CHARLES UNIVERSITY IN PRAGUE

FACULTY OF EDUCATION

Department of English Language and Literature

MASTER THESIS

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Mind Maps in English Language Teaching

Prague 2013

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Prohlášení

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V Praze 30. dubna 2013 _____

Petra Kacafírková

Poděkování

Na tomto místě bych ráda poděkovala panu PhDr. Bohuslavu Dvořákovi za podnětné rady a podporu při vypracování této diplomové práce.

ABSTRAKT

Tato práce se zabývá využitím myšlenkových map ve vyučování anglického jazyka. Práce vysvětluje, co myšlenkové mapy jsou a jak je efektivně využít. Obsahuje jak teoretickou, tak praktickou část. Teoretická část nabízí dva různé pohledy na problematiku – psychologický a pedagogický. Psychologická část se zabývá teoretickými poznatky o paměti a učení. V pedagogické části jsou za prvé rozebrány učební styly v souvislosti s myšlenkovými mapami, za druhé jsou zde představeny některé ukázky využití myšlenkových map v různých učebnicích anglického jazyka. Praktická část je zaměřena na vlastní autorské myšlenky. První kapitola praktické části demonstruje rozličné třídní nebo individuální aktivity založené na myšlenkových mapách, které se soustředí na různé jazykové dovednosti. Druhá kapitola je pak nejdůležitější částí celé práce, neboť představuje novou metodu učení se slovní zásoby pomocí myšlenkových map. Pozorování čtyř studentů používajících tuto metodu a následná reflexe na ni je nabídnuta v následujích kapitolách. Nakonec jsou představeny výsledky a závěry z pozorování spolu s výhodami a nevýhodami myšlenkových map jako takových.

ABSTRACT

The thesis discusses using mind maps in English language teaching. It explains what mind maps are and how to use them effectively. This thesis includes a theoretical as well as a practical part. The theoretical part offers two points of view of the problem – psychological and pedagogical. The psychological part deals with theoretical knowledge of memory and learning. In the pedagogical part, firstly learning styles in connection with mind maps are discussed; secondly some demonstrations of using mind maps in various English textbooks are presented. The practical part focuses mainly on new ideas. First chapter of the practical part shows various classroom or individual mind map activities that concentrate on different language skills. The second chapter is the most important section of the whole thesis as it introduces a new method for learning vocabulary via mind maps. Observations of four students using the method and reflections on it are offered in the following chapters. Finally, the results and conclusions of the observations as well as the advantages and disadvantages of mind maps in general are presented.

CONTENTS

MIND MAPS – PRACTICAL PART

INTRODUCTION

I used to be ashamed of my 'chaotic' notes at school. When I really wanted to remember something, my notes were full of arrows, headlines and key words for a random observer haphazardly dislocated on a page denying the lines of a lined notebook. I would envy my classmates' natural and neatly organised notes made at the first attempt. It took me a great deal of reading on cognitive psychology to realize that there was nothing unnatural about my notes but the reverse was the case. That our brains actually do not work linearly and we do not think in sentences. Linearity is something we are taught to use, something we are used to; however, it appears that linear thinking is not always sufficient in capturing reality.

An occasional non-linear graphic demonstration of facts or thoughts in social sciences and technical subjects is nothing unusual. Moreover, using charts and diagrams is recommended by various teachers' handbooks of pedagogy and psychology. More and more language textbooks work with diagrams of many kinds. However, not all of them function as effectively as they could. Some rules are necessary to be followed to avoid chaos, confusion and counter-productiveness. Tony Buzan has created an effective learning and thinking tool by transferring chaotic diagrams into what he calls *Mind maps*.

Mind mapping is a technique that supports non-linear thinking. It has been used and recommended for a great number of situations from a wedding planning to business meetings and presentations. Nevertheless, I am convinced that its role in language teaching and learning is still underestimated and its considerable potential is yet to be fulfilled. To prove this assertion, my own method of learning vocabulary based on mind maps – *Mind map box* – will be introduced later on in this thesis.

The main aim of this thesis is firstly, to introduce mind maps as a viable alternative to the traditional language teaching/learning methods that supports creativity, motivation and develops metacognitive skills; secondly, to

demonstrate on various examples of classroom and individual activities a broad range of possible usage of mind maps in learning English (or any other language). Moreover, some connections between how memory works and learning strategies will be underlined and illustrated by using these strategies in practice.

The thesis includes a theoretical and a practical part that are both further divided into chapters. Firstly, the notion of mind maps will be explained. Second, the theoretical part will deal with knowledge of memory and learning. Then a pedagogical view will be offered. In this section, the question of learning styles will be introduced and later on some demonstrations of using mind maps in English textbooks will be provided. In the practical part, firstly some more original mind map activities that can be used in a classroom or at one-to-one courses will be shown. Second, a new method for learning vocabulary will be introduced including observations and reflections. All the original mind maps in this thesis were made via the software programme *iMindmap 5* (*ThinkBuzan.com*).

I believe that this thesis might be beneficial not only for English language teachers but for teachers of various foreign languages. Moreover, some parts, in particular Chapter II from the practical part and Appendix II, are especially dedicated to my students or any other learners of English language. Furthermore, the thesis might be found useful by whoever is interested in methodology, memory and learning.

DEFINITION OF MIND MAPS

1. THE ORIGIN OF MIND MAPS

Even though the idea of nonlinear organisation of our thoughts had been used by many thinkers around the world before, the notion of mind maps is said to have been invented by Tony Buzan in the 1960s. Tony Buzan was the first one to come up with an elaborated system of how to create a mind map and how to use it effectively.

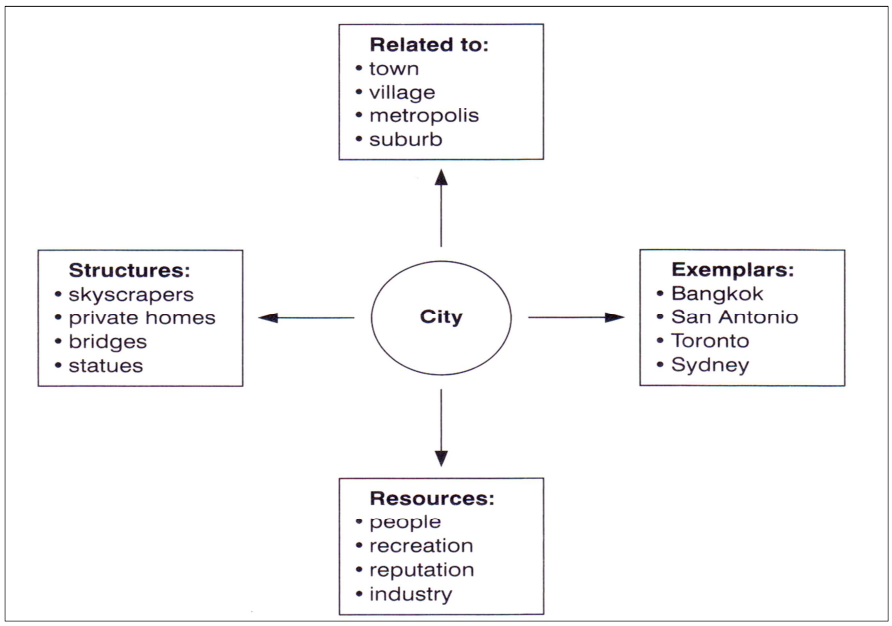
Buzan defines mind map as: "…a graphic technique for holistic thinking which supports all brain functions – mainly memory, creativity, learning and thinking in general" (*Mentální mapování* 42, translation PK[1]). According to him, the basic characteristics of mind maps are as follows. Firstly, it has the subject of attention in the centre, preferably represented by an image. Secondly, some branches which are in an obvious connection with the central idea stem outwards the centre. Thirdly, there are different levels of branches, the closer the branch is to the main idea the closer relation it has to the main theme. Lastly, each branch carries solely one key word or an image (ibid 42).

2. TERMINOLOGY AND PRINCIPLES

In various literatures we might encounter different terminology of what has been described above. For instance, Schunk proposes the notion *cognitive map* and calls the process of creating it *mapping*. According to him, mapping is an organizational technique which is based on selecting important ideas and subsequently organizing them into a relationships network (224-225). You can see the example of a cognitive map of the word *city* in Figure 2-1 below.

[1] "Myšlenková mapa je vizuální nástroj pro holistické, tedy celistvé myšlení, který podporuje všechny funkce mozku – především paměť, kreativitu, učení a veškeré přemýšlení".

Figure 2-1, Cognitive map, in Schunk p. 225

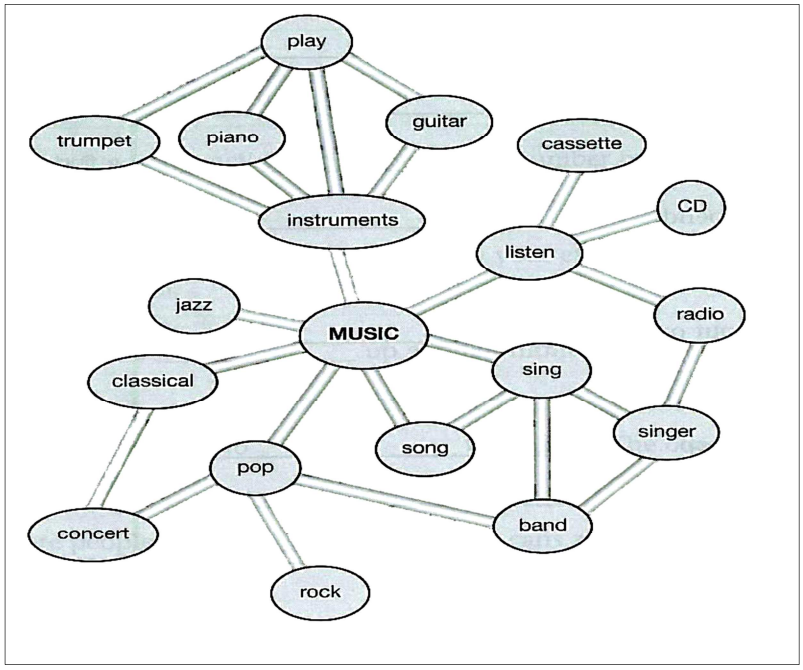


Another notion that should be mentioned is *clusters*. As Berger and Fuchs suggest clusters can be seen as a predecessor of Buzan's mind maps. The technique of clusters is based on associations; however, unlike free associations, here firstly the central idea is designed and then some more associations, feelings and motives that are connected to the main theme are added. Finally, we specify the connections with the idea and mark them with different colours (29).

Figure 2-2, Clusters, in Berger and Fuchs p. 29

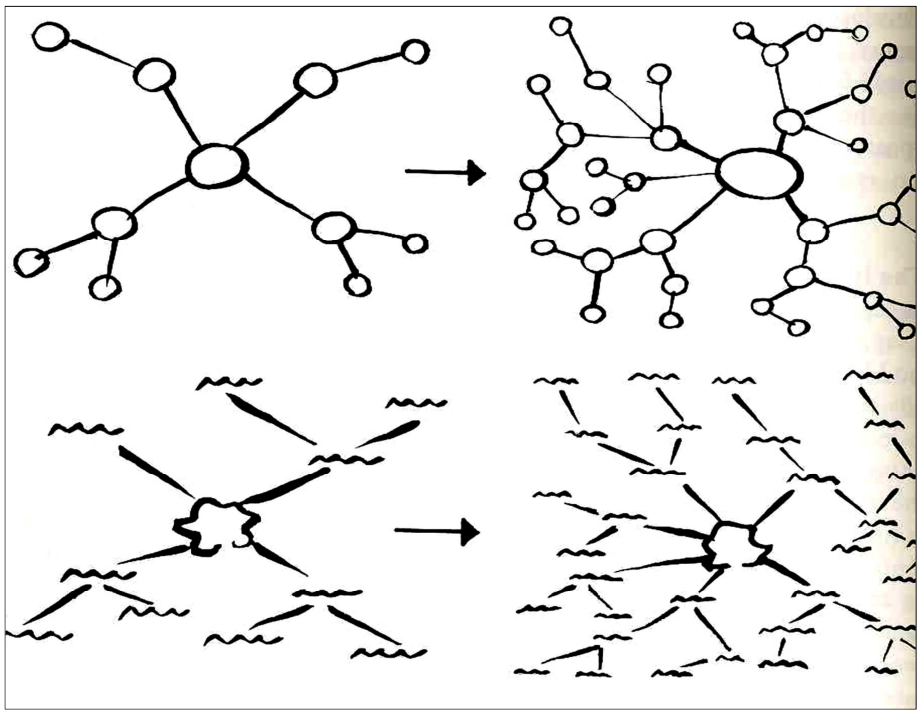
Moreover, in handbooks for language teachers or in English textbooks various terms such as *diagrams, word webs, word network,* or *spiders* can be found; mostly described as a specific method of noting and learning new vocabulary. In Figure 2-3 you can see a word web taken from a publication *Test your vocabulary 1*.

Figure 2-3, Word web, in Test your vocabulary 1



Deeper analysis of those mentioned organisation strategies tells us that there are several common features for all of them. Above all, in each case there is a main theme in the middle. From this central idea more subthemes stem and we can identify a specific relationship between the central idea and the subthemes. In short, some kind of network of association is created to contrast a linear note-taking. However, not all diagrams are mind maps in the Buzanian sense. Buzan draws attention to the differences between his mind maps and other diagrams. The primary emphasis is put on clarity and avoiding chaos. Buzan also warns against contradictory effect of wrongly created mind maps. "Because the laws of clarity, emphasis and association have been neglected, what appeared to be developing into order and structure has in fact resulted in confusion, monotony and chaos" (*The Mind Map Book* 111).

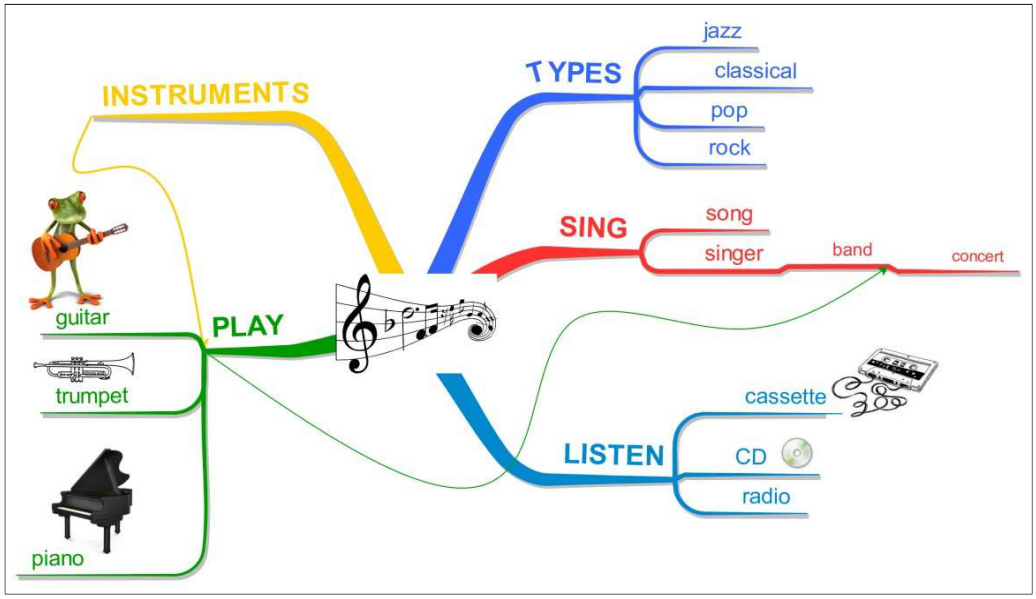
Figure 2-4, in Buzan p. 112



As we can see in Figure 2-4, the diagrams lack clearly specified hierarchy which in Buzan's maps is marked by using thicker and thinner lines and bigger and smaller letters. However, even these inaccurate mind maps can be useful. If not complicated, these diagrams follow the basic principles of organization and can be considered as pre-mind maps from which proper mind maps can be elaborated. For those reasons, in this thesis we will call mind maps all the diagrams and pre-maps that are not too complicated are comprehensible and follow the basic principles of Buzan's mind maps.

In Figure 2-5 you can see an example of a proper mind map. The mind map (pre-mind map) about music shown in Figure 2-3 was taken and shaped into a mind map in Buzanian sense. Now it is less chaotic, pleasant for our brain and memory. Notice the hierarchy of the words, pictures used together with words or even instead of them, to demonstrate that the central picture substitutes the word *music*. There are also indicated relationships between the individual branches but in a clearer way. The colours made the mind map more attractive to our brain and therefore it is assumed that students would be more motivated to study it.

Figure 2-5, Mind map in Buzanian sense (compare with Figure 2-3)



3. FOUR IMPORTANT FEATURES OF MIND MAPS

There are several reasons why we should consider mind maps as efficient learning tools. In this chapter four important features of mind maps will be presented to indicate their usage in teaching practice. They are structure, motivation, personalisation and creativity.

3.1. Structure

It was shown earlier that mind maps support nonlinearity. The basic feature of a mind map is its clear hierarchical structure. Buzan explains that linear notes block the potential of thinking and therefore make our storage and learning unnecessarily difficult. “By its nature, the linear presentation of standard notes prevents the brain from making associations, thus counteracting creativity and memory” (*The Mind Map Book* 50). When we organize either our thoughts or the thoughts of somebody else into a mind map we support establishing connections among items and creating our own associations, in other words, it supports cognitive depth (ibid 43-52).

3.2. Motivation

Motivation plays a crucial role in learning. As Schunk points out: "…motivation engages students in activities that facilitate learning" (453). Motivated students are more interested in the topic they learn, and therefore they seem to be increasingly willing to devote their spare time to learning activities. Moreover, having encountered difficult subject matter they do not give up so easily. This is the reason why a great amount of attention is drawn to motivation by educationalists. The question asked would be how to increase their interest in learning. Mind mapping is a technique that generates motivation and therefore stimulates learning. Above all by being well-structured and clear, mind maps prevent negative feelings of disorientation and being overwhelmed. Moreover, the original design of mind maps together with the colours and images helps the students to pay attention and be engaged in the learning process (Buzan, *Mentální mapování* 136).

In addition, mind maps created by the students themselves are unique products of theirs and thus much more valuable for them. The last comment highly interrelates with the following important feature of mind maps – personalisation.

3.3. Personalisation

Each of us is unique and this is the reason why we all have different associations and ways of perception and learning. Mind maps are a useful tool for making our notes and learning in a more personal way. It has been proved by psychologists that we organize our thoughts according to our specific personal experience, feelings and connotations. Moreover, it appears that information connected to students themselves stimulates memory and are remembered better than information about other topics (Sternberg 236).

Jensen also emphasises personalisation in a learning process. He recommends working with associations: "Allow time for 'free association' by e.g. comparison and contrast the subject matter with personal experience" (92). He

also points out the importance of personal content: “Use the power of current event, family history, stories myth, legends and metaphors to help make the learning relevant” (ibid).

Mind maps allow connecting known and unknown, old and new, personal and general information and what is more, thanks to them it can be done in a very personal way.

3.4. Creativity

The last important feature of mind maps that is going to be presented here is support of creativity. Creativity can be defined as: “…the process of producing something that is both original and worthwhile” (Sternberg 375). Jensen emphasises creativity in a learning process. He points out that teachers should work more with creative insight in classrooms to stimulate thinking. According to him, creativity can be supported by art. Art is what should be emphasised in school. “By learning and practising art the human brain actually rewires itself to make more and stronger connections” (Jensen 38).

Mind maps help to facilitate creativity since they go in hand with art. Mind maps are full of various colours, shapes, perspectives and all that support creative thinking as you use emotions and art skill to create them. Moreover, they support finding new and original associations. You can see all the items and ideas at once and probably find more interesting connections (Buzan, *Mentální mapování* 95-96).

As Buzan mentions: “Like memory, creative thinking is based on imagination and association” (*The Mind Map Book* 148). Mind map is therefore a useful creative technique. Berger and Fuchs draw attention to the importance of using various creative techniques in schools as they help with memory and learning. “Creative techniques support the co-ordination of right and left brain

hemispheres. Thus learned content will be interconnected better and will be recollected faster" (17, translation PK[2]).

[2] Kreativními technikami lze podporovat souhru pravé a levé mozkové hemisféry. Naučené obsahy se lépe propojí a budou se nám rychleji vybavovat.

THEORETICAL PART I – PSYCHOLOGICAL VIEW

4. MEMORY AND LEARNING

There is no learning without memory. Memory is an essential condition for people's adaptation to changing environment since it connects our past with the present and the future. In the process of learning we use our previous experience, enrich them and therefore change our behaviour. We would not be able to do it without memory (Vašina 113). This is the reason why discussing the structure and the function of memory is highly significant while analysing an English language teaching/learning method.

