the results obtained from the usability testing of a foreign language textbook will be presented. I will discuss and analyse every task and question individually, following the order of the research tools presented in the previous chapter. In addition, I will present an overall analysis of the testing, summarizing the results in terms of my research questions and giving my major findings.

##### **Background information**

In this section, individual answers of every participant will be presented. I find this starting point crucial as it gives me a better understanding of participants' background in relation to foreign languages acquisition and experience with language learning materials. The participants had to answer the following question and comment on the task: Do you recall any particular textbook from your past? Briefly describe your experience with language textbooks.

Respondent 1: "It was a while ago, I guess it was a Spanish language textbook. Yes, it was a German textbook of Spanish. I don't have a lot of memory about it. My impression of it was rather neutral. Some parts were very outdated. Some were somewhat useful, e.g. with exercises where you fill up the space. I think it is useful as it eases and helps you to build your own sentences. I think textbooks are too boring sometimes. They do materials too simple, almost like for babies, with tasks like "what is an apple?", like nothing really relevant to what people are actually learning. Obviously, you can't make a textbook for everyone. I think, what is important is for materials to be relevant."

Respondent 2: "Just a German language textbook. It was an Italian textbook of German. I remember the graphics but not the language. I don't think it was textbooks fault, that I don't know any German. I don't remember my English books but somehow I learnt English."

Respondent 3: "I remember some school books and some books from language courses. I had German, French and Spanish textbooks. Well, they were expensive. They were full of pictures, definitely not boring. Honestly, they were all more or less the same. Oh, I recall there were pretty relevant topics, for example from economy and politics. There were also interesting tasks. Sometimes at the beginning there were too boring tasks, but after it started to be more exciting."



Respondent 4: “I remember my Spanish textbook. It was full of pictures and big bubbles with common sentences in Spanish. We were translating them to Italian. I recall there were famous places in Spain, the one you know, for example Sagrada Familia and there were parts of famous Spanish literature, Don Quijote. It was very authentic and I remember it well. When I started studying Spanish, I haven’t been there yet but I had a feeling of seeing the country and feeling the atmosphere of it. It was so colourful. And, you know, when you think of Spain you picture people experiencing joy. It was a textbook full of positive colours. And I still remember it. Of course, also history books, I remember them, they were with pictures, too. You know, I work as a trainer and I know how important is to see things.”

Respondent 5: “I had many textbooks. But I’ll give you an example of two. German one, from Goethe institute. It was all clear there. And an English textbook. But I was lost there. We were jumping from one page to another. There was strange division principle. I had to make my own notes and mark the pages I had to work with. It was from a famous publishing house but all our group didn’t like it. Usually, our teachers made materials. They brought articles and so on. Maybe in schools, when you start learning the language you use a textbook, but in my adulthood we usually used different sources. I was very surprised why our teacher doesn’t make us do all exercises in the book. Maybe when I was smaller I didn’t focus on it much, but now I want it to be easy to work with. I also recall the situation when our teacher made a bit of a mess and I was not following his way of choosing activities, but after all when I went back to the unit I realised we made it all. I guess it depends on the teacher. For example, I had another experience when a teacher used a textbook only and we were all bored even though we were adult professionals; the course was not adapted to us. Also, why should we buy a whole book and then don’t use it fully. In general, the textbook was never the most important part of learning, but it was good to have it and look through it sometimes.”

Respondent 6: “I remember the textbook I used in high school. Particularly, English, Spanish and French textbooks. Also, we had Italian, Latin textbooks and other. We never relied much on them. We used a lot one English textbook, so I remember it well. We did almost all activities from that textbook.”

Respondent 7: “I remember the last one. I think it was called “English grammar files”. Its grammar practice. It was ok organised, I don’t remember much.”

As it is apparent from the answers, the participants do remember textbooks and can even recall feelings and emotions they evoked in them. Almost all respondents in a slightly different way pointed out the importance of textbooks design and materials relevance to learners needs.

Later the participants were given the tested product for the first time. Based on strictly visual impression, they had to identify the target group of the product. The answers are as follows:

Participant 1: “I would say it’s for 20 years old, yes 20+. For young professionals, I would say.”

Participant 2: “Young adults.”

Participant 3: “I think is made for young adults. For high schools maybe. It’s not for too small, as there are tables, schemes, also some topics are related to work as I can see from the pictures.”

Participant 4: “I think is for more than 14, like high school maybe.”