There are various models of memory. First, the most spread classical model distinguishes *sensory*, *short-term memory* and *long-term memory*. They differ in amount of information they are able to store and in the period of time the information is kept there (Stenberg 186-192). The main focus of this thesis will be on long-term memory, thanks to which we are capable of keeping in memory a great amount of information relatively unlimitedly.

Another model sees memory as numbers of systems, where the two main types include declarative and nondeclarative memory. Declarative memory is further divided into semantic memory which is connected with facts, and episodic memory which serves for storing personal events, and usually includes a specific time and place. Nondeclarative memory includes, besides other types, procedural memory which focuses on processes and cognitive and motoric strategies. It would appear that for English language learning semantic memory is vital as it deals with grammar and meaning: "Semantic memory refers to impersonal memory for concepts and principles, especially the grammar and word-meanings of language" (Wickelgren 232). Moreover, Vašina points out that as it has been proved, semantic memory deals with meanings and relationships between terms and symbols and all patterns that are important to manipulate with them (126). However, the other types of memory are as well

important. Vašina says: “The relationship between declarative and procedural memory has to be understood as dynamic” (115, translation PK). He demonstrates this on the example of creating meaningful sentences; while the content of the sentence belongs to declarative memory, the process of creating it is the matter of procedural memory (ibid). For instance, personal context, which belongs to episodic memory, plays an important role in learning as well.

For mastering a language it is necessary that all parts of our memory function well and that we are aware of how to use them. However, the most important processes take place in the long-term memory; and therefore the long-term memory, its functions and strategies of how to improve and use it effectively, will be discussed in depth.

The notion of working memory has to be mentioned as well. Some researchers consider working memory just as another term for short-term memory. However, in other resources a different opinion can be found. Working memory can be seen as a part of long-term memory which includes short-term memory as well. It stores the recently activated information and transfers it into short-term memory and back (Sternberg 234-235).

5. LONG-TERM MEMORY

5.1. Processing information in LTM

As it was said earlier, long-term memory (LTM) plays the prominent role in English language learning, and thus the following discussion will be about processing information in this type of memory. In general, cognitive psychologists talk about three types of operations: *encoding, storage*, and *retrieval*. These three processes go in sequences; however, they are also in mutual interaction. An important fact is that whereas encoding in STM (short-term memory) is done mainly acoustically, encoding in LTM is rather semantic. In other words, primarily we encode information according to the meaning of the words. However, it is necessary to emphasise that some recent

research has shown that other types of encoding play its role as well and we also encode some information in some context visually and acoustically (Sternberg 252-255).

Individual pieces of information are organised in LTM in several ways. For instance, some facts are made into a hierarchic structure or they are divided into categories which are semantically related (Vašina 125). Knowing that there are some kinds of relations among pieces of information and understanding the character of those relations is significant because thereby we can understand how to learn better and more efficiently. As Schunk underlines, the cognitive psychologists have found out that LTM is based on associative structures (151). He says: "The more often that a fact, event, or idea is encountered, the stronger is its representation in memory" (ibid). The advantage of mind maps is that they copy the network of bits of information that we have in our brain, thus it making it easier to remember things. The process of encoding information will be analysed further to underline some other ways how to prompt our learning.

5.2. Encoding in LTM

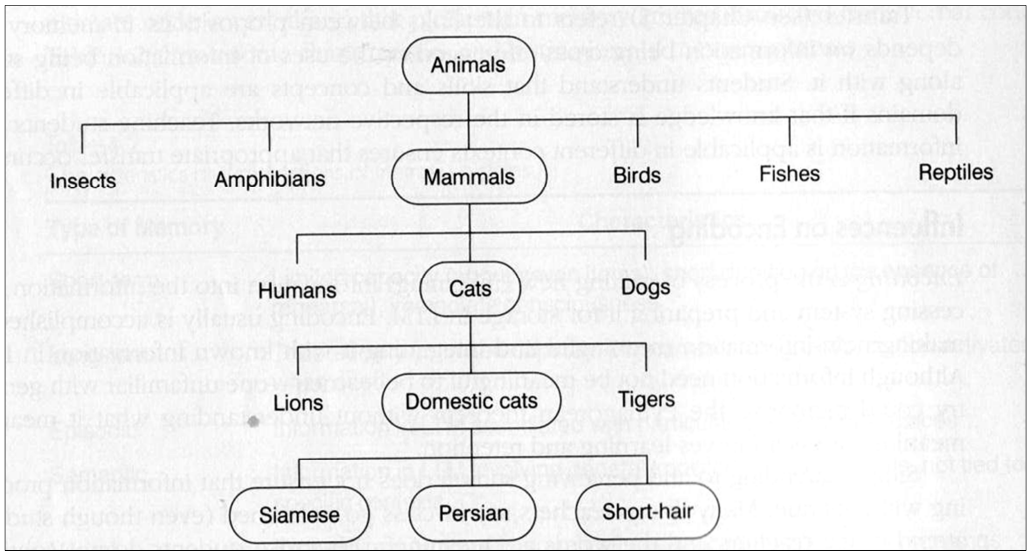
To start with, the associative structure of LTM is done by linking together the old and the new information during encoding. In other words "Encoding is usually accomplished by making new information meaningful and integrating it with known information in LTM" (Schunk 153). To remember and store a new piece of information it is necessary to process it properly. Schunk proposes three important factors that influence encoding and that help to remember: *organisation, elaboration* and *schemata* (153).

5.2.1. **Organisation**

Proper organisation of information is one of the key factors that influence remembering. Schunk explains: "Organized material improves memory because items are linked to one another systematically. Recall of one item prompts recall of items linked to it" (154). While organising bits of information

we can create chunks, hence reduce the amount of information to remember. “Material that has been chunked together to form a familiar single unit appears for most purposes to function as a single unit in learning and memory” (Wickelgren 244). As it was mentioned, mind maps allow organizing our thoughts and new information very systematically and creating effective chunks.

Figure 5-1, Organisation of information in memory, in Schunk p. 154



5.2.2. **Elaboration**

The second factor of effective remembering is elaboration, which is also based on linking the old and the new information. It seems that elaboration is much more helpful than simple rehearsing the information. Schunk speaks about elaborative rehearsal; you link the piece of information to another and therefore stimulate the transfer from short-term memory to long-term memory (155).

Also Sternberg emphasises Elaborative rehearsal as the effective way of remembering:

> In elaborative rehearsal: “… the person somehow elaborates the items to be remembered in a way that makes the items either more meaningfully integrated into what the person already knows or more meaningfully connected to one another and therefore more memorable” (260).

Whereas maintenance rehearsal is based only on repetition of the same item, elaborative rehearsal is much more active, and therefore effective. Both authors share the opinion that proper elaboration can be stimulated by using effective mnemonic devices. There will be a chapter about mnemonics later on. Creating various mind maps with various central ideas is definitely one of the tools encouraging elaborative rehearsal.

5.2.3. **Schemata**

Schemata are the third memory facilitators. Schunk defines schema as: "... a structure that organizes large amount of information into a meaningful system" (Schunk 155).

Sternberg demonstrates this concept on the following example:

> "…suppose that a 75-year-old woman, a 45-yar-old man, a 30-year-old nun and 25-year-old woman are sitting on park benches surrounding a playground. A young child falls from some playground equipment and calls out 'Mama!' To whom is the child calling?" (199).

In the process of exploring the world around us we create a set of interrelated associations of individual entities in our brain. The already acquired knowledge thus influences our perception of the world and our memory (Field 39-40). As Stenberg writes, schemata might be very personal and dependent on context; they can be very simple or may contain many subschemata. Thanks to schemata we can understand the world and orientate ourselves in it better (198-201).

Since schemata are based on what is known and expected, we can take this feature of our information storage and use it to increase learning. To illustrate that, Schunk proposes that schemata might be used for guessing and learning new words from the text (156). Teachers can work with schemata while teaching how to improve receptive skills, such as listening and reading, where it can help to understand the gist of a text or an audio without understanding

every word. Working with schemata basically means working with expectations and context. Mind maps can be a good tool for developing schemata as it works with associations and personal experience of learners.

5.3. Some other Strategies of Learning

Three basic learning strategies have been presented to demonstrate how to use our knowledge of how the brain works to remember and learn better. The following analysis will be about mnemonic devices which elaborate on the mentioned strategies and make them even more effective.

5.3.1. **Using associations**

Associations play an important role in thinking and learning. In sum, associations can be described as connected thoughts. They occur when one thought evokes the other. Associations support connection making between items in reality. This connection can be based on language similarity, situation and context or contrast. Thanks to associations our thinking and searching for solutions become more creative and innovative (Pstružina 71-73).

Mind maps help to create new associations, and therefore make our comprehension better, they support finding new connections. As Buzan writes, while we draw a new branch of a mind map, we give an impulse to our brain to create new associations and thus new ideas and thoughts (*Mentální mapování* 90-91).

5.3.2. **Mnemonic devices**

Using associations to improve memory reaches back into history. As far back as the fifth century B.C. the Ancient Greeks used the method of loci as a memory aid. Learners were supposed to imagine the location where they placed the item to remember. In the retrieval process, the person has to think of picking up the imaginary item where they left it (Berger and Fuchs 56-57). The method of loci was most probably the very first instance of a mnemonic strategy that was used to facilitate memory. One of the definitions of

mnemonic devices is mentioned by Vašina and is as follows: "…a set of various methods which facilitate remembering and enlarge a memory span by making additional associations" (123, translation PK[3]).

5.3.2.1.Clustering

In the following paragraphs there will be mentioned those types of mnemonic devices which could be somehow connected with a mind map technique and which we will be using in a practical part of the thesis. First, clustering technique should be mentioned. Clustering is based on meaningful chunks. As it has been mentioned chunks help to organize information and thus help us to understand the world. Clustering is a prime example of this type of mnemonics. As it was said earlier clustering can be seen as a predecessor of mind maps. It is the first step, when we search for the key words. The central idea is appointed and then all the other ideas and feelings associated to this term are looked for. However, there is no hierarchy among the clusters, neither is it organized into categories (Berger and Fuchs 29-31).

The second step after clustering is categorising, in other words, putting items into particular groups. It involves an organization as well as comparison process:

> "Organization involves overcoming an episodic grasp of reality and seeing the relationships between stimuli. Comparison involves identifying the similarities and differences between those related stimuli. Categorization extends these skills by grouping similar stimuli into groups and subgroups" (Mentis et al. 18).

It has been shown that ordering makes our learning more efficient; moreover, when we categorize, we help to stimulate elaborative rehearsal. There is a greater cognitive depth, and therefore encouragement to our memory.

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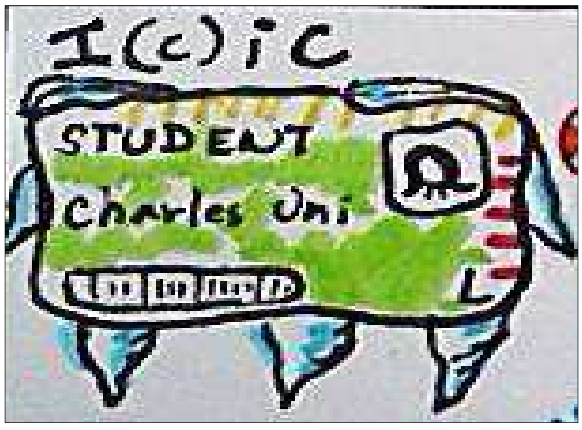
[3] Mnemotechnika je soustava různých metod, které ulehčují zapamatování a zvětšují rozsah paměti pomocí utváření tzv. dodatečných asociací.

5.3.2.2.Mnemonic devices based on visual images

A large number of mnemonic devices are based on visual images since it appears that images are significant for learning and memory. As Buzan suggests, by using or drawing pictures while memorizing things we use more areas of our brain, such as recognition of colour, form, line, dimension, texture, visual rhythm, imagination; and therefore encourage our creative thinking and memory (*The Mind Map Book* 73). As Buzan writes: "Images are therefore often more evocative than words, more precise and potent in triggering a wide range of associations, thereby enhancing creative thinking and memory" (ibid).

The following mnemonic devices are based on visual images and associations. The keyword system is one of the known strategies based on images. This mnemonics chunk together with the visual and acoustic unit of the target word in the first and second language in order to be retrieved more quickly. Sternberg describes the process of making it as follows: "Form an interactive image that links the sound and meaning of a foreign word with the sound and meaning of a familiar word" (263). As Cohen and Macaro underline, the method has been proved very useful; however, it seems to be more effective when the connection is made by the students themselves rather than supplied keywords (261-262). Figure 5-2 demonstrates the keyword method used for the word *Icicle*. The picture shows the *International Student Identity Card*, called *ISIC*, which reminds of the pronunciation of *Icic-le*. The card in the picture is 'icicled' to create the connection.

Figure 5-2, Keyword method applied to the word *Icicle*



In addition, not only do we remember better when we create the mnemonic devices by ourselves but also when we connect a new piece of information with our personal experience or emotions. Sternberg speaks about a powerful memory trigger that has been termed self-reference effect. It says that information related to ourselves is usually much better encoded and elaborated than the information which does not include us (236). Self-generated mnemonic devices which have some kind of relation to our feelings, knowledge and imagination will be always the most effective. Thus mind maps appear to be a great device to support self-generated mnemonic as at it has been implied in chapter 3, one of the basic features of mind maps is personalisation.

5.3.3. **Using both hemispheres**

It has been proved that specific cognitive functions, behaviour, and abilities are controlled by different areas in the brain. This fact was termed localization as some functions are localised rather in the left or the right brain hemisphere. The left hemisphere controls, for instance, language, logic, analytic thinking and calculations; whereas the right hemisphere is responsible for creativity, spatial vision, drawing and other skills (Hill 98). Based on neurological studies, in the past, it was believed that people are either left brain, and therefore rather analytical types – thinkers, or right brain dominant, thus artistic and creative. However, this has been proved as a radical simplification; and focusing solely on the development of one hemisphere appeared to block mental development rather than enrich it. There are many opinions supporting both-brain learning.

To begin with, the division of the functions in the brain was proved not to be so strict. As Schunk writes: “Very little mental processing likely occurs only in one hemisphere. The hemispheres work in concert; information is available to both of them at all times” (375). Jensen also shares the opinion and emphasises the importance of cooperation of both two hemispheres during learning. He says: “The old paradigm was that left-brain thinking was the home

of the necessary ‘high-order’ thinking skills, and right-brain activities were frills. Current research tells us that much learning is ‘both-brained’ (38).

Buzan based his mind maps on cooperation with both hemispheres as well, as he believes that only that cooperation helps us to enhance learning abilities: “If we rely only on one of the hemisphere and the second is neglected then we limit drastically the total potential of our brain” (*Mentální mapování* 45, translation PK[4]).This is the reason why he recommends drawing pictures and adding colours to our notes.

Moreover, Schunk points out that according to the brain research whereas academic content is processed mainly in the left hemisphere; context is processed in the right one (376); which again supports the idea of both-brain learning. There is no doubt that it has many implications to learning and teaching. Teachers should incorporate context as much as possible. As to English language teaching, both situational and language context should be emphasised during teaching, for instance using collocations and connotations to produce better retention of vocabulary.

[4] Jesltiže se spoléháme jen na jednu svou mozkovou hemisféru a druhou zaedbáváme, potom drasticky omezujeme celkový potenciál svého mozku.

THEORETICAL PART II – PEDAGOGICAL VIEW

6. TEACHING THROUGH MIND MAPS

6.1. Who to teach – Individual differences

After the general analysis of how the brain and memory work it is necessary to discuss some implications for teaching. It has been stressed that individuality of learners plays a crucial role in learning. Each learner has its different abilities and preferences. As Harmer points out: "...there are differences in the ways individual brains work. It also suggests that people respond differently to the same stimuli" (89). Scrivener notes various kinds of individual differences among English learners. They may include the following:

> Motivation, previous learning experiences, topics that students find interesting, ability to remember things, reasons for needing English, knowledge of the world and special areas, skills and abilities, intelligences, sensory preferences, learning styles (63).

For the purpose of this thesis, the three last mentioned will be focused on. Students show different aptitude for languages, they differ in a type of intelligence they have developed most strongly and in sensory preferences. This is the reason why there are many different learning styles, and therefore different learning strategies.

6.2. Learning styles

There is a large number of learning styles theories. Two wide spread theories have been chosen for analysis; one is based on our sensory preferences, the other on types of intelligence. The use of a mind map technique in different learning theories will be discussed as well.

6.2.1. **Sensory preferences**

It has been observed by researchers from Neuro-Linguistic Programming that people tend to respond differently to sensory stimuli. Thus some people prefer hearing things, others seeing them, and others respond best if they can touch and feel tangible, physical objects (Scrivener 64).

Those kinds of observations have led to development of VAK[5] model. VAK is an acronym which stands for the three different types of learners: visual, auditory and kinaesthetic. It does not mean that there is just one way of how a person perceives information. We always use all senses; however, not to the same extent: "Most people, while using all these systems to experience the world, nevertheless have one 'preferred primary system' (Revell and Norman 1997 31, qtd. in Harmer 90). Lojová and Vlčková state that in natural acquisition setting people subconsciously pick those stimuli that satisfy their perception preferences, whereas at school students are thrown upon the teachers' character of activities (47).

Visual type seems to be the most wide spread (Oxford 1995, qtd in Lojová and Vlčkova 47). Visual learners best learn through seeing, which means they prefer visual aids such as slides, diagrams, images, tables (Lojová and Vlčková 48). Mind maps as a visual technique appear to be particularly suitable for this kind of learners. Moreover, Lojová and Vlčková mention association maps and mind maps as a good tool for learning language, especially learning vocabulary (ibid 49). Auditory learners respond more powerfully to listening, they usually enjoy communication face to face, lectures and tapes. They would also appreciate mnemotechnics based on sound similarities, associations and drills (ibid 50-52). As to kinaesthetic learners, they prefer learning via experience, physical activity, moving, touching, and being active. Lojová and Vlčková point out that those learners very often rewrite many times passages from the

[5] Some literatures suggest variation on this model VARK or even more extended VAKOG model in which O stands for Olfactory (we smell things) and G for Gustatory (we taste things) (Harmer 89-90).

textbook or their own notes. They also benefit from physical objects, 3D aids, cards or flashcards (ibid 53). Thus mind maps as an active note-making tool could be another useful way for them to connect physical activity and information processing.

6.2.2. **Multiple Intelligences**

Not only do people differ in their sensory preferences but also in abilities and intelligence. Psychologist Howard Gardner claims that the notion intelligence is not absolutely precise, and that the question is much more complex. He introduces a concept of multiple intelligences (MI). In sum, each person has a range of intelligences, each type of intelligence is; however, pronounced to a different extent. Originally, Gardner distinguished seven basic types of intelligence:

Musical/rhythmical,
Verbal/linguistic,
Visual/spatial,
Bodily/kinaesthetic,
Logical/mathematical,
Intrapersonal
Interpersonal.

Later on he added some more types, for instance *Naturalistic* intelligence which we use for recognizing and classifying patterns in nature (Harmer 90).

Naturally, students will prefer activities that appeal to the type of intelligence that they have mostly developed. Lojová and Vlčková observe that whoever has a possibility to learn a language through his or her dominant type of intelligence, learns much more efficiently (86).

Tanner suggested language skills activities for different dominant intelligences. She mentions mind maps (or some features of mind maps) as a good tool almost in every type of intelligence (qtd in Harmer 91).

6.2.2.1.MI and Mind Maps

First of all, mind maps support making associations and thinking of the related words. This feature can be used in activities for linguistic and also logical-mathematical types of intelligence. For linguistic learners Tanner suggests: "Learners make mind maps of related words"; and for logical types: "Learners discuss how many words they can think of related to another word (e.g. photograph, photographer)" (Tanner 2001, qtd in Harmer 91). Also Lojová and Vlčková emphasise the implementation of associations and logical connections into activities for those two types (88-89). Secondly, mind maps copy the structure of nature. Mind maps resemble, for instance, a tree with branches, or the sun with the sunbeams (Buzan *Myšlenkové mapy* 36-39), which would appeal to students with well-developed naturalist intelligence. Mind maps as a visual tool are suitable for students with high level of spatial/visual intelligence. Those learners prefer colours, images, diagrams and memory maps (Lojová and Vlčková 89).

Moreover, as it has been said, an important feature of mind maps is personalisation. This feature seems to be appreciated mainly by students with significant intrapersonal intelligence. Interpersonal intelligence is connected with communication and cooperation among students. As Buzan shows, mind maps are a perfect tool for various kinds of brainstorming and team work (*Myšlenkové mapy* 178-179). Musical intelligence analogous to auditory type in VAK theory can be supported by using various mind map activities concentrating on drills, and mnemonic devices based on sounds and similarities of languages, for instance the earlier mentioned keyword system. Finally, people with highly developed kinaesthetic intelligence are comfortable with physical movements similarly to the kinaesthetic type in the VAK theory. For such learners, a more useful way than just drawing, would be creating one using either physical objects or their own body (see practical part, example: *Mind map twister and Human Mind map*).