Participant 5: “It is for small children. I think 10-13 years old maximum. There are bubbles and Instagram, adults are not interested in Instagram, it is a children thing. Also, I think topics are somewhat basic. But ok, maybe at this level you can’t really use serious topics.”

Participant 6: “I think is for high school students.”

Participant 7: “I think it’s for children, yes definitely. I see this exercise with connecting bubbles and I think it’s a bit childish. Well, but after is becoming more serious. So, maybe it is for teenagers.”

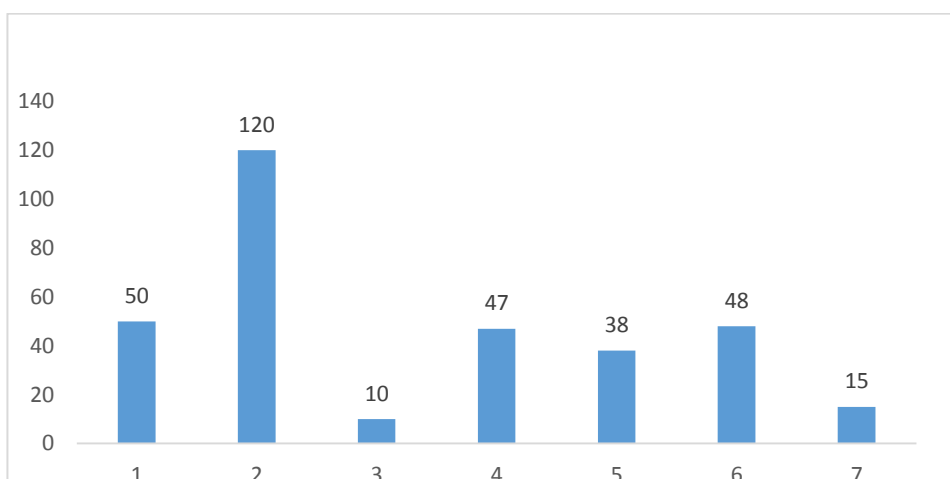
In general, all participants guessed the target group. Only one participant assumed the coursebook is designed for adults. I can assume, that the reason why two participants guessed a very low age of the target group is that they based their decision on the first introduction unit, where Cyrillic alphabet is presented in a rather playful way. As was previously stated, relevance of instructional materials to the audience plays crucial role in teaching and learning processes. It stimulates motivations and arouses learners’ interest.

### **Testing tasks**

Here I will present answers and results related to individual testing tasks formulated earlier. I will focus on explanation of the outcomes and will highlight the most relevant and important findings.

### **Task 1. List individual sections of the coursebook.**

This task was based on the research question regarding users' ability to easily identify individual segments of the coursebook. Some of the participants (3 out of 7) used table of contents and simply listed the sections. Their answer was very fast, however not all of them noticed an introduction unit, as their answer was based only on numbers of units, i.e. eight plus two test sections. Two participants used the table of contents and gave the right answer. The correct answer also gave those, who went through the whole textbook and counted sections one by one, they spent more time on performing this task. Graph 1 below presents total timing spent on the task. The performance of the participants in some cases was affected by speaking aloud technique, when they spent time on explaining and commenting on their actions. Based on the performance of the first participants, the moderator had to slightly adjust the task and specify the meaning of the word "section", as it was too general for some of the participants.