6.3. Teaching according to the styles – learning and teaching strategies

The difference between learning styles and learning strategies has to be underlined. They are highly interwoven, however not identical. What has been described above (MI and VAK) we consider to be learning styles as they describe the given predispositions of learners to approach a learning task and they are relatively stable (Lojová and Vlčková 32). Whereas learning strategies are concrete methods that we learn throughout our lives and which we use for particular tasks (ibid).

So far it has been shown that people with different abilities and preferences react differently to different activities and that influences the way they learn. Obviously, it has its implications for teachers. Teachers should learn to be more sensitive to the variety and try to apply as many different strategies and techniques as possible. The importance of using various types of activities is stressed also by Harmer who states: "Although we cannot teach directly to each individual student in our class all of the time, we can ensure that we sometimes give opportunities for visualization, for students to work on their own, for sharing and comparing and for physical movement" (91). Brown expresses the same opinion: "A variety of techniques in your lessons will at least partially ensure that a maximum number of students will be 'reached'"(21).

In sum, it has been indicated (and in the practical part will be shown in more details) that although mind maps are primarily a visual learning tool, they can be used for activating other types of intelligence and senses. This is the reason why their implication in classrooms is considered to be effective. They activate more senses and various types of intelligence at the same time.

6.3.1. Change of styles/strategies, Metacognitive learning

It is also noteworthy to mention that teachers' knowledge of different learning styles is essential not only for designing various activities to satisfy students'

individuality but also to give students possibility to adopt various learning strategies regardless of their sensory or mental preferences. Harmer emphasises the importance of this fact as follows: "Our job is surely to broaden students' abilities and perceptions, not merely to reinforce their natural prejudices or emphasise their limitations" (94). Brown adds: "They may need to be nudged, if not pushed, into more face-to-face communicative activities than their preferences would indicate" (21). In other words, it is highly advisable for teachers to endeavour to enhance students' range of learning strategies. If teachers stimulate constantly merely the most suitable strategy for a particular learning style, there is a risk of blocking students' true potential.

Whereas abilities and sensory preferences appear to be fairly rigid, learning strategies can be modified throughout our learning process. One of the ways to enrich students' range of different strategies and experimenting with different learning techniques is to be aware of their preferences and learning styles. Lojová and Vlčkova note: "Particularly significant part of second language learning is the necessity to raise metacognitive awareness of students – increase their consciousness and knowledge about learning styles[6]" (99, translation PK). Mareš adds that students' recognition of their learning style can be useful for applying the adequate learning strategies and choosing suitable environment and conditions for learning (76). Learning styles are based on inborn dispositions; nevertheless some kind of adjustment of learning styles is also possible as Mareš observes: "Learning styles can be diagnosed and changed, although not easily[7]" (76, translation PK).

6.3.2. **Style versus Content**

While choosing an appropriate strategy, it is important to bear in mind not only the learners but also the subject matter, since different strategies are useful for

[6] Obzvlášť důležitou součástí cizojazyčného vyučování je potřeba zvyšovat metakognitivní uvědomělost žáků – zvýšovat jejich povědomí a informovanost o stylech učení.

[7] Styly učení se dají diagnostikovat a měnit, třebaže ne snadno.

different contents. As Mareš points out: "We can say that the attention that is drawn to strategies of learning, in other words, how a person learns, cannot end in undermining or ignoring of what the person learns. The particular subject matter asks for a particular learning strategy"[8] (75, translation PK). This is the reason why the following chapter will be discussing using mind maps in teaching various skills.

6.4. What to teach through mind maps – Textbooks Samples

Many recommendations of using mind maps in teaching and learning English are formulated in various materials for teachers. Some samples found in different textbooks are going to be presented here. It seems that the most extensive utilization of mind maps can be seen in teaching vocabulary. A large number of handbooks and other materials for teachers suggest incorporating mind maps in either presentation or practice of vocabulary.

6.4.1. **Note-taking**

Scrivener, in his publication *Learning Teaching,* presents some alternative ways of recording lexis, and one of them is a mind map technique. As he underlines, for remembering mere recording of a word is not enough. He says that while creating their own mind map students search for connections and that helps remembering: "...thus the learning of new words and the recording of them are part of the same activity" (242). Furthermore, Harmer points out that note-taking is a highly personal matter and students should be given the opportunity to use the technique that suits them the best. He writes: "…rather than telling students how to take notes, we should offer them various possibilities for them to choose from (398). However, the above mentioned

[8] Můžeme tedy říci, že pozornost, jež se věnuje postupům při učení, tedy tomu, jak se člověk učí, nemůže a nesmí vyústit v podceňování či ignorování toho, co se člověk učí. Vždyť specifické učivo si vyžaduje specifické postupy při učení.

authors vary from each other in labelling mind maps. What Scrivener calls a *topic web*, Harmer names a *spidergram.* Nevertheless, as both examples observe the conditions specified at the beginning of this thesis, we call them, and also the other later on mentioned examples, mind maps. In Figures 6-1 and 6-2 you can see both, Scrivener's Topic web and Harmer's Spidergram. Although they slightly differ in form, they both bear the main idea of non-linear organisation of thoughts.

Figure 6-1, Topic web, in Scrivener p. 145

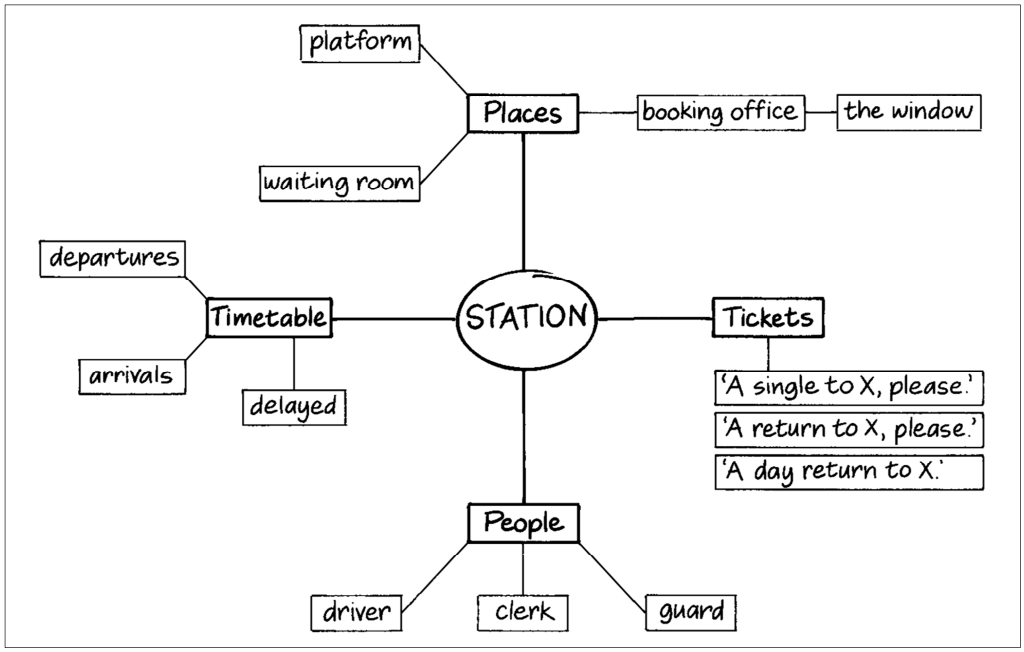
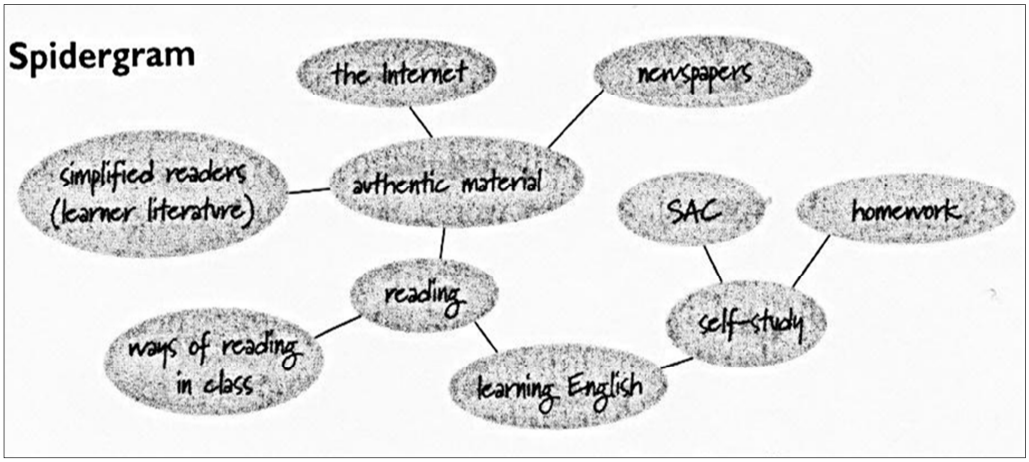


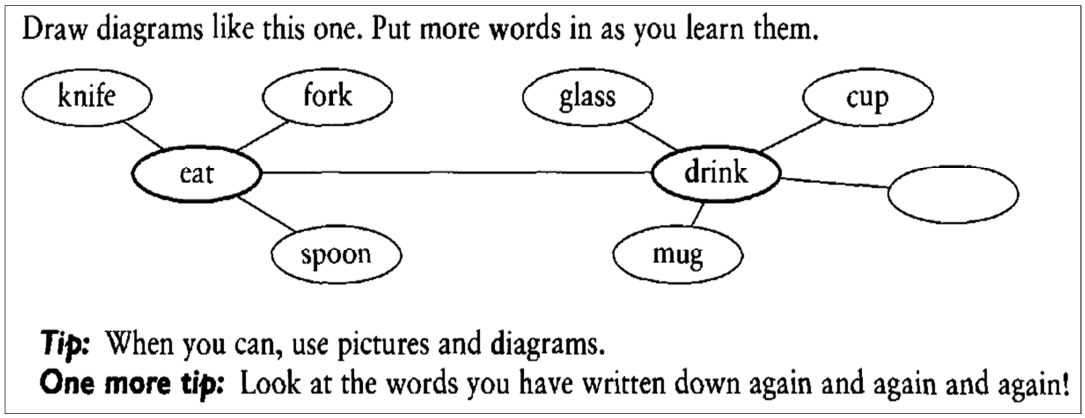
Figure 6-2, Spidergram, in Harmer p. 398



Also Thornbury mentions mind maps (in his interpretation they are called *diagrams*) in connection with learning vocabulary. He explains (so as the theoretical part of this thesis) the resemblance of the way the words are stored in our brain to a network or a web: "…the mind seems to store words neither randomly nor in the form of a list, but in a highly organised and interconnected fashion – in what is often called the mental lexicon"(16). Scrivener supports the opinion that mind maps copy the structure of our brains, and thus it makes learning and remembering easier. He claims: "This way of recording lexical items may reflect more accurately the way that we store lexical item networks in our brains – and may therefore be more useful for students than the traditional lists" (245).

Another example of recording vocabulary using some kind of mind map can be found in publication *Vocabulary in Use (Elementary)* by McCarthy and O'Dell. As Figure 6-3 demonstrates, the authors instruct students to use mind maps and various visual aids while note-taking to learn effectively new vocabulary.

Figure 6-3, in Vocabulary in Use (Elementary)



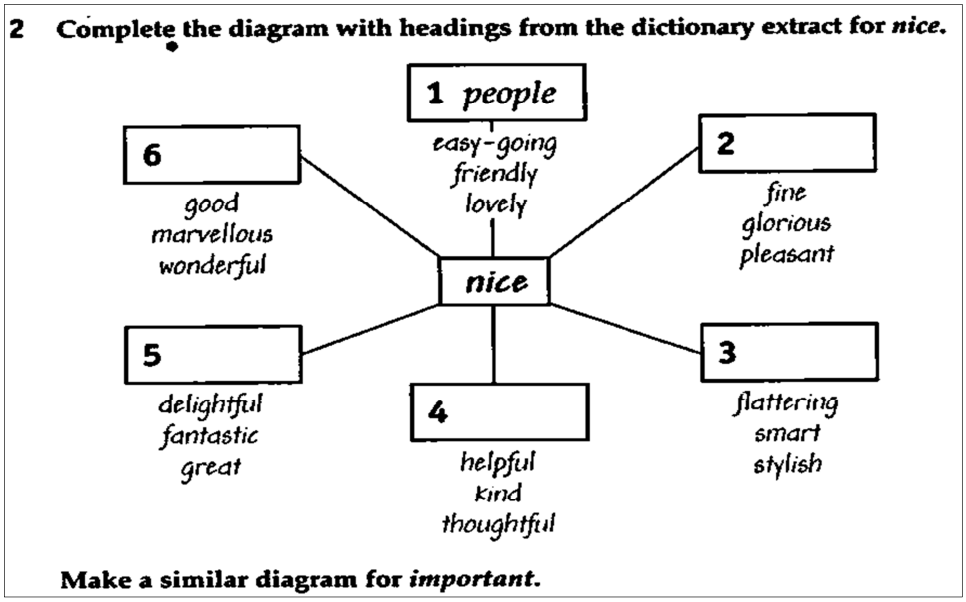
Nevertheless, knowing vocabulary is not only about learning individual words by heart. As Thornbury explains, it is much more complicated: "…knowing the meaning of a word is not just knowing its dictionary meaning (or meanings) – it also means knowing the words commonly associated with it (its collocations)

as well as its connotations, including its register and its cultural accretions" (15). Thus not only the meaning and translation should be presented by teachers but also collocations, word families, word-formation, semantic/lexical field, hyperonymy and other information about the words (ibid 15-20). Mind maps thanks to its well-organised structure offer a practical way to show all the information about new vocabulary at once and very clearly. This is the reason why English textbooks very often use them to present or practise vocabulary, in particular collocations; sense relation, such as hyperonymy and synonymy; and semantic fields.

6.4.2. **Collocations**

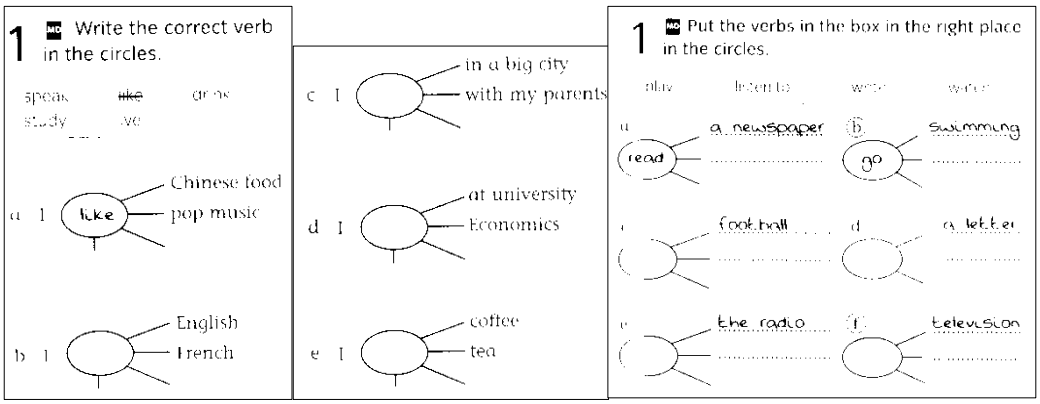
Figure 6-4 is taken from the textbook *Inside Out (Intermediate)* by Jon Hird and Jonathan Marks. As you can see, one mind map shows a great deal of information about words. First of all, it teaches and practises the correct collocations; for instance, whereas people can be *easy-going, friendly,* and *lovely*, clothes are rather *flattering, smart,* and *stylish*. Secondly, this map is significant also from the sense-relation point of view, since it teaches synonyms of the word *nice.*

Figure 6-4, Inside Out (Intermediate)



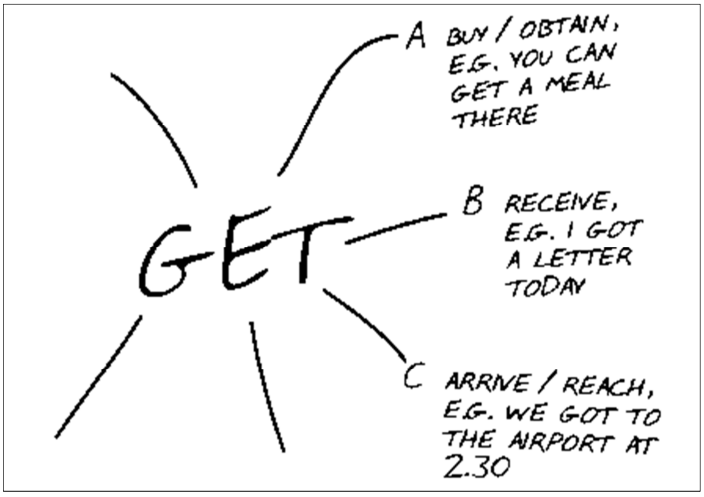
The following examples, in Figure 6-5, are taken from *Cutting Edge (Elementary)* by Sarah Cunningham, Peter Moor and Frances Eales. Not only do students practise basic collocations but they also learn to use their own associations in vocabulary learning. To demonstrate this, after they match the correct collocation *drink – coffee, tea,* they must add some other words to the blank branches; thus somebody adds *beer*, whereas another student writes *wine* or *water*.

Figure 6-5, in Cutting Edge (Elementary)



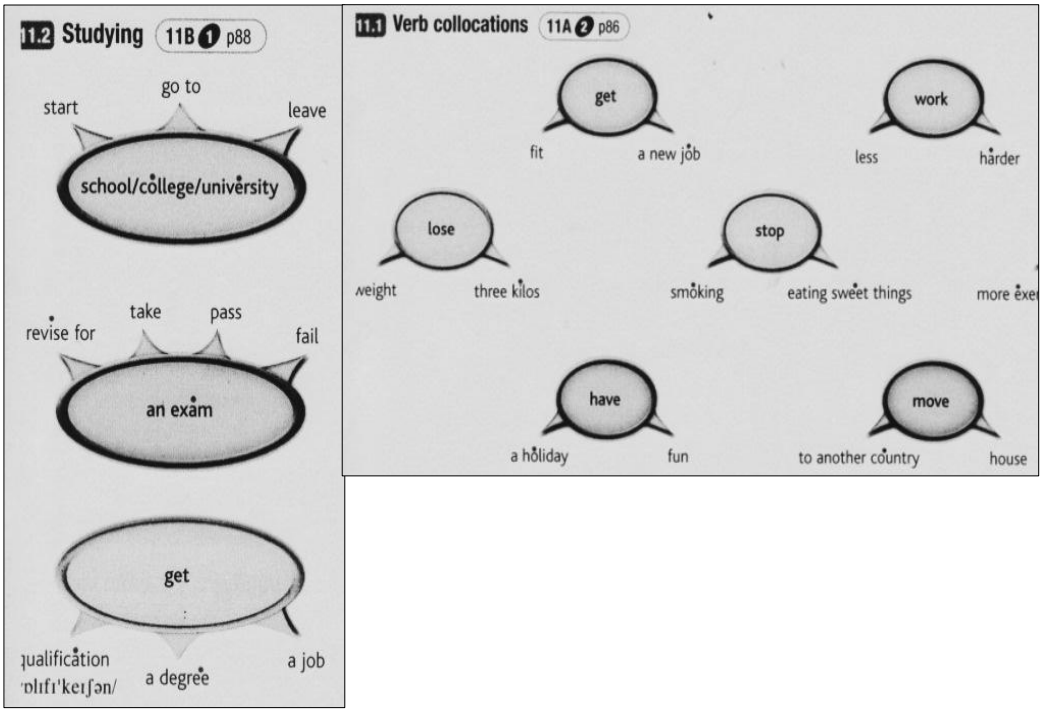
Mind maps are also often used for presentation of collocation as Figure 6-6 demonstrates. It shows different uses of the verb *to get.* This example can be seen in *Natural English (Intermediate)* by Ruth Gairns and Stuard Redman.

Figure 6-6, in Natural English (Intermediate)



Another style of mind maps is offered by the textbook *English Face to Face (Elementary)* by Chris Redston and Gillie Cunningham. It is noteworthy to mention the different style of mind maps they used for collocations of nouns and verbs; whereas branches of the first mentioned point up, the other's point down to highlight the difference between the word classes.