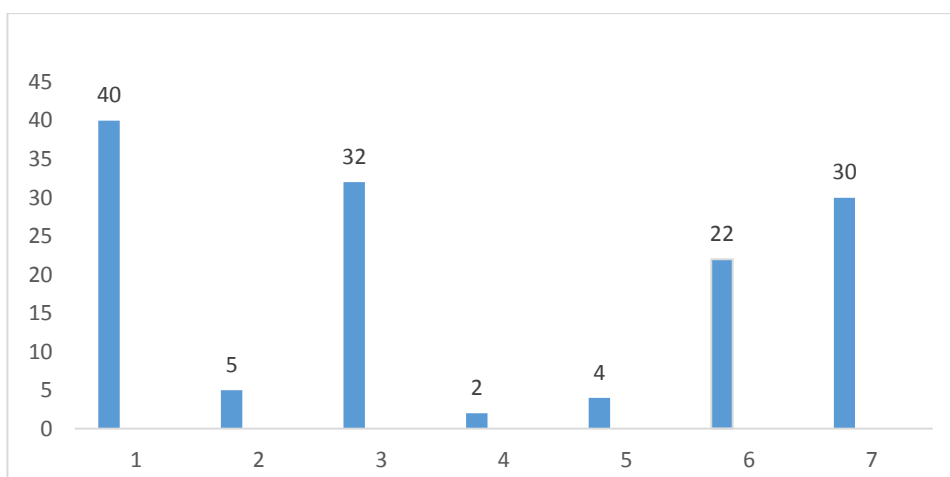
*Graph 1, Final timing for task 1*

Principally, all participants identified individual segments within the book easily and fast. Participant's 4 performance was affected by speaking aloud technique. Those participants, who went through the whole textbook, relatively fast understood the repetitive appearance of different colours and assumed presence of textbook internal structure.

### **Task 2. Identify number of units in the coursebook.**

This task was designed with regard to the research question related to sections identification within the whole coursebook. Most of the participants found this task simple and made no mistakes (five correct answers in total). Nonetheless, two respondents

were wrong with their answer. It happened to those participants, who did not use the table of contents and went through the book counting unit by unit. Two participants missed one unit. Below, I present total timing spent on the task. All members of the session can be divided into two groups: those who used the table of contents (Participants 2, 4 and 5) and those who did not (Participants 1, 3, 6 and 7). The time difference between two groups is significant.



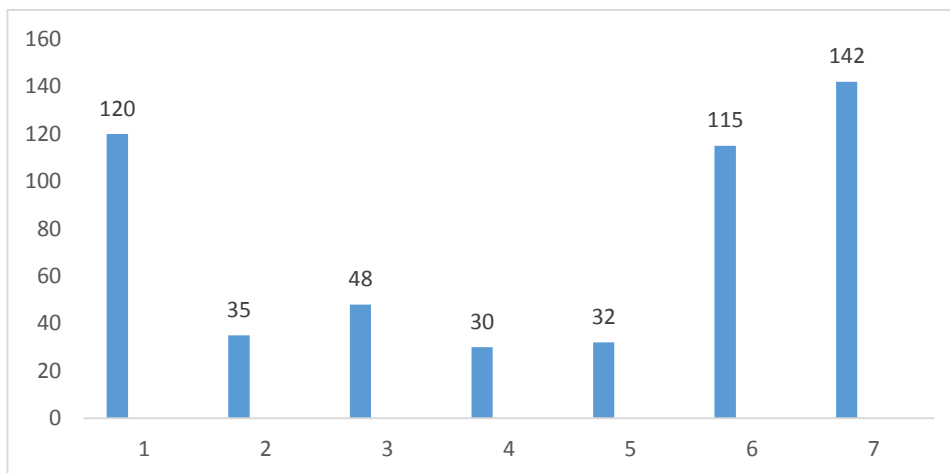
Graph 2, Final timing for task 2

I assume previous task made positive influence on participants' performance. Previously, they were asked to list individual sections of the coursebook. I can also assume that experience with language learning materials or printed materials in general plays crucial role in approach towards materials analyse. Those participants, who stated during their background interview that they learnt two and more foreign languages, started their work with the coursebook from the first pages, where previews and table of contents is located. This approach gave them a chance to solve the tasks with maximum efficiency.

### **Task 3. Identify beginning and ending of all units.**

Here happened the same, as in the previous tasks. Some of the participants (four in total) used the table of contents and listed the pages according to it. Others browsed through the whole book. Those who did so already knew principal structure of the book and could easily identify title pages and endings of the units. One participant noted the presence of vocabulary in the end of the unit, so he could quickly identify ending of one unit and beginning of another. Those who actually worked with the book, used colours to navigate themselves. They noted either violet colour, that is used for title pages or green colour related to workbook sheets. Here I present total time spent on task

performance. In Graph 3 below, the significant difference can be again observed in performance between two major groups of participants.