Figure 6-7, in English Face to Face



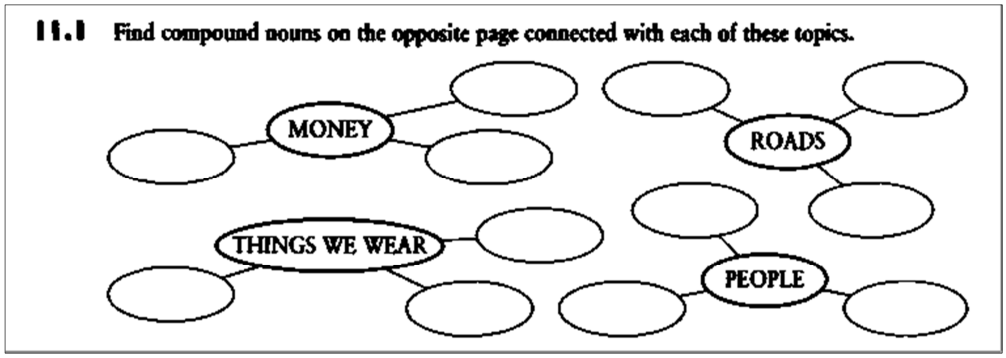
6.4.3. **Related words**

Learning through the related words seems to be a very common way to learn vocabulary. English textbooks frequently work with so called lexical/semantic fields; words that relate to one another by their theme, that are connected to the same idea. Thornbury demonstrates lexical fields on an example of Christmas themed words, such as *carols, tree, fireplace,* or *snow.* "Words that have this kind of thematic relationship are said to belong to the same lexical field" (10). Presenting or practising words that relate to the same topic can be done using mind maps. An obvious advantage that mind maps offer in this sense is that the relationships of the related words are clearly visible at the first sight and it encourages the remembering. Also Harmer recommends mind maps while working with lexical fields of words: "Using mind maps to create vocabulary

fields is something that teachers can incorporate into their regular vocabulary teaching. Indeed such activities can form a useful prelude to work on specific topics" (166).

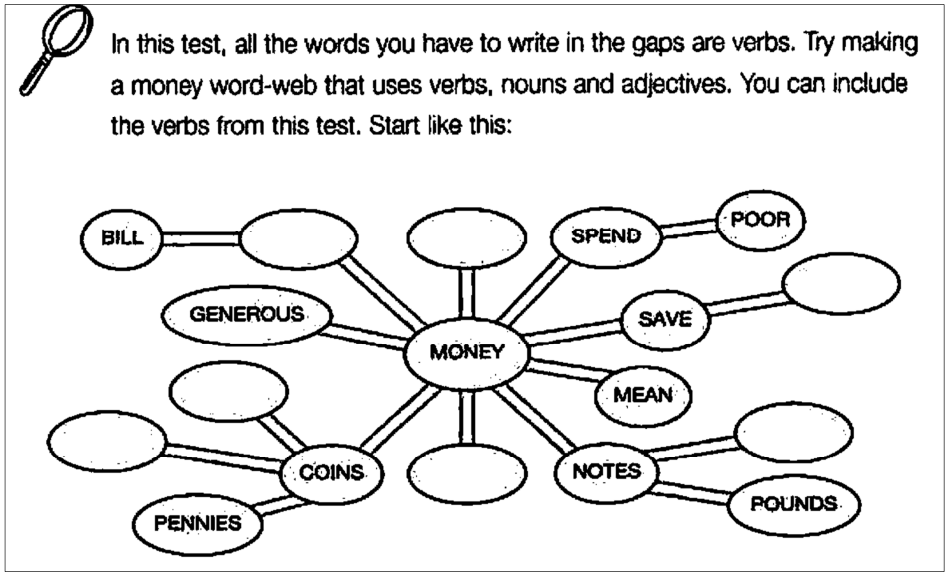
Figure 6-8 demonstrates the use of mind maps in creating lexical fields. This sample taken from *Vocabulary in Use (Pre-intermediate/Intermediate)* by Stuart Redman concentrates in particular on practising recently presented compound nouns.

Figure 6-8, in Vocabulary in Use (Pre-intermediate/Intermediate)



The following example, in Figure 6-9, is from *Test your vocabulary 2* by Peter Watcyn-Jones and Olivia Johnston. In this sample students fill in the words from the same lexical field (*money)* regardless their word classes.

Figure 6-9, in Test your Vocabulary 2

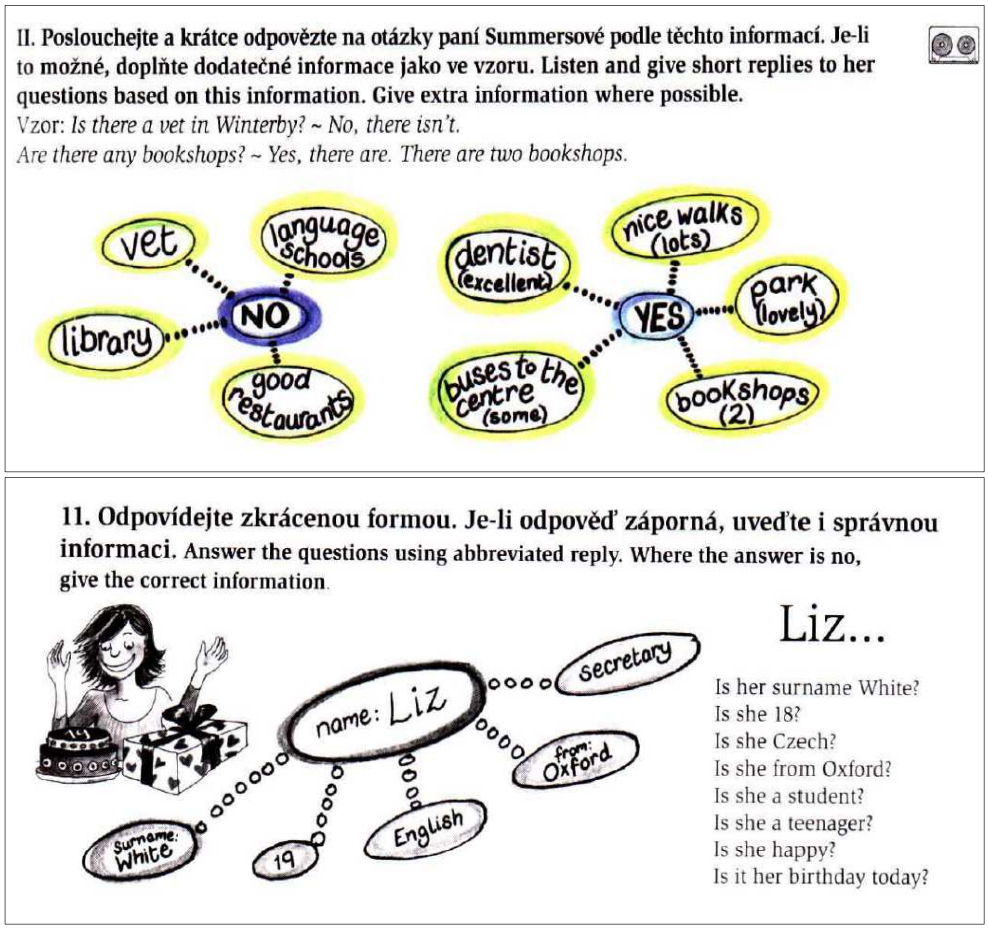


6.4.4. **Speaking/Grammar**

Not only do mind maps appear to be a good tool for vocabulary learning but as various English textbooks show, they can also be applied to learning the basic skills such as listening, reading, speaking and writing. The following samples illustrate some possible ways to use mind maps in teaching skills.

To start with, Figure 6-10, taken from *Time to Talk 1* by Sarah Peters and Tomáš Gráf, demonstrates a task focused mainly on speaking and practising grammar.

Figure 6-10, in Time to Talk 1

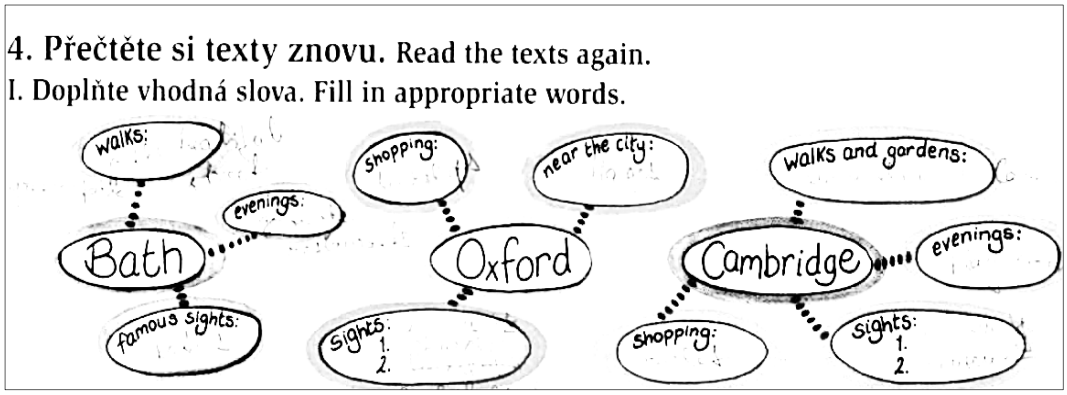


6.4.5. **Reading**

Figure 6-11 shows how to use mind maps in reading activities. The given mind maps consist of the key words from the text read by students. They serve as a

help to identify the message of the text and facilitate understanding. Those mind maps also offer a speaking follow-up activity in which students retell the text about the cities using the keywords from the mind maps.

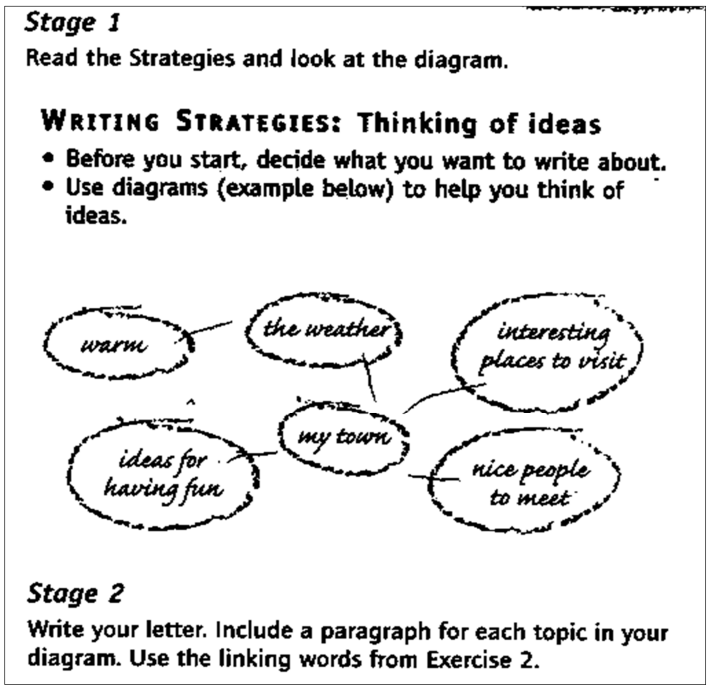
Figure 6-11, in Time to Talk 1



6.4.6. **Writing**

English textbook *Opportunities (Elementary)* by Michael Harris, David Mower and Anna Sikorzynska recommends using mind maps to prepare a writing task. In Figure 6-12 you can see how mind maps can be used to organize thoughts as a preparation for the writing of a short text.

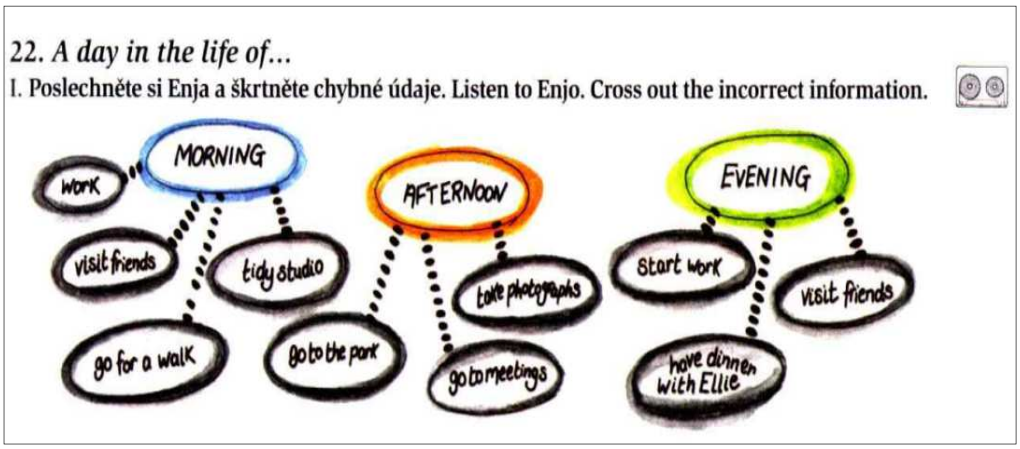
Figure 6-12, in Opportunities (Elementary)



6.4.7. **Listening**

Figure 6-13, taken from *Time to Talk 1*, illustrates using mind maps while practising listening skills. Thanks to those mind maps students concentrate on the important information from the listening and catch the main message much more easily.

Figure 6-13, in Time to Talk 1



PRACTICAL PART – APPLICATION

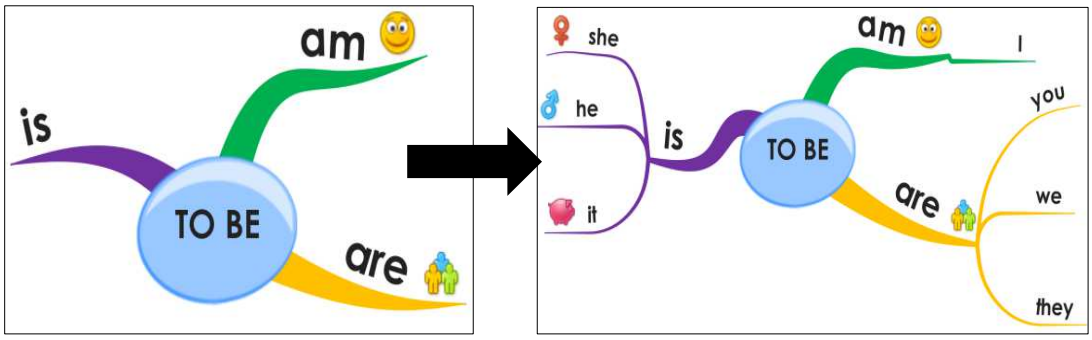
1. MY ACTIVITIES - SELECTED SAMPLES

In this part of the thesis practical examples of using mind maps in English language teaching will be presented and organised according to what they focus on. First of all, grammar activities will be introduced; secondly, activities based on presentation or practice of vocabulary. Almost all the activities have been tried out in my courses. Some of them have been used in one-to-one courses, others in group courses and in post-secondary course for young adults. The only activities that have not been tested yet are the activities for kinaesthetic learners; unfortunately, none of my current courses seem to be a suitable target group for those activities.

1.1. Grammar

Mind maps offer almost endless possibilities to present or practise grammar. Their significant advantage is a clear logical structure and their attractive design. They can be used to present very simple grammatical structures as well as more complicated ones for more advanced students. Figure 1-1 demonstrates an alternative way to present the forms of the verb *to be* to the elementary students or the beginners.

Figure 1-1, To be

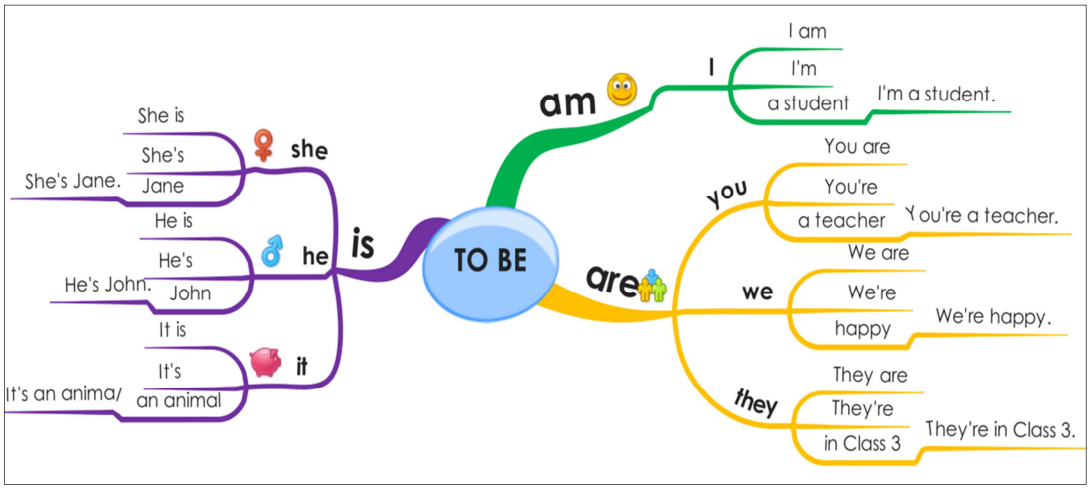


In comparison to the traditional presentations in which all personal pronouns are usually presented in a list with a corresponding form of the verb *to be* (I am, you

are, he is..); here, firstly the basic forms of *to be* are given and then the corresponding pronouns are added. This way of learning takes advantages of similarities, and underlines the differences between singular and plural.

The next step of a presentation can be seen in Figure 1-2. The teacher introduces contracted forms of *to be* and provides some examples.

Figure 1-2, To be - examples



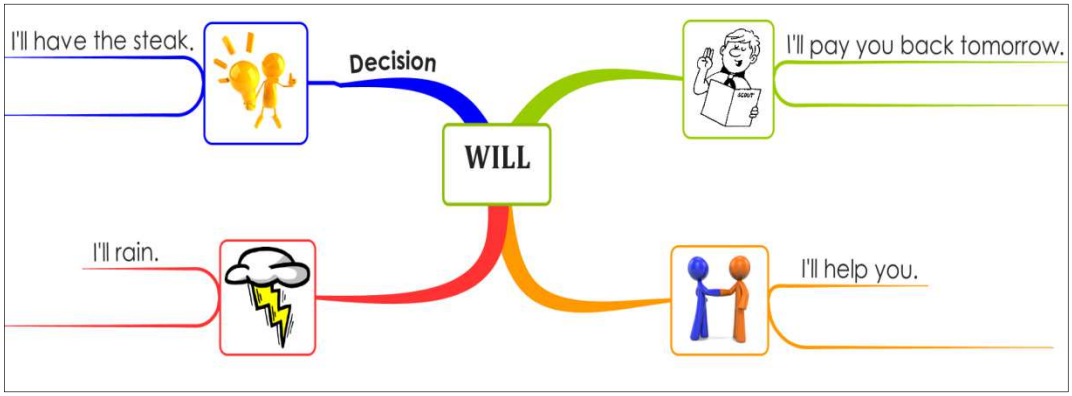
The above presented mind map can be used either as an alternative way of presenting grammar or as an additional material. The teacher can draw the map on the board or give it to the students as a handout. Moreover, after deleting some words from the branches we get a fill-in activity. Thus the same mind map serves for presentation as well as for practice. This kind of mind map can be also very easily made into various drill exercises. To illustrate that, the teacher points at a particular branch and without using students' first language elicits from the students the required response. Students read the particular branch and drill the pronunciation of full forms, contractions or the whole sentences.

In this manner all the other grammatical structures can be presented and practised. I have used this kind of presentation in my group course for beginners and from my observations I can say that the students reacted very positively on this kind of presentation and picked up the rules very quickly. Furthermore, it seems to be suitable for various types of learners. For its logical structure it appears to be

appealing to those types of students with well pronounced logical/mathematical intelligence. Visual/spatial types would appreciate it because of the pictures, colours and symbols. Auditory learners or those with well-developed musical intelligence could take advantage of the drill activity done with the whole class.

The following activity, showed in Figure 1-3, illustrates slightly different use of mind maps in grammar teaching. It is designed for pre-intermediate students and practises different functions of *will*. In this exercise students complete the branches with a suitable function of will: *decision, promise, offer, prediction.* After they finish the first task, they add their own examples to the individual function. The activity appears to be appropriate especially for visual types of students and for students with high intrapersonal intelligence as they can think of their own personal examples that are connected to their life and that function as prediction, offer, promise, and decision.