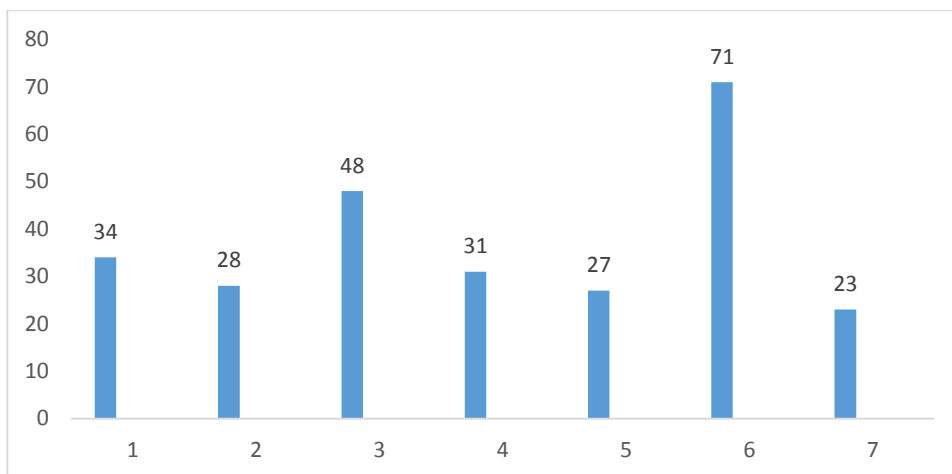


Graph 3, Final timing for task 3

On one side, participants who used the table of contents completed the task faster than those who looked through the whole book. On the other side, respondents who had to turn page by page showed better understanding of coursebook structure. From participants' behaviour was apparent that already at this stage, they started to use particular design tools, such as colour, sticky notes-like symbols and headings, while completing the task.

#### **Task 4. Identify beginning and ending of test sections.**

At this stage, some of the participants (five in total) already knew where to look for test sections. Previous tasks helped them to identify the sections faster than it would probably happen if this task were among the firsts. Nonetheless, for other two the definition of "test section" was unclear and they were looking for it in wrong places, such as workbook sheets or even within the units, pointing out the exercises graphically matching their idea of test presentation. The moderator had to clarify the task again to make sure participants look for the required sections. In general, the participants used colours to navigate themselves. After identifying Test 1 or Test 2, they directly assumed there should be a second test section and looked for the needed colour. The performance of the participants is presented in Graph 4. I can see that there is no significant difference between individual performances, apart from one participant, who was confused with the definition of test and its graphic presentation (Participant 6).

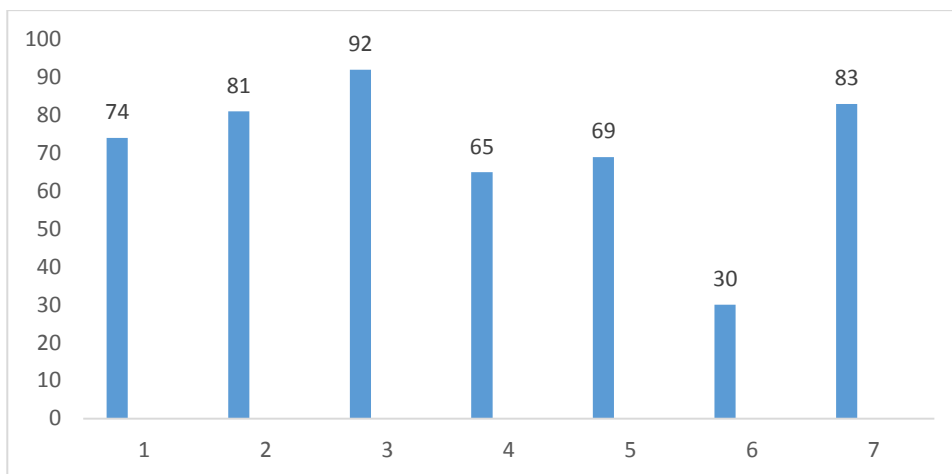


Graph 4, Final timing for task 4

One of the respondents with linguistic background went slightly deeper with the analyses and assumed that test sections divide the whole coursebook into two big modules of four units each. He noted that in school context this division would be very appreciated.

#### **Task 5. Identify individual segments within the unit.**

In general, the participants did not experience any difficulties with identifying individual segments of the unit. They used different words and titles to describe segments. Nevertheless, what was more important is that participants reflected presence and system of colours use. Already at this stage, they started to describe what individual colours stand for. However, one error was constantly observed from almost all members of the session. Most of participants (six in total) did not see the difference between two standing next to each other sections. The section with dialogues has light pink colour and the section related to text comprehension is light cherry red. Only one participant noticed that the title of one page differs from the other, so she looked at the colour closer and saw the difference. In presented below Graph 5, no critical difference in participants time performance can be observed.

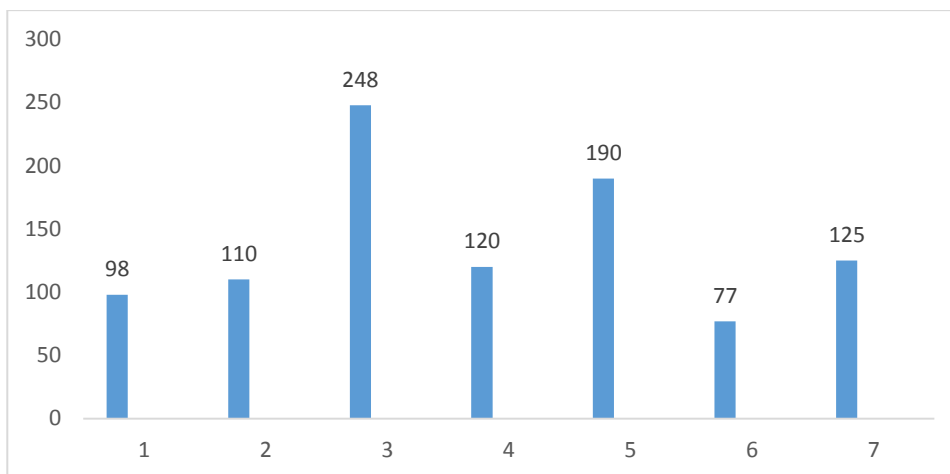


Graph 5, Final timing for task 5

Unfortunately, the fact that the participants did not see any difference between two segments of one unit may be considered as a design error, as without textual comprehension, users are not able to identify the difference between two elements. Perhaps, in another circumstances the colours would look more contrast. I can presume that this problem occurred due to paper quality or production process. However, would be a matter to consider in the future, why so similar colours had to be standing so close to each other in terms of unit design. Possibly, change of colour or different segment location would be a solution.

#### **Task 6. Identify first pages of workbook sheets in all units.**

As it was previously stated, what workbook is and how it differs from other sections, all participants had a clear idea what they need to look for; they were looking for green pages within the book. After two units, some participants already understood there are four pages of workbook sheets in every unit, so they could identify pages and count faster. One participant focused on vocabulary in the end of the workbook as a navigation tool. In Graph 6 presented below, I can see no major difference between participants, apart from one (Participant 3), whose performance was strongly affected by talking aloud technique.



Graph 6, Final timing for task 6

### **Task 7. List principal colours of the coursebook.**

This task was designed in order to answer my research question related to users' ability to identify principal colours used within the coursebook. Some participants opened the page with curriculum overview and listed the colours mentioned there. Those who did so, missed one colour, as green (workbook sheets) was not presented in the overview. In general, participants were able to name main colours even by heart. Yet, none of respondents mentioned two shades of red, related to text comprehension section and dialogues. Participants used different names for describing the same colour, e.g. aquamarine, turquoise, light blue. Principally, participants gave a positive feedback on colours selection, saying that they are vivid, original and attract attention.

One respondent arouse expectations, that the publisher will maintain the same division system and principal of colour used. in second and third coursebooks. Based on participants' answers and behaviour, colour can be considered the main design tool used for navigation in tested coursebook.

### **Task 8. Name what these colours stand for.**

Even though participants were neither Czech nor Russian speakers, they could still read the legend explaining meaning of the colours used, e.g. content related to phonetics is always in turquoise, grammar is orange, facts are purple and workbook sheets are green. Yet, one participant noted that from his previous experience he knows that "textbooks usually start with grammar presentation", so he assumed it would be the same principal used in the tested product. Respondents noted combination of colours and symbols, e.g. coloured headings, pagination and incorporated pictograms.



### **Task 9. Name graphic tools, which helped you to orient yourself within the coursebook.**

All of the participants mentioned colour as the main tool that helped them to complete the tasks and navigate themselves through the book. Additionally, colourful stickers-like markers attracted attention of three participants. Two participants pointed out numbers, used for units division, headings, as well infographics, charts and tables, which they find useful and effective in terms of language learning. Participants also used the principal of double-page spread, where every segment within the unit, occupies two pages (apart from workbook sheets).

#### **Post-test debriefing**

In the end of every section, the participants were asked two questions related to accessibility of textbook design and general motivation. The questions were as follows:

- Do you find the coursebook well organised and systemized?
- Would you be motivated to work with it?