Figure 1-3, Functions of *will*



1.1.1. Grammar activities focused on speaking skills

Mind maps also seem to be good tools to practise and increase speaking skills. They teach working with key words, which is very useful, for instance, for giving presentations. Figure 1-4 shows an activity designed to practise speaking as well as grammatical structures of the past simple. Students are asked to complete the mind map, each branch with one word, according to their own experience. They write some examples of something interesting they saw or read, something that made them tired or happy, the key words of their weekend and workdays, etc. After they

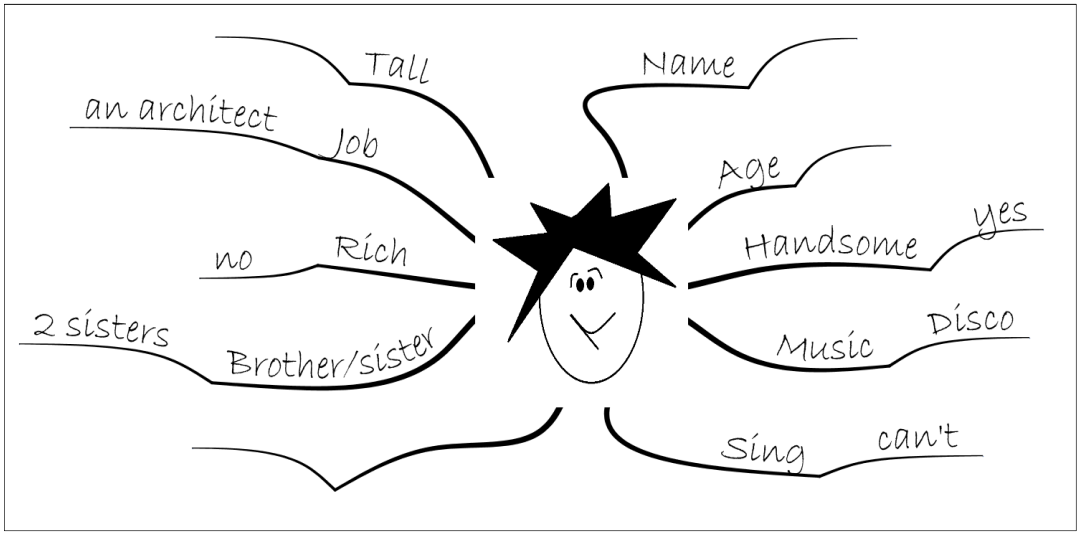
finish the first task, in pairs they swap their maps and ask each other about the words they wrote. Students have to say at least five sentences about each branch they completed. This mind map activity seems to be appropriate not only for visual types of students but also for students with well-developed intrapersonal intelligence as they speak about their own experiences; and it also appeals to the interpersonal type of intelligence since it encourages students to share their experiences and communicate with their peers.

Figure 1-4, Last week

Analogously to this activity other grammatical structures can be practised. To illustrate that; if we change the central idea and instead of *last week* put *this year* and slightly modify also the branches, students will speak about what they have done, learnt or experienced this year, and thus practise the present perfect.

The speaking activity demonstrated in Figure 1-5 is also suitable for learners with high interpersonal type of intelligence. It practises the present simple questions and the verb *to be*. However, this mind map activity is designed to be done with the whole class. The teacher draws a face of a boy (or a girl) on the board; then says to students to imagine their friend having a new boyfriend and that they want to know all about him. Students take turns, the first student asks the question, the second one answers it and asks a new one, etc. The teacher writes the key words about the boy on the board.

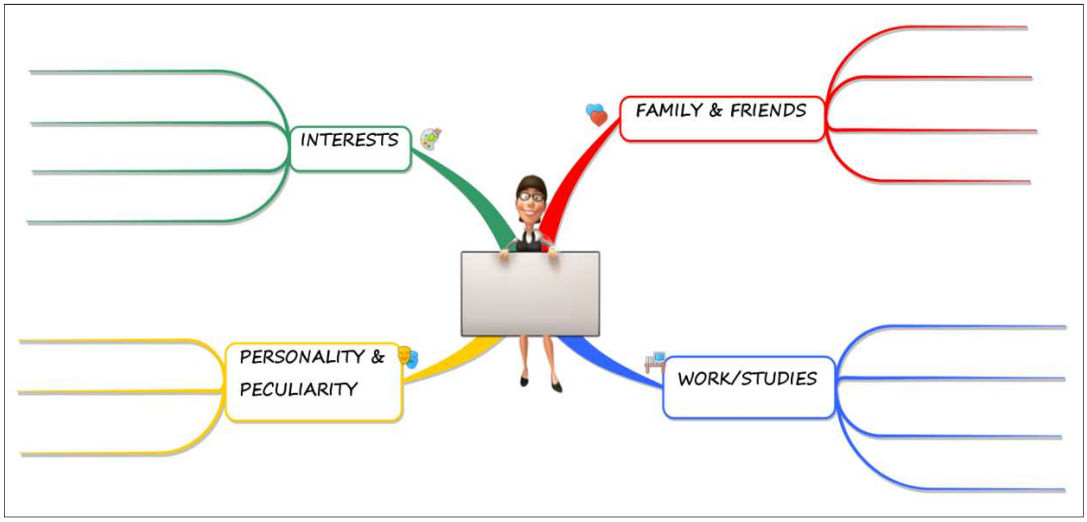
Figure 1-5, A new Boyfriend



There can be a follow-up activity in which students talk in pairs about this boy and add some details, for example, *Tom listens to disco music. He goes dancing every Friday. He has got two sisters, theirs names are Jane and Adel.* Naturally, this activity can be modified as well. For instance, the teacher draws a face of a girl who is preparing for a date. Students discuss what she has already done and has not done yet to get ready for the date; and therefore practise the present perfect. *A new Boyfriend activity* has been done with a post-secondary course. The students seemed to be really interested in the activity; they were focused, and thus much more accurate in making the questions than when they do not concentrate sufficiently.

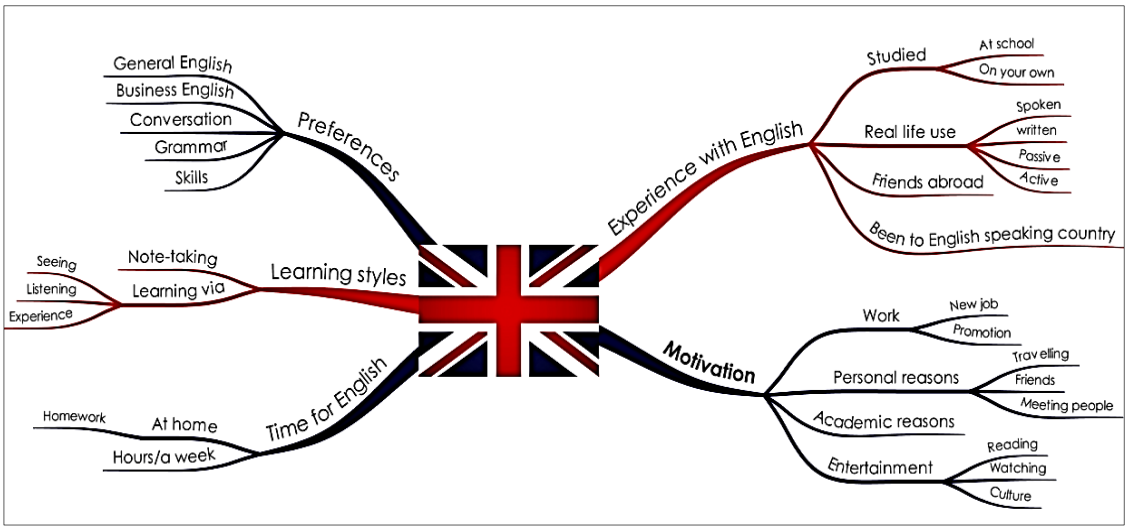
Another speaking activity that also appeals to the intrapersonal type of intelligence is the activity demonstrated in Figure 1-6. Students are given a handout and fills in their personal data that they want to share. Each branch is supposed to be completed with one word. Afterwards they speak about themselves. If they prepare their talk via this kind of mind map, it helps them to structure their speech and deal with the problems when students are stuck and do not know what to say. It can be done at the very first lesson as a part of a needs analysis.

Figure 1-6, Introduce yourself!



After that activity we can discuss with students their motivation to learn English and their preferences, again with a use of a mind map. With students from one-to-one courses a similar mind map can be drawn (See Figure 1-7). The teacher asks questions such as: *How long have you been studying English? Why do you want to learn English?* and fills it in with the students' ideas and requirements. The final map serves for the student as well as for the teacher as a base for their learning and teaching.

Figure 1-7, Need analysis



Furthermore, in a course with more students a motivation brainstorming map can be drawn with the whole class on the board. Students come up with the ideas of motivation for learning English in general or they add their own personal reasons. The following chapter will discuss doing brainstorming via mind maps in more details.

1.2. Vocabulary

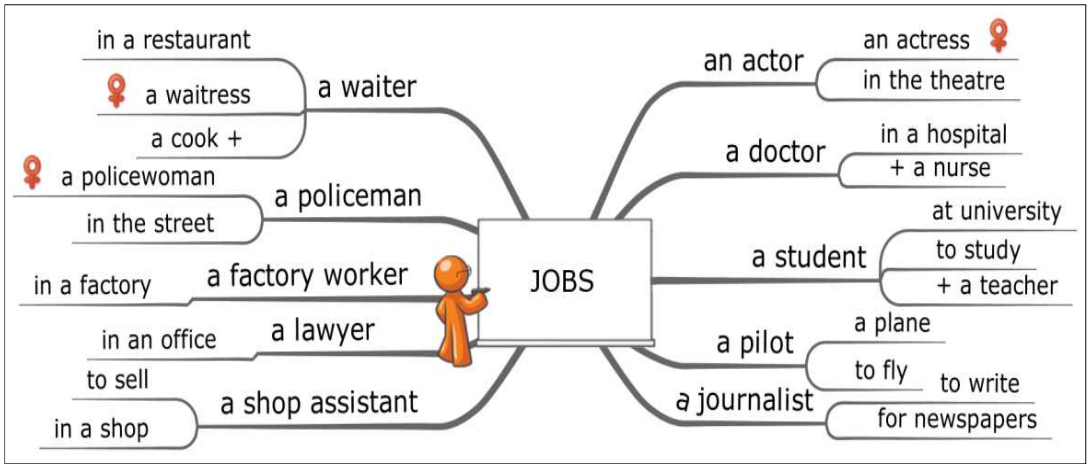
It has been already demonstrated by several examples from English textbooks that using mind maps while practising or presenting vocabulary can be very useful. Via mind maps collocations, sense relations and related words are illustrated very clearly and elegantly. The following examples will illustrate some other possible usage of mind maps in practising or presenting vocabulary.

1.2.1. **Brainstorming**

The brainstorming technique seems to be a very popular way of presenting new vocabulary. In this technique new ideas and language are obtained from the students. The teacher proposes a topic and the students come up with their ideas. Everything is written down on the board by the teacher. In comparison with traditional lists, mind maps add to this technique some extended possibilities to practise. Figure 1-8 shows how to do a proper brainstorming via a mind map on a board.

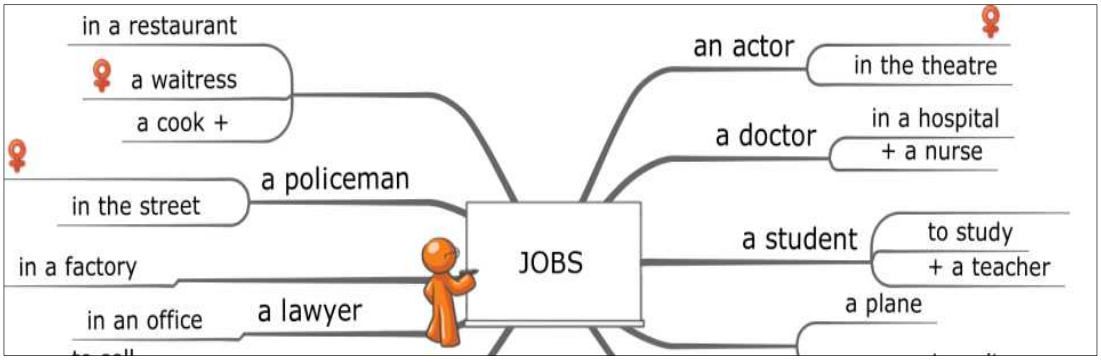
Not only does the teacher elicit from the students the new vocabulary, in our case, individual examples of various occupations, but as the shape of mind maps gives more space to each item, the teacher can add some more commentary, and thus provide better context for the individual words. The questions that can be asked the students are as follows: *Where does a doctor work? What is a woman who does the same profession called?*

Figure 1-8, Jobs



If there is enough space on the board, the mind map can be kept there for the rest of the lesson. At the end of the lesson, the teacher erases some items from the mind map and changes it into a revision activity as we can see in Figure 1-9. Using brainstorming while presenting new vocabulary is from my experience usually appreciated by students as it is very interactive and allow them to contribute to the lesson with their ideas and knowledge.

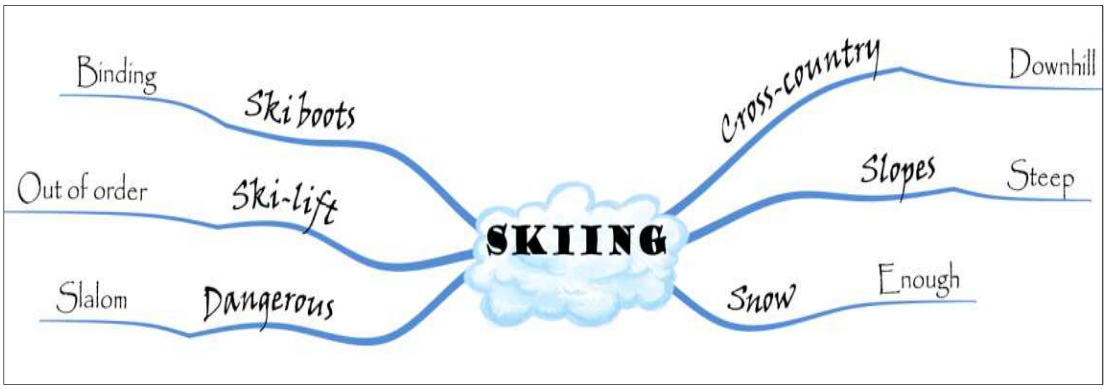
Figure 1-9, Jobs - revision



Furthermore, the brainstorming technique in general can be used for practising speaking skills. For instance, the following activity demonstrated in Figure 1-10 focuses on vocabulary as well as on communication. It is a pair work activity. Each pair is given a piece of paper and their task is to write a central idea, in this case –

skiing – and draw six branches each carrying a word connected to this activity. After they finish that, they swap their maps with another pair and add six more words to the map. Then the last exchange comes and now each pair has a finished mind map. In their pairs they give each other some questions using the given words. For instance: *Do you prefer cross-country skiing or downhill skiing? Do you think that slaloms are dangerous?* The second task is to make a story connected to skiing and try to use all the vocabulary from the map they have got; then they tell the story to the class.

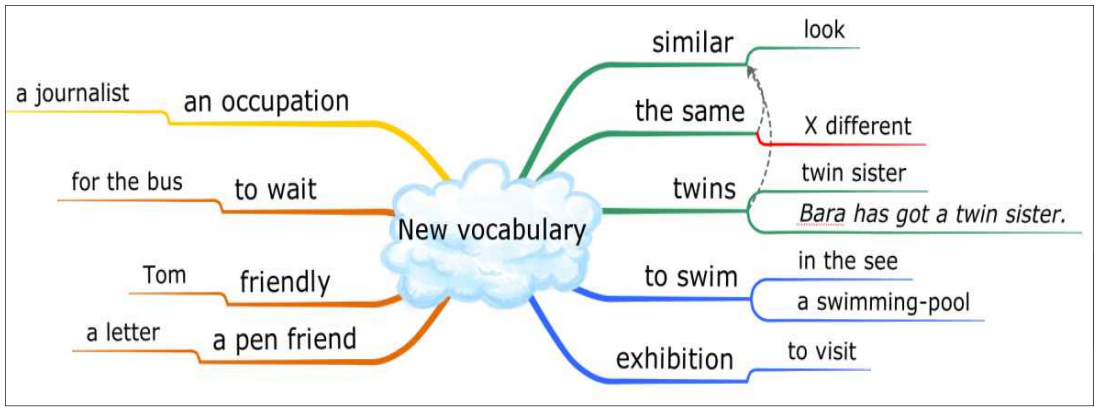
Figure 1-10, Brainstorming in pairs



1.2.2. **New vocabulary of the lesson**

The class comes across some new vocabulary every lesson. The teacher, the textbook, or the students themselves might be the source of that vocabulary. Figure 1-11 demonstrates a situation in an elementary class. During the lesson nine new words emerged: *an occupation, to wait, friendly, a pen friend, similar, the same, twins, to swim, exhibition.* The teacher explained the meaning of the new words and wrote them on the board into a mind map where they were kept until the end of the lesson. The first advantage is that the students can see the words throughout the lesson and they can try to incorporate them into their speech. The second advantage is that the mind map serves as a tool for a revision at the end of the lesson.

Figure 1-11, New vocabulary



There are various possibilities to use the created mind map to practise the new vocabulary. Some of them are demonstrated in Figure 1-11. First of all, the teacher can elicit some grammatical context of the new words and ask, for instance: *Where do you swim?* the teacher adds the answer – *in a swimming-pool* – to the mind map pointing out the double *m* in the word *swimming.* Another grammatical example might be eliciting of the preposition *for* that goes with the verb *to wait.* Secondly, the teacher can ask about some vocabulary context of the words, such as sense relations and collocations: *What is the opposite of "the same"? What verb do you use with "exhibition"? Give me an example of an occupation.* Again, the teacher writes the answers on the board. At the end, the teacher can tell the students to use a word in a sentence to ensure that they use it correctly with the correct collocation and grammar.

Moreover, this mind map can also be used for making personal associations. The teacher asks students to choose some words from the new vocabulary and add their personal associations. For instance, somebody knows a person who is very friendly, so he or she writes down the name of this person next to the word *friendly.* An association to the compound *pen friend* might be for somebody *a letter* for others *an email.*

The shape of the mind map is convenient to practice and learn new vocabulary as it allows to provide the context of the words but also to highlight some connections between them. To demonstrate that, the teacher might say: *They are twins. They*

look similar but they are not the same. All the techniques mentioned encourage understanding and facilitate remembering of the new words. They seem to be suitable mainly for analytical students who enjoy logic and structures, visual types and as they focus on personal associations they appear to be liked by students with well-developed intrapersonal intelligence.

1.2.3. **Activities focused on kinaesthetic learners**

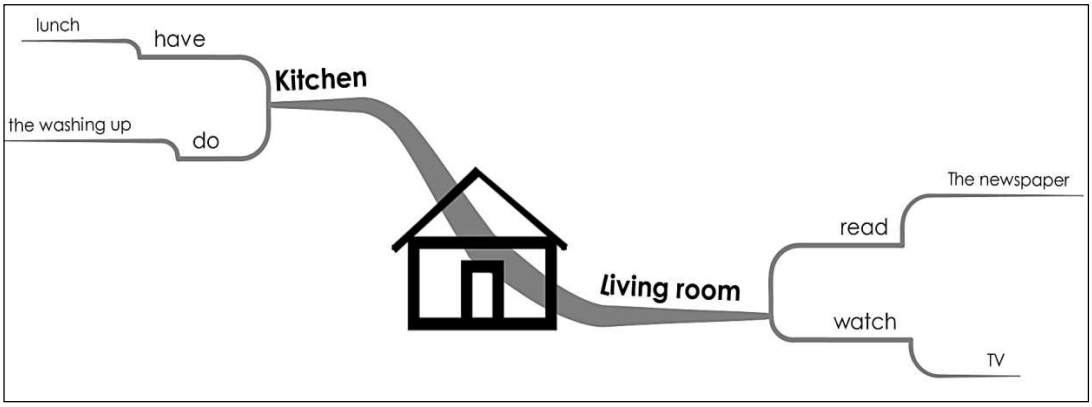
As it has been underlined, kinaesthetic learners prefer learning through experience and they enjoy using body movements as learning tools. However, that might be sometimes time-consuming and might require longer and elaborate preparation for the teacher. Moreover, some people simply would not feel comfortable doing such kind of activities. On the other hand, kinaesthetic activities are usually game like activities, thus very much enjoyed by children. Even though mind maps are considered to be rather visual tools they appear to be suitable for kinaesthetic learners as well. As an illustration of this point, two kinaesthetic activities using mind maps are going to be presented here. Both are vocabulary games, suitable for children.

The first game is very easy to prepare. All the teacher needs is some space in the classroom and cards with vocabulary that the teacher wants to practise with the class. The aim of the game is to create "a human mind map". For a better illustration, an example of practising vocabulary connected to *house* using a human mind map will be presented here.

The teacher puts a picture of a house in the middle of a room on the floor. The house is the base for the activity and at the same time the central idea of the mind map. Each student is given a card with a word and together they are supposed to create the branches of the map. If there are ten students in the class they can get the following words: *living room, watch, TV, read, the newspaper, have, lunch, do, the washing up, kitchen.* It can be done as a competition between two teams, the first team is supposed to create a "living room branch"; the second puts together a "kitchen branch". The team which manages to create the branch first, wins. The student with the word *living room* stands next to the central idea – *the house*, then

grasps the hands of the students with *watch* and *read* cards. The student with the *watch* card grasps the hand of the student with *TV* card, and the same is done by the students who got *read* and *the newspaper* cards. Figure 1-12 demonstrates the final mind map.

Figure 1-12, Human mind map

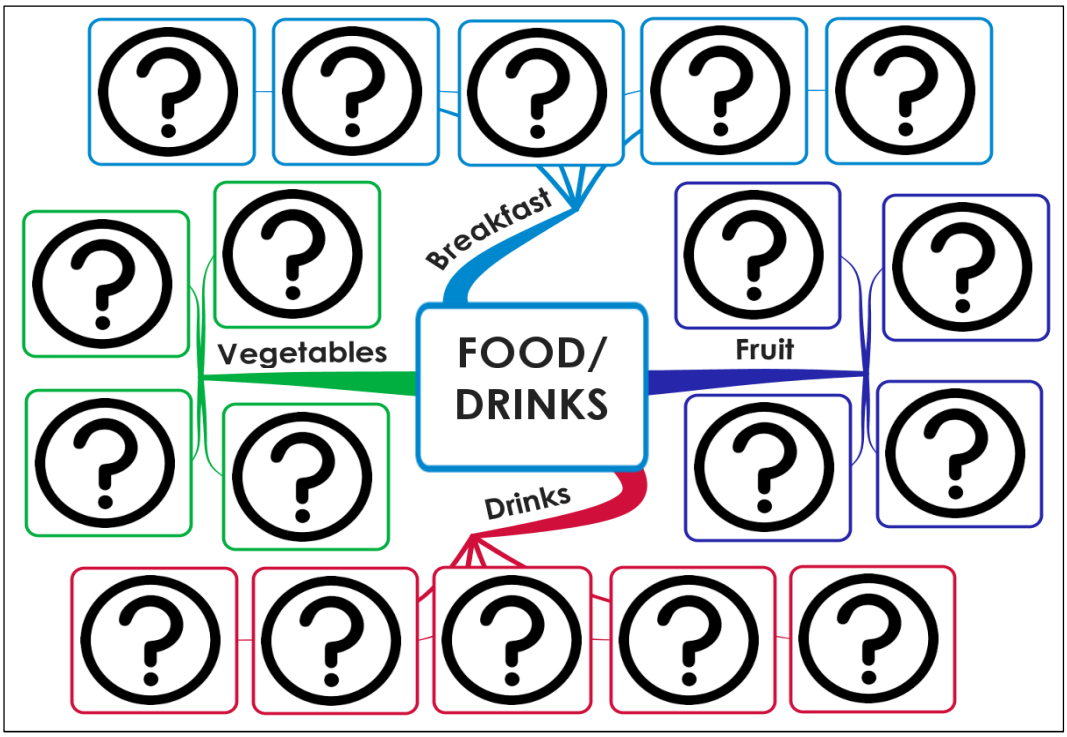


The game can continue with different words and verb phrases for instance: *have breakfast, sit on the sofa, have a shower, look into a mirror, make the bed, sleep in a bed* etc. After finishing the activity the students make sentences about their branch, such as: *We watch TV in the living room. We have lunch in the kitchen.* This part is very important since the students realize the connection between places in a house and the activities we do there. Thus, not only do students practise collocations but they also learn the context the collocations might be used in.

The second kinaesthetic activity is based on the well-known game "Twister" and thus is called *Mind map Twister*. Various vocabularies can be practised by this activity; it however needs some elaborate preparations from the teacher. First of all, the teacher prepares the mat. Figure 1-13 illustrates a mind map twister mat focusing on vocabulary connected with food and drinks. The mat can be sketched, for instance, on a huge sheet of paper. Two students play against each other. They must follow the instructions of the referee. At the beginning they stand on *Food/drinks* square, which is the central idea of the mind map. The referee, either the teacher or a nominated student gives instructions such as: *Left hand, breakfast!*

Right leg, drinks! After putting the correct body part on the correct square, the students must give an example of the square; so if a student has his or her left hand on *Drinks* square, he or she says *Milk, Coffee,* or *Tea.* The student who falls or touches the mat with a different part of the body is out of game, as well as the student who is not able to say a correct example of the particular square.

Figure 1-13, Mind map Twister



There are, by all means, some variations of this game. To illustrate that, the referee instead of saying the name of the branch, he or she can give a particular example, so the players must immediately understand the word and put his or her hand or leg on the correct square. Thus if the referee says: *Right hand, an apple!* the students must place one of their right hands on any of *Fruit* squares.

This activity seems to be suitable not only for kinaesthetic types but also for auditory learners or learners with preferable musical intelligence, as they are exposed to oral orders and they must react to them.

2. MIND MAP BOX

It was shown earlier in the practical part that mind maps could be used for practising various language skills. They however appear to be convenient mostly for learning vocabulary due to their valuable features described in the theoretical part of this thesis. Thus in this chapter I am going to introduce a specific method of learning vocabulary which I have designed and which is based on the mind map technique. It is called *The Mind map box method,* or simply *Mind map box.* In the second part of this chapter the research exploring this method will be presented and analysed. The method is assumed to be suitable for all types of learners since it is based on the knowledge that we have about the function of our brains and about ways how to facilitate our memory and encourage remembering the new words.

2.1. Introducing the method

The method includes several effective techniques of learning vocabulary. First of all, it is based on the word cards method, in which individual words are written down in the way that each new word has its own card. One side of the card is for an English version of the new word and the other side for the translation into students' first language. Students create their own set of cards and they can take it with them wherever they go. Thornbury points out that in comparison with traditional lists of words, using word cards allow studying the words independently on the other unrelated words that we are learning; in other words, it avoids so called serial effect that occurs when we can recall the words precisely in the same order as they are in the list. These kinds of connections are, however, of no avail in a real life situation. In Thornbury's words: "This is not of much use for real life vocabulary use, when words must be recalled independently of the context in which they were learned" (33).

However, the word card method is based solely on translations. It does not seem to be sufficient for an active remembering of new vocabulary. Therefore some more techniques were incorporated into the *Mind map box method.* Another technique that I used is the keyword method. It is a mnemonic device which was already

described in the theoretical part. Using the keyword method is however optional, in the *Mind map box method* there is some space for using any kind of mnemonic device depending on students' preferences. If somebody does not enjoy drawing, he or she can use a mnemonic device based rather on words than pictures or simply write only a personal association with the new word that would be helpful for later recollection of the new word.

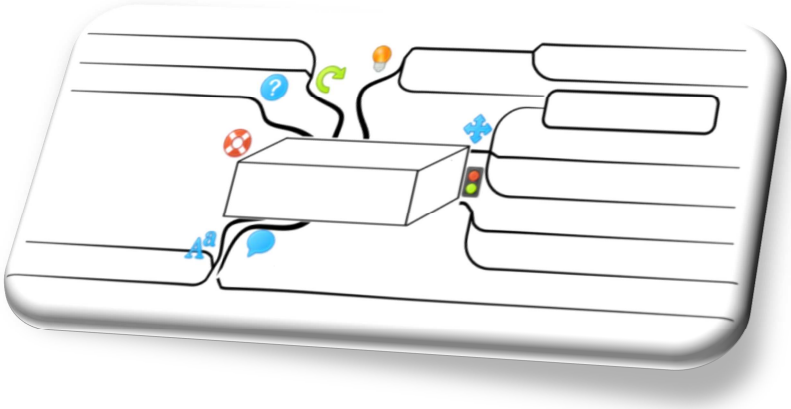
In a great number of textbooks new vocabulary is presented in lexical sets. This new method also uses related words to provide a context for the words which are unknown. However, it has to be noted that learning words that belong to the same lexical sets together is not always recommended by educationalists. To demonstrate that, Thornbury argues that it might be sometimes confusing for students as words with similar meaning tend to interfere with each other. He explains that, for instance if students are supposed to learn all the means of transport at once, it might be a more difficult task than if they were presented individually each in a different context (37). To avoid the interference, the *Mind map box method* tries to show the words in their typical combinations and frequent occurrence. In sum, not only does the method focus on various sense relations such as hyponymy, synonymy, antonymy, but more importantly, it underlines collocations of the unknown words. Moreover, the method works with lexical fields, it means that thematically related words that however do not belong to the same lexical sets, are presented together with the new vocabulary, which helps students to realize some possible situations and context the new words might be used in.

Furthermore, the method concentrates on metacognitive learning; in other words, it shows students some possible ways of learning new vocabulary. The aim of the method is to teach students to be independent on their teachers. Thus an active use of dictionaries is another important feature of the *Mind map box method* as well as teaching register and some grammar terminology and the dictionary language to encourage students using English grammar books and monolingual dictionaries. Teaching how to use dictionaries in vocabulary learning is supported by a large number of educationalists; for instance, Thornbury writes about using dictionaries the following: "Such training also provides them with the means to continue

vocabulary acquisition long after their course of formal study has been completed" (151).

In the *Mind map box method*, all the above mentioned techniques have been put together to create one comprehensible mind map that would help with active remembering of new vocabulary. Figure 2-1 shows a blank card that serves as a template to be completed.

Figure 2-1, A blank card

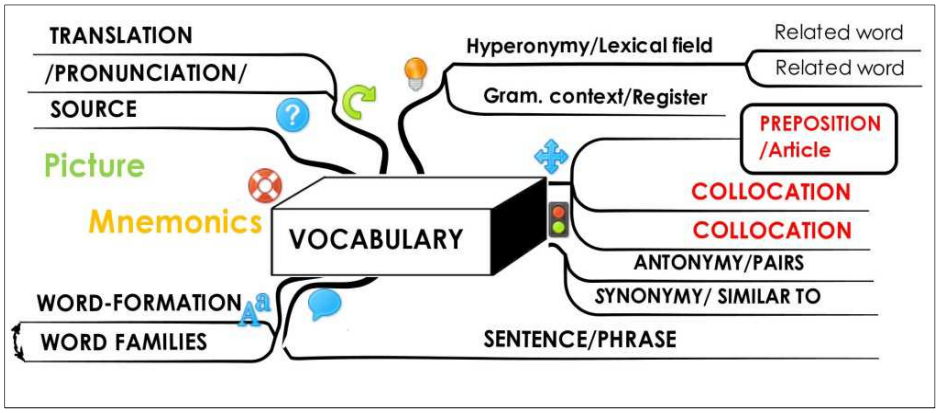


As you can see, only one side of the card is used. In this manner all the important information is available at once. The card includes important features that Buzan underlines in connection with mind maps. First of all, it has a clear logical structure. There is a central idea in the middle of the card and some other branches that stem upwards it. The central idea is supposed to be written into a 3D block to make it more attractive to the brain. Moreover, some symbols and pictures are used to distinguish different functions of the branches. The functions will be presented in the following chapter.

2.2. How to complete a card

It requires some training and teacher's supervision before students adopt the method and learn how to complete cards accurately for their best benefit. Thus at the beginning it is advisable to provide as many examples as possible. Before several examples are presented here, some general information about creating a card should be expressed.

Figure 2-2, How to complete a card



First of all, a new word is written as a central idea of a card. The branches that are connected to the central idea are then divided into two parts. The branches on the left belong to a passive part of learning that concentrates on the recognition of the word and help with the correct recollection; whereas the branches on the right side bear the information that lead to a proper active use of the word. There are five basic pieces of information in the passive part: translation into students' first language, pronunciation, the source of the word, and in the left lower corner there are two branches with words belonging to the same word family or demonstrate the word-formation of the word. On the left side of each template card there is also some space for a mnemonic device. It can be the keyword method or any other mnemonic technique that would help a particular student to remember the word better. As to the right part of the card, first of all, there are branches that carry collocations of the central idea, the prepositions that are used with the words or in case of a noun, definite or indefinite article can be written there. Secondly, branches for sense relations, such as synonymy, antonymy or hyperonymy are provided. The

bulb symbol represents a context in which the new word might be used in the future, thus grammatical context is expressed (word class, regularity, irregularity) or register (formal, informal, slang). Moreover, thematic context is given here to connect the new word into a familiar theme or situation. The last and longest branch should carry a whole sentence or a clause that would contain the new word; for the further practice the unfamiliar word can be deleted or omitted from the sentence.

The above described instructions are nonetheless merely a general model of a properly completed card and cannot be applied in every situation. Each word class requires slightly different treatment and the level of students also limits the information that can be provided. Thus the completion of a card has to be done accordingly. The following samples will demonstrate the differences among the cards of different word classes designed for different levels of students.

2.2.1. **Nouns**

Figure 2-3 and Figure 2-4 illustrate the process of learning two nouns of a different level – *cat* suitable for elementary students, and *revenge* for intermediate students. As you can see translation, pronunciation, the source of the words and mnemonic device are provided in both cards without any differences.

Figure 2-3, A cat

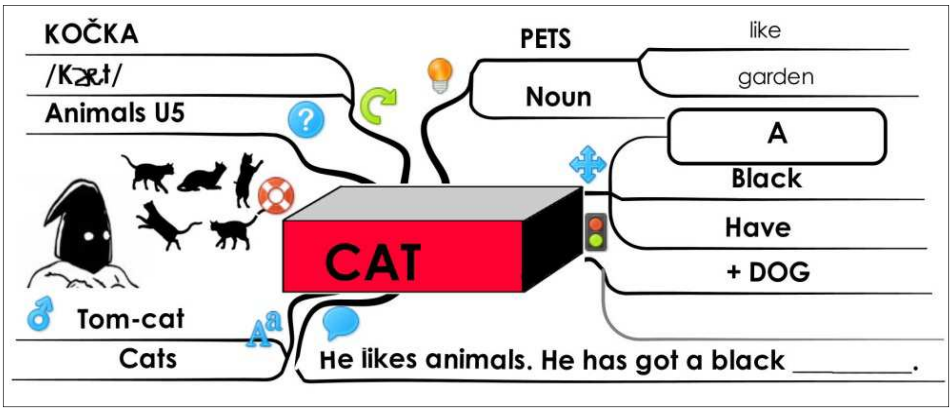
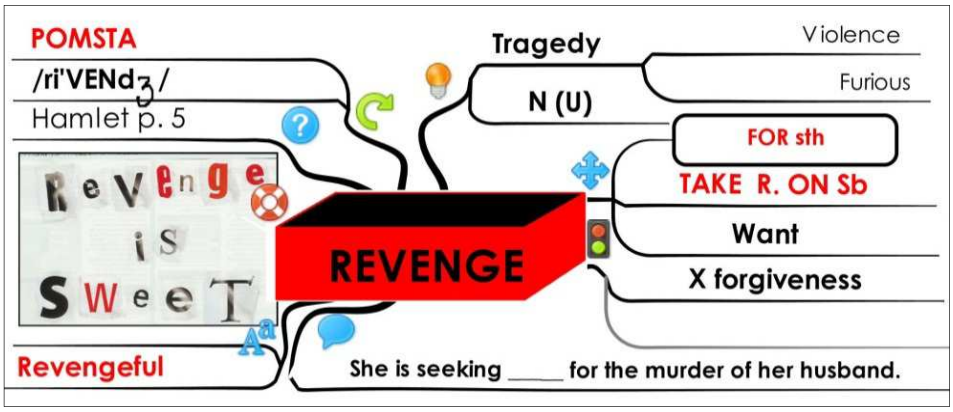


Figure 2-4, Revenge



A slight discrepancy occurs in the lower left branches. Whereas in the *revenge* card different word class is provided – an adjective *revengeful*, in the card designed for elementary students, it shows the plural form of the noun – *cats*, as this is the grammar that the students are learning at that time. For some strong students the derived word *Tom-cat* can be given or the branch can be left blank.

Another difference can be found on the upper right branch. In the *cat* card we can see a hyperonymy *pets* that students already know, and thus it is easy for them to connect the new word *cat* to it. Some other words, such as *like*, *garden* are added to the branch that would better demonstrate the whole situation the new word is going to be used in the future. However, it would be much more difficult and not so effective to seek for a hyperonymy of the word *revenge*, thematic context expressed by the word *tragedy* serves here much better. As to the grammar context branch, in the *cat* card there is simply a piece of information about the word class of the central word, whereas in the *revenge* card some more information can be provided as it is designed for intermediate students, in our case *U* stands for an uncountable noun.

Collocation branches also differ in some respect. In the first case an article *a* is written in the box to point out the grammar elementary students are learning at that moment, the latter sample includes the preposition *for*. As to sense relations, the *revenge* card includes the opposite, whereas the *cat* card shows solely a typical pair *cats and dogs*. The synonymy branch is left blank in both cases. Notice that the

sentence branches also respects the level of grammar of elementary and intermediate students.

2.2.2. **Verbs**

Figure 2-5 and 2-6 show how to complete a verb card. The former is an example of a phrasal verb *set up* designed for intermediate students, the latter a verb with preposition *wait for* learned by elementary students. In comparison with the noun cards, here the keyword method is applied for the recollection of the correct preposition or particle as they are difficult to remember. In both cases, rather than hyperonymy, thematic context or lexical field is provided and some more words added that belong to the same theme as the central word. What else is noteworthy is the fact that the grammar context branch again differs in the amount of information. As an intermediate student understands how the language works much better than an elementary one, the former is provided by a richer grammatical context of the word, in this case the abbreviations stands for *separable phrasal verb*, the student should be of course familiar with the terms.

Figure 2-5, To set up

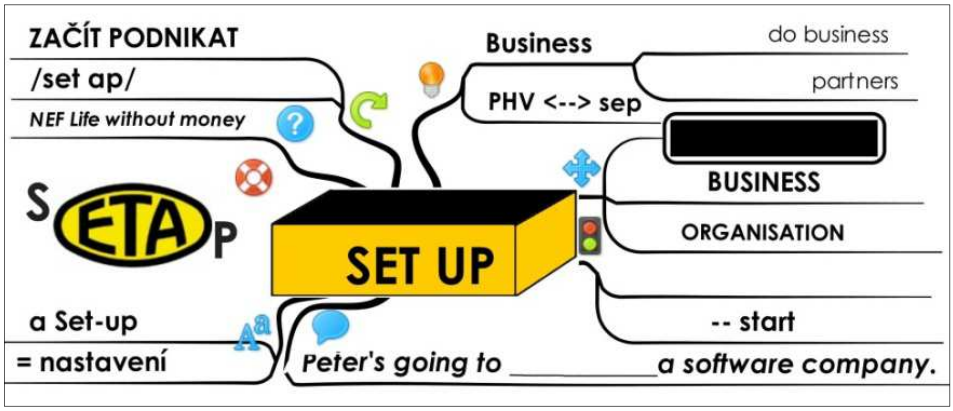
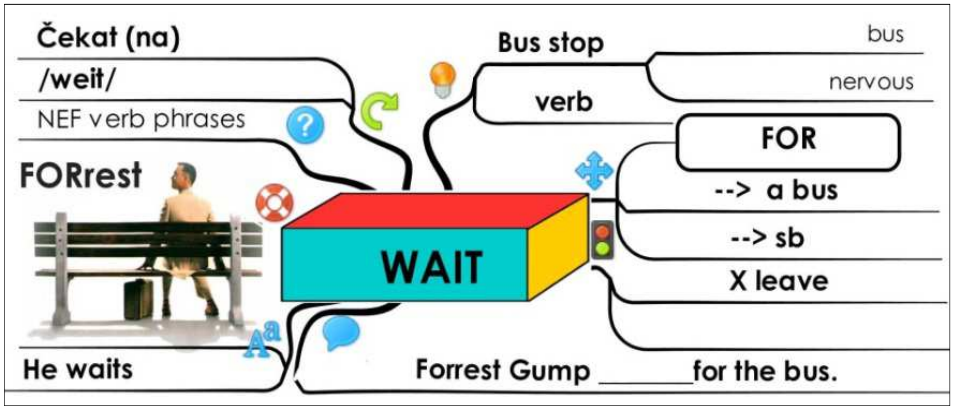


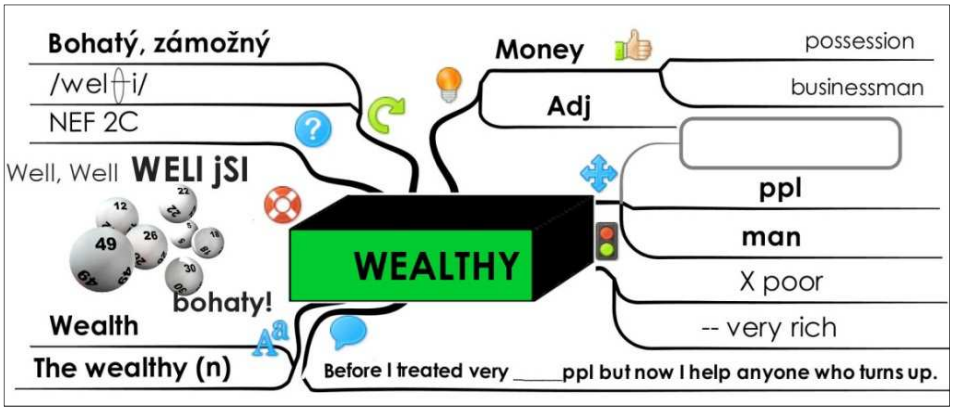
Figure 2-6, To wait for



2.2.3. **Adjectives**

How to complete a card with another part of speech, adjective, is demonstrated in Figure 2-7. Adjectives are very often defined by their opposites and synonyms. This is the reason why the sense relation branches are completed. To avoid interference with the similar and opposite words some context is provided on the right upper branches. To demonstrate that, the word *wealthy* can be set into a thematic context *lots of money*, to the same context the word *businessman* and *possession* can be added that facilitate students' associations.