The participants found the coursebook well organised and thought out. They all noted the use of colour and infographics. Being non-Czech neither Russian speakers, they could navigate themselves through the coursebook using strictly visual elements available. All participants expressed motivation in terms of finding out what particular tasks within the coursebook meant. They tried to guess what designers and authors meant by individual exercise and activity. Some of them even tried to read text in Cyrillic.

#### **Conclusion**

The usability testing helped me to find the answers on previously stated research questions. The first two questions were related to general navigation and were formulated as “How well can users navigate themselves through the whole coursebook?” and “Are users able to easily identify individual sections of the coursebook?” Based on strictly visual perception, users could relatively well navigate themselves through the material. Taking in account the fact, that 42.8% of all participants used the table of contents and made only few mistakes, I can consider their performance a positive achievement. Among others, table of contents may be perceived as a navigation tool, as it helps users to achieve their goals in a most effective way. Third research question was related to internal unit structure. I wanted to find out how easily users would be able

to identify individual segments of the unit. In this case, table of contents could not be used, hence participants had to physically list the book and name particular segments.

The average time spent on the task was 1, 17 min. This number was strongly affected by talking aloud technique, when participants were expressing their thought process and opinion. Nonetheless, 85.7% of respondents without textual comprehension did not identify difference between two separate segments within one unit. This happened due to very high similarity of two colours located close to each other. The fourth and fifth questions were related to design tools and their meanings. The questions sounded: “Which design tools do users notice and use the most while performing the tasks?” and “How well can users identify the meaning and purpose of colour?” With the help of design tools, participants effortlessly identified individual segments of the coursebook and subsequently units. Users quickly understood the system of units division and principal of colour-coded repetition. Among main navigation tools, users classified colour, sticky notes-like elements, headings, numbering and infographics. Participants could name what individual colours used in the coursebook meant. In general, they did not have any trouble listing the colours by heart.

The participants used talking aloud technique while performing the testing tasks. On one hand, through this technique I gained a lot of additional information regarding users’ thought processes, experience, approach to design and more. On the other hand, this technique affected the performance of the tasks, where the time was measured. Mostly, the participants with linguistic background and knowledge of more than two foreign languages had tendency to express their thoughts and feelings widely.

In my opinion, one of the main design errors found during the research is the degree of similarity between two colours used for different segments of the unit. Apart from one person, the participants could not identify the difference between two separated segments within one unit. I assume the issue may be related to production process, specifically quality of print and paper. However, the choice of two standing next to each other colours in this case could be different and more obvious.

In general, I can assume that the tested product is designed fairly well. I gained an overall positive feedback on the coursebook, as users expressed motivation and excitement about the material. They showed interest to particular parts of the book, trying to figure out what the tasks were. Some of the respondents tried to read titles in Cyrillic and guessed what different images stand for, e.g. portraits of famous people,

pictures of architecture and nature. Other, went through the several activities of workbook sheets and introduction pages and assumed what the tasks could be.

In this chapter, I presented the results and commentaries of usability testing conducted. I closely discussed every task from individual segments of the testing session and presented possible explanation of particular outcomes. In the next chapter, I will introduce the implication of the testing results to teaching, summarizing recommendations concerning language textbooks evaluation. Additionally, I will present the usability testing limitations together with the restrains of the conducted research. Moreover, the suggestions for further research will be introduced.

## V. IMPLICATIONS

In this chapter, based on the knowledge and results gained from the usability testing I will present ideas and recommendations which might help teachers and learners in their interaction with language textbooks. I will take a closer look at implications related to teaching; in particular how to evaluate a textbook from the visual point of view. In addition, limitations of the conducted research together with suggestions for further research will be discussed.

### **Implications for Teaching**

Independently from individual reasons and motivation for textbooks use, educators face an extremely difficult task. From an enormous amount of materials available on the market, they have to choose the most suitable coursebook. The book that will match learners' needs as much as possible. The expectation of students regarding presentation of materials are nowadays extremely high. Good design attracts attention, arouses interest and motivates readers to read further. Moreover, motivation plays a crucial role in the learning process. Nevertheless, well-designed instructional materials have the potential to make learning more attractive, engaging and meaningful.

While evaluating and matching the new coursebook to a specific educational situation, teachers need to bear several criteria in mind. Besides general recommendations regarding evaluation of materials, they also have to focus on graphic design. Different design tools help to systemise and organise content, make it clear and memorable; they attract attention and stimulate learners' curiosity. Teachers have to notice content organisation, sequence of content, proper selection of visual materials, clear reading path, high quality text presentation and layout. All components and graphic tools used within the coursebook have to be used consistently.