Figure 2-7, Wealthy



2.3. How to use MMB – Procedure

The greatest advantage of *Mind map box* can be seen in the fact that it includes presentation as well as practice in one card. However, to make this method effective, it is crucial to follow the basic rules. Here are the most important rules given to the students.

Rule number 1: Have 20 new cards at the most in your *carry-on box* and keep the already learnt cards in a *stock box*.

Before you start using the *Mind map box method* get two boxes, one small for everyday practice of the new words and one bigger for keeping all the words you have already learnt. It is very important to discard the old and known vocabulary every week. If you have more than twenty new words to learn and practise it might be discouraging and you might feel overwhelmed by the amount of vocabulary to learn. Thus the motivation to open the box and practise is lowering.

Rule number 2: Take your *carry-on box* wherever you go and practise.

A carry-on box ought to be small enough to fit into your pocket or a handbag. Whenever you have a five minute break, open your box and practise.

Rule number 3: Recycle.

Keep your stock box neat and organised, preferably according to the word classes. From time to time go back to your stock box, take out twenty random cards and test yourself.

Rule number 4: Do not complete the whole card at once.

There is a fundamental principle of learning vocabulary regardless of a method, and it is spacing. Practising ten minutes every day seems to be much more effective than studying many hours only one day a week. This principle is incorporated into the *Mind map box method*. That is the reason why every user of the method should observe the following procedure:

1. During the lesson

Learning with *Mind map box* starts at the lesson. There are branches to be completed with a help of the teacher. The teacher should provide the meaning of the word, pronunciation, grammatical context, possibly register and the basic collocation. The source of the word should be noted down by the student as well to trigger the memory later on and also to have the possibility to go back to the source (e.g. if the source was a text in a textbook) and retrieve the context. At the end of the lesson, the teacher can check the word-formation and other forms of the word. This step can be also done later on at home.

2. At home

Firstly, go through the words and finish the branches from the lesson if necessary, then divide the vocabulary into two groups: words that are easy to remember and difficult. Take the difficult words and add some mnemonic device, fill in word formation and word family branches.

Now you have completed some important information about the word but still not all of them. You understand the meaning, know the form of the word, how to pronounce it and you are able to recognize it in a text. You can check your understanding by testing your memory. Cover only the branch with the Czech translation and check if you understand the meaning. Read the word in the middle, the collocation, and word-formation, and if necessary look at the mnemonic device. Do it with all your words.

Secondly, go back to the source of the word, if possible, and write down the sentence or phrase from the text, leave out the new word. Add the basic collocations and prepositions, if necessary.

Now it is time for testing. Besides testing the meaning, there are some more possibilities to test yourself. First of all, cover everything except the sentence branch and try to complete the word in a correct form. To demonstrate that, see figure 2-6 *Forrest _____ for the bus.* The correct answer is *waits (is waiting,*

depending on the level of students). You can write the correct form in the word family branch before, to have the possibility to check the correct answer. Then you can check if you remember the collocations. Cover all the branches except the central word and try to add the correct collocation or preposition. For example, in case of Figure 2-6 you read the central word *wait* and add preposition *for* and collocation *for a bus.*

The third step can be done another day. This time it is advisable to work with an English-English dictionary. Add some more collocations or prepositions, synonyms and antonyms to your cards. It can be demonstrated on Figure 2-6, in this step the second collocation branch can be filled. You can wait for a bus but also for a person, *somebody (sb).* The opposite of *wait (leave)* can be written down as well at this moment. Do it with all your new words. Now try to check if you remember the correct collocations, then cover everything except synonyms and antonyms branches and guess the central word.

The last step is to complete the lexical field and association branches. It is a very important part of learning when we take the unknown word and put it into a new context. This step is also important for facilitating an active recollection. The branches should be filled with familiar vocabulary. In this manner, we connect the new and old information, and thus encourage remembering. After finishing this step, it is necessary to test. Cover all the branches except the branches that show the context and grammar, and try to recollect the word in the middle. In figure 2-6 we can see *bus stop, bus, nervous* and in the second branch *verb*, so it is clear that we are looking for an activity (verb) that we do at the bus stop, it is connected to a bus and nervous people, the answer is *wait for*. Another task you can do after this step is very similar to the previous but more demanding. Cover the central idea and try to make a definition using the words from the map, use the language you know, for instance, *wait for – it is a verb, an activity that we do when we are at a bus stop and want to go by bus but the bus is not there yet. It is the opposite of leave.*

After finishing all the steps you will have completed the whole mind map. There are, however, some differences among individual words and word classes. Whereas

some of your cards will be completed fully, in some cases several branches will be left blank. Some stages of the procedure can also overlap depending on the type of the word. Before you attend another lesson, do some miscellaneous testing activities mentioned above and discard the words you know well. In the next lesson with the teacher you will do more activities and you will practise the unfamiliar and the most difficult words. Activities that can be done in the class are going to be described in the following chapter.

2.4. How to work with MMB – Activities

The *Mind map box method* also offers some other possible practice during the lesson, especially in one-to-one courses. There is no doubt that the way of taking notes is rather irrelevant if the student does not study his or her notes at home at all. Thus it would appear that whether a student writes down the new vocabulary in traditional lists or he or she creates a mind map, the result is the same. Yet for those types of students who do not pay any attention to their notes the *Mind map box method* seems to be more advantageous since the cards can be used for practice in the lesson and serves not only for students but also for teachers. The teacher can take the cards from the student and test him or her in the lesson. Besides the testing activities, described above (completing of collocation and sentence, making opposites and synonyms or creating different word class of the central word), several speaking activities can be done as well. Lexical field game is one of them. It is based on the context branches of the map. The teacher reads the words from the context branches and asks a student to make a story or sentences including the given words. Another alternative can be making sentences using the collocation branches and different word classes and forms (tenses, singular, plural) of the central word.

The second type of activities uses two different cards of the box and put them together. It can be done through a domino or a pelmanism game. For a domino game you need ten cards with the words you want to practise. One card is chosen and put aside. The aim is to get rid of all the cards. The student adds one of ten cards to the chosen one and makes a sentence or sentences including both words. Then he or she does that with the rest of the words, card by card, and creates a chain

of the cards like in the classic domino game, so every other new card has to be added only to the card which is at the end of the chain (left or right). In a pelmanism game the situation is similar. However, this time all the cards are on the table face down, then the student picks two cards and if he or she is able to put them in the same sentence or context he or she wins the cards.

Other activities are based on associations. The first activity is very simple. The teacher takes student's cards and reads the central word; the students then react with their association, the first word that comes to their minds. A slightly more difficult activity can be done with more advanced student, in this case the teacher reads the branch with the sentence and the student reacts with another sentence that could logically follow to make the story continue.

As the vocabulary cards are separated from the other students' notes (e.g. grammar) it is also much easier to revise the already learnt vocabulary. For instance, the words can be recycled by a writing task that can be done as homework. The student is asked to pick six random words (cards) from his or her stock box and write a one-hundred-word story using all of them. As the cards already include the correct collocation, forms and typical context either grammatical or lexical of the central word, it helps students to learn to use the words correctly and to avoid negative influence of their first language.

3. APPLICATION OF MMB – OBSERVATIONS

I have been using *Mind map box* with some of my students from one-to-one courses. In this chapter, some of my observations will be offered. First of all, the four chosen students and their specific characteristics will be presented. Secondly, various students' samples of vocabulary cards will be compared to show the differences among individual students and the flexibility of *Mind map box* that can be adjusted according to the personal needs. Lastly, students' reactions and commentary to the method will be introduced.

3.1. Different students′ needs

All of my students described below are attending one-to-one courses. They are young adults in their late twenties, two women and two men with different levels of English.

The first student (S1) is a woman aged 27. She is a beginner and she has been using the method for three months. The main reason we started using *Mind map box* was her dyslexia and the difficulties with learning languages in general. Owing to her disorder she tended to worry about the new vocabulary and was rather anxious about mistakes. The method was supposed to make learning new vocabulary easier for her and thus build up her self-confidence in learning English. Moreover, as she admitted at the beginning of the course, she tended to lose motivation and she usually gave up each language course after a few lessons. Therefore, the other aim was to help her with her motivation. This student has been using the method from the very beginning; therefore it has been proven that the method is suitable even for the students with no knowledge of English language. She seems to be enjoying using of the cards. I could observe that after some time she got over her shyness while speaking. She learned to connect the new words to English songs as she had already known the lyrics but not their meaning. That mnemonic device facilitated her recollection and quick reactions. Thanks to the collocation and word-families branches of the cards we could practise grammar while learning vocabulary during the lessons. Moreover, as she learns the words in whole chunks (wear glasses, wait

for, live in a flat) it helps her with making sentences. In comparison to other beginners who do not use the method, I have noticed less strong influence of Czech language while using prepositions and other collocations.

The second student (S2) is also a 27-year-old woman, this time of a pre-intermediate level. She has been using the method for four months now. I had been teaching her for a year before she started with Mind map box, therefore I can draw an accurate comparison. I suggested starting with MMB when I noticed the ineffectiveness of her notes. She used to write down the new vocabulary into the same notebook that she used for her grammar notes and she recorded it in traditional English-Czech lists. However, I noticed that she kept writing down the same words again and again. Moreover, I observed some interference among the unrelated words. She had also some difficulties with word-formation and she used to often confuse different word classes. Another reason for trying out MMB was the necessity of enriching her vocabulary while preparing for the PET Cambridge exam. Thus the aim of using MMB was mainly to avoid wrong associations and interference and replace them by the correct ones, draw the differences between word classes and extend her vocabulary. Since she started to use *Mind map box*, her ability to choose the right word class and collocation has increased. The amount of the new words has advanced as well since now she learns the word just once.

The third student (S3) is a 28-year-old man who has been using the method for over a year now. His level of English is pre-intermediate. I did not notice any special problems with remembering vocabulary. However, as his education was always focused rather on technical studies he had never been taught any language properly, and thus he had not adopted any good strategy to learn languages. The task for MMB in his case was to overcome his occasional hesitation and lack of fluency most probably caused by his technical way of thinking. Furthermore, the aim was to help the student to develop metacognitive skills and adopt effective strategies to learn vocabulary. This student has been using MMB the longest, therefore the effect has been most noticeable. The most significant influence I can see is when we come across a new word he always automatically asks about its collocation. Apparently he now prefers learning in chunks. He has started to be more independent in

learning vocabulary. He observes and learns new vocabulary from some other sources beside the textbook, such as articles, simplified books, or people and announcements he encounters during the day, and he remembers the typical context, either grammatical or situational, of the new words. As it will be shown in one of the following chapters, he has even designed his own cards observing the *Mind map box* rules that suit him best.

The last student (S4) is a man aged 29 of an intermediate level who has been learning through MMB for five months. He is rather communicative and a very imaginative and creative type of student. He also enjoys reading simplified English books. I recommended the method to him to facilitate remembering vocabulary from his reading and support the change of mere passive knowledge of those words into an active use. He was also interested in alternative and effective methods of learning vocabulary. As he tends to think in pictures, there were no doubts that the method would suit him. Moreover, at this level, students learn more specific words and the vocabulary becomes much richer; thus working with synonyms and different collocations is crucial. Different types of phrasal verbs, register and colloquial expressions are introduced at this level, so the theoretical knowledge of the language is much detailed. MMB is supposed to make the orientation in metalanguage and terminology easier. It turned out that this type of student, thanks to his creativity and visual preferences, was the most suitable user of the method. He seems to be very motivated to learn vocabulary now. I have also noticed an improvement in an active use of the new words while speaking, and in particular in writing activities he very often incorporates the new vocabulary. Furthermore, using mnemonic device greatly intensified his recollection of learnt words.

3.2. Different mind maps

In this chapter some samples of my students' cards will be provided. Different approaches to the method will be apparent from the examples. The dissimilarities are caused different levels of students, but more importantly, by their different learning styles and personalities. We usually come across about ten new words each lesson with our students. I have been using the method with my students for some

time, so I had a wide range of cards to compare. However, I picked four cards from each student to demonstrate here their most typical features.

First of all, figure 3-1 illustrates the cards of S1, a beginner student. As you can see, almost all branches in the cards are filled. She adds the information to the cards in successive steps, which is also a good practice for her. This student usually uses some pictures to accompany the information about the word. At her level, a great number of new words is concrete and easier to picture than at higher level when more abstract words are learnt. She also uses some mnemonic device for words that she does not remember well; for instance, she added *Men in trees*, which is a title of a drama series she watches, to a *tree* card. We also usually fill together the word-formation and word families branches, so she can learn more words at once without any problems, e.g. *glasses* and *sunglasses*, *heart* and *sweetheart* – this word she already knows from a song, it helps her with pronunciation of the word *heart* (especially difficult for the Czech learners). Moreover, some context branches (or hyperonymy) are completed as well, such as *body parts* in the *heart* card, or *nature* in the *tree* card. If a preposition is required, she fills it as well to be sure how to use the word in a sentence, e.g. *I go on a date.* The cards in Figure 3-1 are her earlier work, when she was still learning to complete the cards. This is the reason why some pieces of information are not on the correct branch.

Figure 3-1, S1 Beginner student

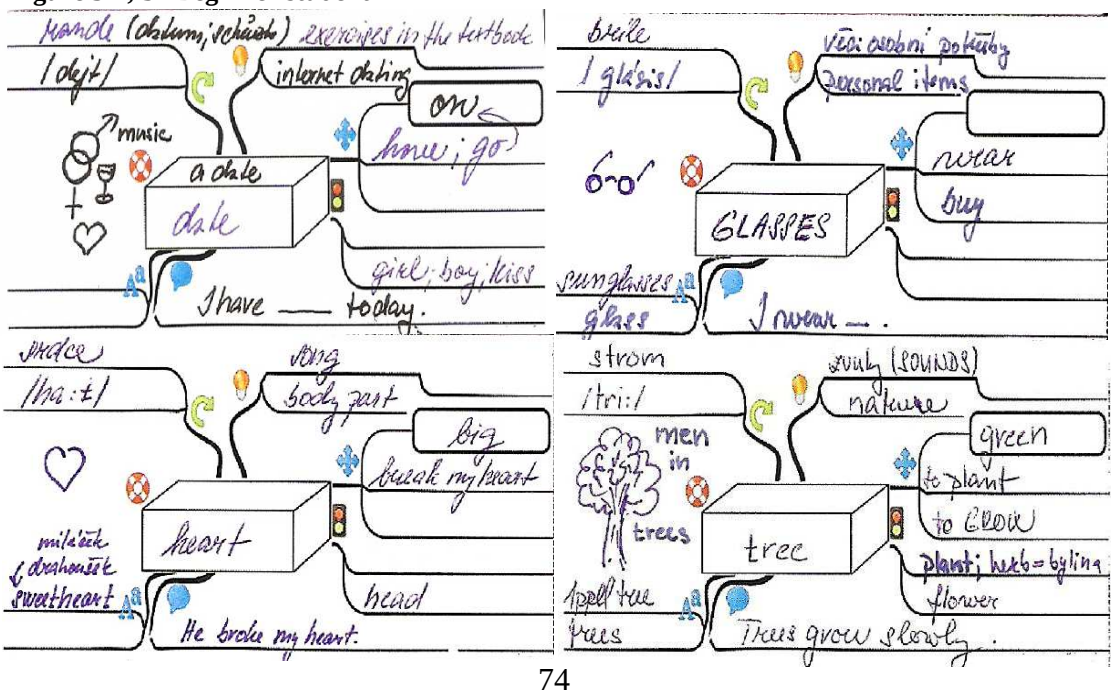


Figure 3-2 illustrates the style of Student 2. At the first glance you can see that the student uses a pencil to complete the cards, which is quite practical when she needs to make some corrections; on the other hand, it makes the card less contrasting. As it can be seen, she usually adds a picture to the words. However, she does not use the keyword method or any other mnemonic device; she rather uses illustrations to demonstrate the meaning. It can be also noticed that in all four examples the branches for sentences are filled. In her case, the sentences does not serve for practice (as she does not leave out the central word) but as a demonstration of a grammatical and lexical context of the word. In this manner she can see the correct form of the word in the sentence, which is easier for her and it avoids confusion. The student also uses branches for hyperonymy, if it is possible. To demonstrate that, she wrote *Mammals* on a hyperonymy branch in the *hedgehog* card. This kind of categorization helps to connect the old and the new piece of information, and therefore encourage the recollection of the word. Moreover, this student always fills in the word-formation branches so that she can see the differences between the word classes and learn them together with the new word. It teaches her to remember typical suffices of particular word classes.

Figure 3-2, S2 Pre-intermediate student

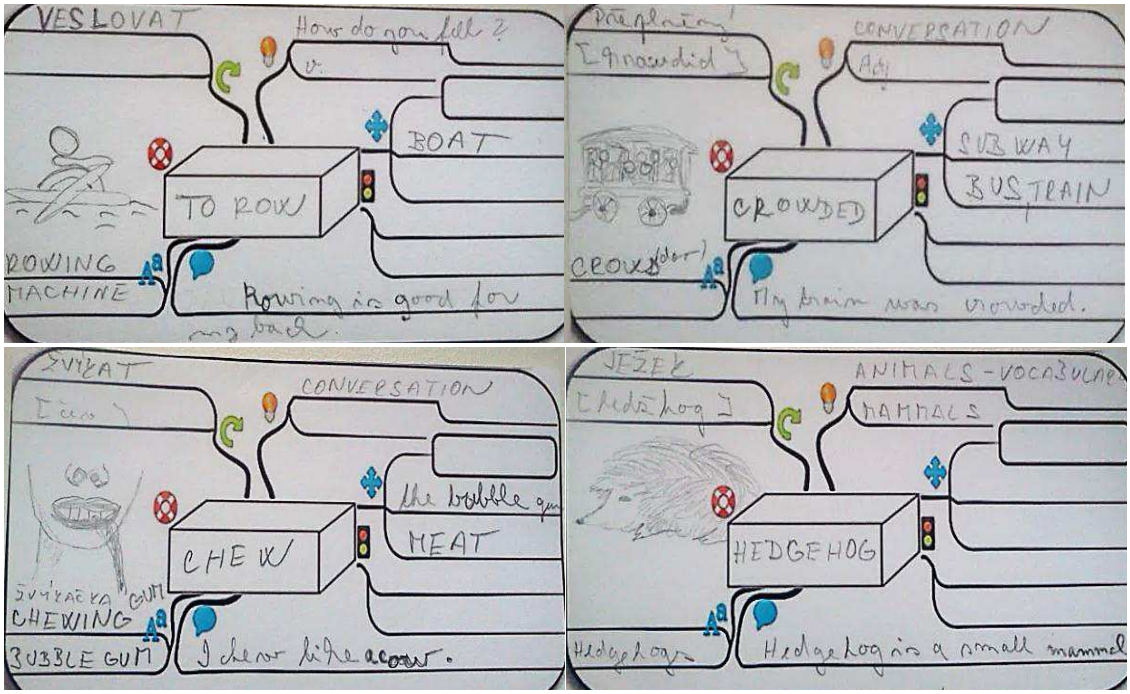
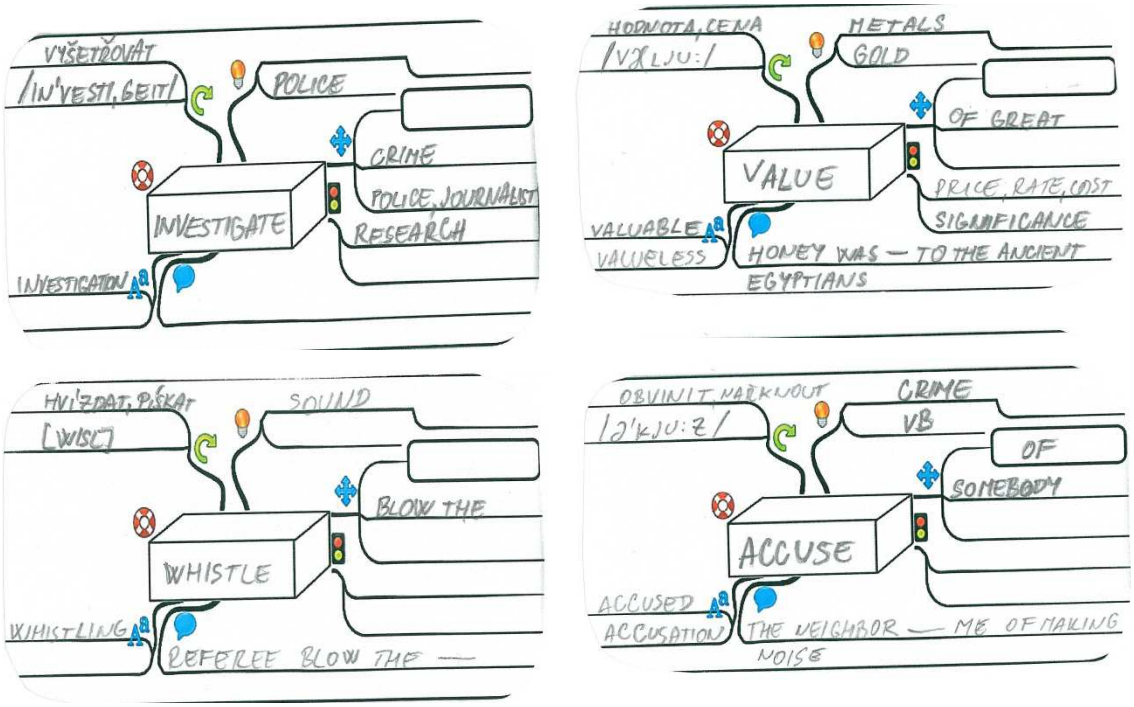