Textbooks design has to be relevant, coherent and accessible. The usability testing described in the previous chapter helped me answer the research questions related to materials design and navigation. I have focused on relevance in terms of colour used and general relevance to audience. From the results obtained, I can clearly state the importance of rational and meaningful use of colour. Colour as a design tool helped participants of the research to navigate themselves through the book and identify segments of the coursebook and individual units. The selection of colours can also be relevant

in terms of motivation and interest stimulation. As the testing showed, bright and vivid colours highlight information and attract attention.

The criteria of accessibility were analysed within the testing as well. Well-designed materials can stimulate learners' interest and help them to move further within the book. The appearance of a coursebook should make learners feel interested in the presented topic. As was stated in the results of usability testing, participants who were neither Czech, nor Russian speakers felt motivated and interested in the visual presentation of material, even though none of them could understand the written tasks. The layout should help in finding the way around the page. While looking at the page, the user needs to know exactly what language work he/she has to focus on. Work and interaction with coursebooks should be effortless and intuitional for both teachers and learners.

Another important criterion for design evaluation is coursebook coherence. In context of textbook design, I speak of coherence in terms of consistency of all components used within the book. Individual components of the material have to be accessible and visually stand together. The uniformity of pages allocation, length of units, function of the colour and other design tools have to contribute to materials accessibility and friendliness towards the learner and the teacher. All the above mentioned design items need to be used consistently.

### **Limitations of the Research**

Usability testing itself does not guarantee total success of the product, and even accurately designed and performed formal test will never ensure the product's usage. There are several reasons for this statement. At first, the testing is always conducted in an artificial situation. In the case of conducted research, for the purposes of textbook usability testing no real academic situation was establish. The testing took place in informal environment, without any bounding to actual teaching or learning process. Secondly, the participants of the research are not true representatives of the target group. A true representative of the target group would be a high school Czech speaking student, a participant of the language course, or a teacher of Russian language. Our participants were neither Czech, nor Russian speakers.

Besides the limitations of the usability testing itself, I would like to mention restraints of my research in particular. The moderator of the session plays a crucial role in the whole testing process. He or she has to possess a number of personal and

professional characteristics in order to conduct a good and reliable testing. The moderator has to know the product very well, still should not be involved in the production process. It is expected from the test conductor to have in-depth knowledge of design laws, usability principals, and to be an expert of usability testing. In case of my research, the moderator was someone involved in the process of coursebook development in all stages. Unfortunately, I do not have in-depth knowledge of the usability testing apart from the theoretical background obtained during preparation for the testing.

For the purposes of my research, I interviewed seven participants in total. According to the usability testing theory, for the purposes of informal testing, four participants would be enough, as this number will point out up to 80% of errors. However, a higher number of participants would make a larger statistical impact on the results. Yet, one significant design error was found with this number of respondents however, I cannot assume that this is the final number of design errors present in the book. Additionally, my research was mainly focused on the matter of textbook design and the question whether it supports the navigation within the book. Many other design areas left unexamined.

### **Suggestions for further research**

Referring to the limitations presented in the previous section of this chapter, I can formulate suggestions for further research. I would recommend conducting the research with participants who would match the characteristics of the target group as close as possible. Additionally, I find reasonable to conduct another research based on a different target group, i.e teachers of foreign language.

As it was stated in the previous section, the moderator should not be involved in the production process in any way. However, if the impulse for usability testing comes from a developer or a writer of the coursebook, this person can be a member of a support team. Developers and writes know the product best; they may guide and coach moderators, providing them with in-depth insight to design and structure of the coursebooks. In general, the usability testing team should include other members responsible for various areas at different stages of testing process.

Language textbooks development is a very complex and sophisticated process. The usability testing research was mainly focused on navigation within the coursebook supported by different design tools. However, in order to assess major design principals, such as relevance, cohesion and accessibility, additional research must be conducted.

As a matter for assessments, the following issues may be further examined: relevance to audience, in terms of proper selection of visual materials; accessibility presented in the clear reading path, high quality text presentation, and its friendliness from the teacher's and learner's perspective; consistency of all components and graphic tools used within the coursebook.

In this section, I provided teachers with an advice in relation to importance of language textbooks graphic design, as the results obtained from the usability testing confirmed significance of main design criteria such as accessibility, coherence and relevance. Furthermore, I summarised limitations of the conducted research and presented possible improvements. Additionally, I listed suggestions for further research.

## VI. CONCLUSION

Language textbooks development is a very complex and sophisticated process. It requires profound understanding of the objectives of the language curriculum, absolute knowledge of the theories of language learning and their pedagogical implications as well as deep insights into graphic design principles and criteria. Well-designed materials can stimulate learners' interest and help them to move further within the book. The appearance of a coursebook should make learners feel interested in the presented topic. Among main design criteria related to textbooks production is relevance, accessibility and coherence.

Relevance in terms of textbook design may refer to different matters, e.g. use of images in relation to the topic or relevance to audience, meaning variety of design used to attract and interest the user. Additionally, relevance may be questioned in context of visual materials, colour, mimesis and headings use. Based on the results of the usability testing conducted for the purposes of the research, I can state that relevance in terms of language textbook design has a major impact on users. The textbook design has to meet learners' expectations and match his or her personal goals as much as possible. Poorly designed or inappropriately used coursebooks may have a damaging effect on students' motivation and as a result on general language acquisition. Accessibility of instructional materials is presented in terms of clear reading path, high quality text presentation and layout and general teacher's and reader's friendliness. The reading path plays an essential role in terms of access. The information within the materials has to flow from one part of the text to another, from the text to the images or diagrams. The coursebook layout is expected to be helpful in finding the way around the page. From every page, it has to be obvious what language work learners will focus on. Cohesion in terms of textbook design refers to the consistency of all components within the book. Individual components of the material have to hold together in terms of accessibility and visibility. Here I can mention uniformity of page allocation to units. As I could observe from the results of the usability testing, the uniformity of page allocation within the coursebook helped users to easily orient themselves within the material and identify individual segments. Appropriate and well thought out use of colour plays an important role in textbook design. The meaning and function of colour use has to be clear, relevant, professional and pleasant. Design conventions used within the book contribute to accessibility; they indicate what is



happening and help to hold the page or the unit together. In order to achieve cohesion, individual design items have to be used consistently.

Work with coursebooks should be effortless, effective and intuitional for both teachers and learners. Unfortunately, not all commercial language-teaching materials correspond with the above mentioned criteria and consequently, the matter of commercial instructional materials use remains very controversial. On one hand, there are experts who are strongly against premade teaching materials believing they deskill educators and contribute to learners' demotivation. On the other hand, many educators around the world approach coursebooks mainly at the beginning of their career. However, it is important to state that the textbook should always be a supplement to well-thought-out curriculum and never become a goal itself.

The aim of the research carried out by means of usability testing was to assess how the design supports navigation within a foreign language coursebook. The conducted usability testing research was mainly focused on navigation within the coursebook supported by different design tools. For the purposes of testing, a Russian language coursebook was chosen. In order to avoid any influence by language used in the coursebook, a group of neither Czech, nor Russian speakers was selected. The research results indicate that design tools, such as colour, headings and infographics, contribute to accessibility of instructional materials if used consistently. They support navigation and help users to identify individual segments within the coursebook.

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## APPENDICES

### Appendix A

#### Testing tasks

1. List individual sections of the coursebook.
2. Identify number of units in the coursebook.
3. Identify beginning and ending of all units.
4. Identify beginning and ending of test sections.
5. Identify individual segments within the unit.
6. Identify first pages of workbook sheets in all units.
7. List principal colours of the coursebook.
8. Name what these colours stand for.
9. Name graphic tools, which helped you to orient yourself within the coursebook.

## SHRNUTÍ

Tato diplomová práce se zabývá otázkou tvorby učebnic pro výuku cizích jazyků. Práce poskytuje obecné informace o využití jazykových učebnic ve výuce. Větší pozornost je věnována evaluaci a adaptaci výukových materiálů. Práce mimo jiné rozebírá otázky důležitosti grafického designu v oblasti tvorby jazykových učebnic. Cílem výzkumu prováděného pomocí testování použitelnosti bylo objevit způsob, kterým grafický design podporuje navigaci skrz jazykovou učebnicí. Za účelem výzkumu byla použita učebnice ruského jazyka pro střední školy. Závěry výzkumu ukazují, že konzistentní využití grafických prvků jako např. barev, infografiky, piktogramů, záhlaví a nadpisků přispívá k přístupnosti výukových materiálů.