Figure 3-3 shows the cards from Student 3. His style of completing is very simple. He uses just a pencil and does not need any special effects such as colours, pictures or other symbols. The mnemonic device is missing as well. As you can see, some branches are left blank, for instance some context branches or a sentence branch. However, the most important information, such as collocation or word formation is added almost in all cases. To demonstrate that, you can see in the *investigate* card the following collocations: *investigate-crime*, but also *police-investigate*, *journalist-investigate.*

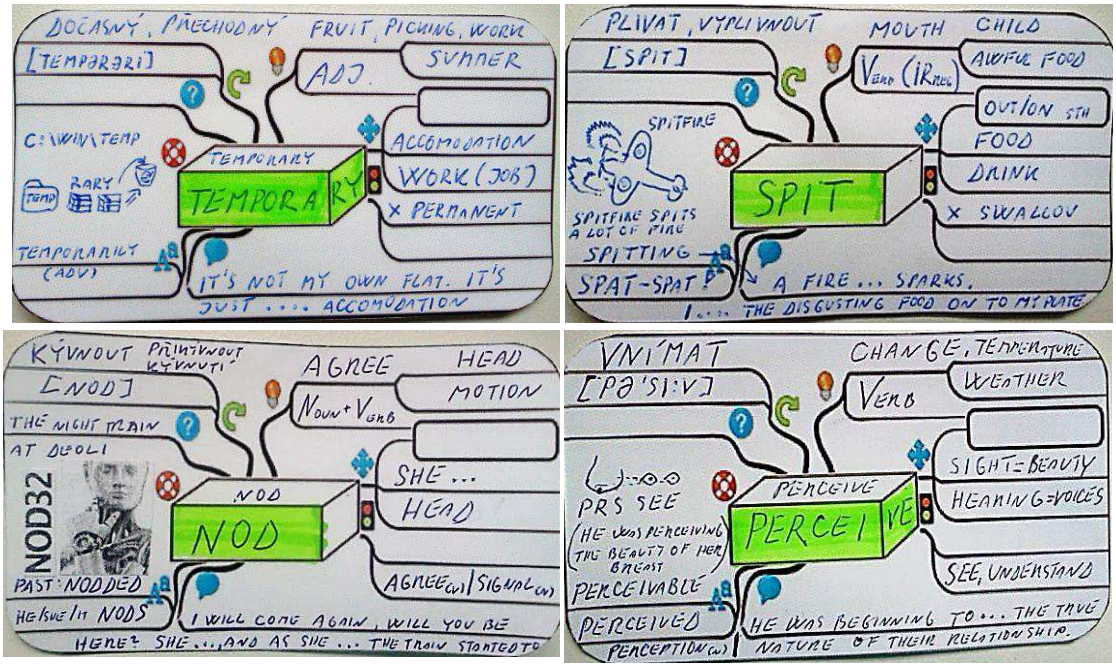
Figure 3-3, S3 Pre-intermediate student



In comparison with the former student, student 4' cards are almost completely filled. As you can see in Figure 3-4, he always highlights the central word, uses pictures and his personal associations. This student is a typical visual learning type, and that is the reason why the keyword method works for him. He uses his personal associations to create an illustrative connection to something familiar. Moreover, proper work with a dictionary is apparent here. The dictionary helps him to add more collocations, for instance *temporary-accommodation*, but also *temporary-job.* The pronunciation branches are completed as well. As you can see, he is learning to

use the International Phonetic Alphabet, which appears to be very useful since it is used in most monolingual dictionaries. He also uses branches of mind maps to point out some irregularities, grammar context and word-formation. For instance, in case of the *spit* card, he marked the verb as irregular and added the past form and past participle.

Figure 3-4, S4 Intermediate student



3.3. Different opinions

From the above described observations it can be concluded that the method is suitable for various types of students with different needs and that some positive results were achieved. Nonetheless, the mere observations are not sufficient for answering the question, whether the students consider the method convenient and helpful, and thus whether they will adopt it and use without teacher's support and supervision. In other words, the inner insight was necessary. This is the reason why a short questionnaire was designed and given to the students to complete. The main points of students' ideas will be introduced here (Students' original answers in their first language can be found in *Appendix III)*. The questionnaire consists of eleven

questions concerning the time dedicated to learning, the type of completing of the cards and self-testing, evaluation of activities done during the lesson, and the method in general.

1. **How much time do you spend on MMB at home? Do you study while commuting?**

The method was designed to make learning more accessible. A carry-on box with the brand new words should be taken everywhere and used whenever the student finds a few free minutes to practise. Ideal opportunity is while commuting, travelling, waiting at the doctor's, etc. Based on the students' answers, it can be assumed that students are aware of this beneficial feature of *Mind map box* and use it quite often. Moreover, it seems that students are used to practising the words regularly. S1 practises 10 minutes on a daily basis, she also learns while travelling, long or short distances, and if she travels with friends they use the cards to test her on the new words. S2 also practises regularly, 15 minutes a day, as she is commuting to work she learns on a train and underground. S3 spends about one hour a week practising and creating cards at home. Then he mainly practises on the way to work. S4 dedicates the most time from all the students. He spends about two hours every couple of days by creating cards. He goes by car to work so he practises exclusively at home.

2. **Do you always fill in all the branches from the card? Which branches do you always complete and which are usually blank? Which branches are in your opinion of no use?**

MMB includes branches that are obligatory, which are considered crucial for the method, and are highly encouraged to complete, such as collocations/preposition, word-formation, pronunciation, translation, and in some case grammatical context/register; and optional branches that are rather personal and help with recollection, such as mnemonic device/picture, sense relation branches, context and sentence. The question was asked to check if the students feel the importance of obligatory branches and if they appreciate the possibility of completing optional branches.

It was proved that the students complete the obligatory branches almost in all cases. S1 tries to fill in all the branches step by step, mainly for those words that she needs to practise more. She considers completing a card as a kind of exercise which helps her to remember the new words better. S2, besides the pronunciation, word-formation and other obligatory branches, she mentioned also the source branch that she usually fills in as well. S4 points out that he usually leaves blank those branches that are not necessary or impossible to complete, in connection with a particular word class or word (for instance, if there is no antonymy for a particular word). Moreover, he adds that he usually skips the source branch as he very often encounters a new word while creating a card for another one, so there is no specific context that would trigger his memory. There were no mentions about useless branches in the students' answers. The students consider all branches useful and important. S3 states that the reason for leaving some branches blank is lack of time.

3. **Do you use any mnemonic device? Which one? If not, why?**

Three students (S1, S2, S4) agree on using mnemonic device or a picture for more complicated words or words difficult to remember. S1 says that she sometimes adds a picture or some mnemonics if she finds out that even after some practice she is not able to remember the word. S4 uses the keyword method. As he explains, sometimes the picture represents a *mini-story* that includes some triggers for his memory. As to S3, although he considers the mnemonic device good to use, he does not use any. He mentions not enough space in a card and his lack of fantasy as the main reasons for not using it.

4. **What activities do you use to practise and test vocabulary from the card?**

The aim of this question was to reveal which techniques the students have adopted, and which they are used to besides the activities we do together in the lesson. It turned out that the students differ slightly in the style of practising and testing. S1 mainly does translations into English, when she covers all the branches except the Czech translation and tries to recollect the English word and its collocations, then she recollects or makes similar sentences to those that she has on the sentence

branches. On the contrary, S2 uses mostly the English-Czech translations. She reads all the branches except the Czech branch and tries to recollect the meaning. S3 also uses mainly simpler testing. He usually does the classical Czech-English translations, and he uses the other branches to help him with the recollection. S4 besides the translations does some more variations, such as testing the collocations, reading (memorising) the whole mind map and generating new sentences.

5. **Which activities that we do in the lesson do you consider most effective, most entertaining, most demanding?**

From the students' answers and also from my observations I can conclude that domino and pelmanism seem to be the most entertaining activities, whereas 100-word-story the most demanding and effective, however not so popular.

6. **Why did you decide to use the method? What has the method helped you with?**

This question was designed to prove if my expectations met with the expectations of my students and if any of them were fulfilled. The results appeared to be very positive. The task for S1 was to help her to overcome her difficulties with learning vocabulary caused by her dyslexia and increase the motivation to learn. She herself says that she uses the method because it is comfortable; the cards are space-saving and can be used wherever. She considers the method fun and motivating, as it helps her to dedicate more time to English. It's easier for her to do a ten minute practice every day with the cards than study something from the book. She usually did not open the textbook at all in the past, but opening the box and practising just a few minutes every is not seen as a problem.

The expectations for S2 were to help her with the difficulties with remembering new words and enriching her vocabulary. She says that she wanted to try a new method which would help her to remember more complicated words, as she had always had problems with memorising words from the traditional English-Czech lists. She thinks that learning with MMB is fun and effective. Moreover, she admits that it helped her to transfer the new words into active vocabulary.

One of the aims of MMB in case of S3 was to show him some alternative strategies to learn. What he says is that the method helped him to understand how to learn vocabulary properly. Thus it can be assumed that this aim was fulfilled. As to S4, in his answer he emphasises the creativity of the method in the comparison with boring traditional memorising. Moreover, as he claims, it helped him with enriching vocabulary and dedicating more time to English.

7. **Do you think you remember new vocabulary better than before you started using MMB?**

As S1 points out she feels that she can remember the new words much better since together with the word she also picks up the collocations, and therefore she knows how to use it in a sentence. Moreover, it helps her with the recollection. She adds that in the beginning she did not believe in it much but now even people around her noticed that the method had helped her.

The answer of S2 was also positive. She says she can remember the words better and she recollects the collocation and a sentence she has in the card. S3 admits that before he used just traditional lists for learning, which he now finds insufficient. S4 considers his learning and remembering vocabulary more comprehensive than before.

8. **Do you feel more motivated to learn vocabulary while using the method?**

S1, S2, as well as S4 feel more motivated to learn vocabulary than before. S4 adds that the reason is the creativity of the method. S3 considers the method more pleasant rather than motivating.

9. **Do you work with a dictionary?**

S2, S3 and S4 admit using the monolingual (English-English) dictionary, more often than before. They consider it necessary for proper completing of cards. S1 says she cannot compare as she is a beginner and she is only learning to use dictionary.

10. What are the advantages and disadvantages of MMB?

The advantages of MMB mentioned by the students mostly concern the comprehensiveness of learning vocabulary. S3 as well as S4 appreciate that they have more information about the word together at one place. S1 likes the variety of testing and practising activities that can be done with the cards, and that she does not have to be forced or persuaded by anybody to learn, the method itself is motivating for her. S2 also points out the various possibilities to practice. She also considers the method fun way of learning, and she appreciates that it supports active usage of new words. S3 underlines the advantage of learning and consolidating new vocabulary while completing cards. S4 believes that he can learn greater amount of vocabulary with this method, as he also comes across some new words while making a card.

As to the disadvantages, for S1 the cards seem to be too small for so many branches. She would rather appreciate more space for the words. From time to time she also has problems with identifying which branch should she use for which piece of information. S2 as well as S4 consider the method time-consuming, whereas S3 sees the biggest disadvantage in manipulating with cards; for instance, on the public transport, where there is a possible danger of dropping them and losing them.

11. How would you change the design of the card to suit you better?

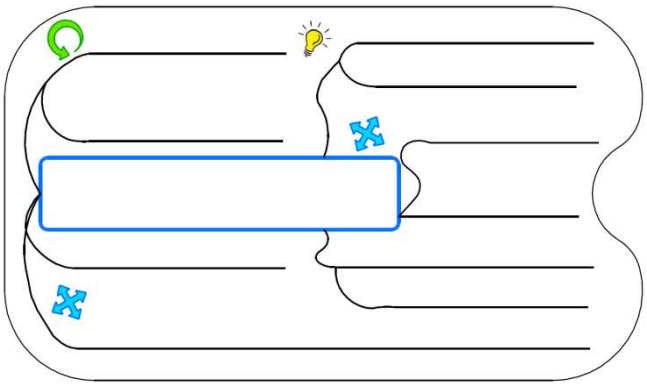
Learning to complete the cards properly and using it regularly, those are only the initial aims of the method. However, the secondary focus of MMB is on helping students to develop their metacognitive skills. One possible way is to let them do things their own way and let them experiment. This is the reason why this question is more important for students themselves than for my research. It was supposed to make them think what they would change to fit the method to their personal needs.

In general, students seem quite satisfied with the cards. Whereas S2 did not suggest any improvements and said it had everything she needed for learning, S1 made some comments on the design of the cards. She would make the cards bigger, instead of a 3D block in the middle she would prefer only a simple box, and she

would add different symbols to the branches that she could understand better. An interesting comment was made by S3 and S4 who both suggested using the other side of a card. S3 thinks he could use the space of the other side for a mnemonic device.

S3 has been using the method for the longest, and thus the question of adjusting the cards to his needs has been already discussed. After he learnt how to use the original cards properly, he developed his own design of cards following the basic rules, such as keeping the obligatory branches and the left-right division. The rest (size, design, length, colours, symbols) can be changed according to individual preferences. Figure 3-5 demonstrates his card template that he has been using for several months.

Figure 3-5, Student's original design of MMB



As you can see there is no space for a picture or a mnemonic device, the central frame is much wider and there are fewer branches (there is no source branch, just one branch for word-formation, and one for context instead of three and two for collocations/preposition instead of three). He also changed the shape of cards for better manipulation.

3.4. Conclusions & results

From my observations it is apparent that the method can be used for various tasks related to learning vocabulary. The observations have proved that students do have various expectations and preferences. Different students can enjoy different benefits of *Mind map box*. It has been shown that the method supports regularity in learning and practising. Thanks to MMB most of my students (not only the four mentioned) practise new vocabulary more regularly, as the cards are ready to use whenever and wherever. Some students appreciate its effectiveness and comprehensiveness in learning vocabulary. It seems that the wide variety of practice and self-testing that MMB offers together with its creativity make the method motivating and fun for students. Although they consider the method slightly more time-consuming they are still willing to spend the time on it.

A significant conclusion which can be drawn is that in general the students feel satisfied with the method and will most probably continue using it after we finish our course. It seems that they have learned to use a monolingual dictionary to look up synonymy, collocations and other important information about the words. Moreover, they have discovered the possible advantage of mnemonic devices. In this manner, students can adopt important skills for learning vocabulary.

Some further research should be conducted in the future to confirm some other possible utilization of MMB. The observations above have been made only in one-to-one courses with students of similar age. However, I believe that children, teenagers, and also older students could appreciate the method as well.

4. PROS AND CONS OF USING MIND MAPS IN ENGLISH LANGUAGE TEACHING

It has been shown in the theoretical as well as in the practical part of the thesis that using mind maps in English language teaching can serve as an effective and entertaining alternative to traditional methods. It helps us to organise our thoughts and new pieces of information into one comprehensible unit. And thus it teaches to focus on the entirety, context and complexity of relations, as well as on the details. Also my students have mentioned in their commentaries the advantage of whole, comprehensive learning in connection with mind maps.

Thanks to their attractive design, mind maps seem to be advantageous mainly for visual types of learners; however, as chapter 6 described, not only for them. Appealing to various learning styles of students is another significant advantage of this technique. Regardless of learning preferences they stimulate creativity and make the learning process more engaging. Each map is an original piece of art which expresses individuality of the author. Moreover, various colours, symbols, pictures and lines help to alert our brain and it gets ready much more easily for something new, gets prepared for learning.

At the beginning of the thesis four important features of mind maps were introduced. Besides already mentioned advantages above such as structure, creativity and personalisation there is one particularly significant for English language learning and teaching, and that is motivation. It was shown, on the example of *Mind map box* that students consider the method pleasant, entertaining and more interesting. Therefore, they feel more motivated to learn. As a result, they do not mind spending more time on learning English.

Not only do mind maps make learning fun but they also support the development of metacognitive skills, which is nowadays particularly emphasised. Furthermore, competence to learn is one of the key competences expressed in the Framework Education Programme. Mind maps, and *Mind map box* in particular, teach how to learn in a broader context and help to develop students' own strategies.

In general, it appears that benefits of using mind maps in language teaching prevail over negative sides. However, there are also some disadvantages that could discourage either teachers or students from using them. First of all, the process of creating mind maps might be slightly time-consuming, especially in the beginning. Also some of my students mentioned this disadvantage in the evaluation of the *Mind map box method*.

Teachers who prepare an activity via mind map have to be familiar with the basic rules, which naturally requires some training. Teachers should also prepare and train their students before they start using some of the more complicated mind map activities, since if not trained well some of the students might feel confused. That obviously takes some time. However, once they get used to the structure of mind maps, the learning process gets faster and more effective.

Another possible disadvantage is related mainly with note-taking, and in particular with *Mind map box*. Note-taking via mind maps requires much more space and consequently more paper. Moreover, as to MMB, manipulation with cards is more complicated than recording vocabulary in simple traditional lists. The cards must be printed and cut out. Some students might enjoy it, however, for some people this extra work is not motivating at all and they would prefer having one lined notebook for everything as they consider it easier and more comfortable.

As to *Mind map box*, modern technology could be one possible way to outweigh the mentioned disadvantages. The plan is to develop a mobile application which would have all the features of MMB. In comparison with paper cards, there would be no cutting, the manipulation would be much faster and the procedure would be easier to learn. Moreover, testing and practising of vocabulary could be made into interactive activities. On the other hand; it would also lose some of its valuable features, such as personality and creativity.

To sum up, mind maps seem to be a very helpful tool in language teaching; to what extent depends on how they are dealt with. They have a capacity and important features to be used exclusively as the only strategy, or they might be used only occasionally as a supplement or as something special to make a particular lesson

original and different. Some activities require teachers' effort and elaborate preparations, some can be done on the spot; moreover, without any students' knowledge of what a mind map is. However, whichever method they use, teachers should bear in mind one important rule – variability. As it was underlined earlier, our task as teachers is to offer various strategies to be sure that all our students – who have different preferences, experience and personalities – feel motivated to learn.

CONCLUSION

The aim of this thesis was to introduce mind maps as an effective tool for learning languages. The assumptions for that were based on their valuable features, such as clear non-linear structure, motivation trigger, possibility of personalisation, and creativity of the technique.

The theoretical part discussed the function of brain structure and memory, since it is assumed that this kind of knowledge helps us to learn and remember better. Some parallels between the memory storage and mind maps have been found, in particular the hierarchical non-linear structure and categorisation of information bits. However, it should be noted that some educationalists are quite sceptical about general implications of the theoretical knowledge about memory and learning for education. Therefore, rather than making general conclusions, teachers should consider some possible alternative ways of teaching in contrast with the traditional linear thinking, and make sure that they are able to show and open some other options to their students.

A definite connection between what is known about function of memory and how to learn effectively has still not been established exactly. What works for one learner does not have to be suitable for the other. This is the reason why a question of different learning styles and preferences was discussed. The differences do not have to be caused only by genetic dispositions but also by the current state or condition, mood; and more importantly, by the motivation of students. The convenience of mind maps for various learning styles has been analysed; and it appears that mind maps might be enjoyable not only for visual learners but also for auditory and kinaesthetic ones; moreover various types of multiple intelligence can be stimulated by mind maps for their specific features that have been described.

In the second section of the theoretical part it was shown that using mind maps in English language teaching is not something new but that a wide range of English textbooks offers activities on various skills via mind maps or pre-mind maps. Furthermore, some of my own mind map activities were presented in the first

section of the practical part, and thus some other possible utilization of mind maps was suggested. It was shown that mind maps could be used for various individual or classroom activities, focused on grammar, vocabulary, speaking, or brainstorming activities. Moreover, it can be concluded that they appeal to students with various preferences.

In the second section of the practical part, my new method of learning vocabulary, called *Mind map box*, was introduced. The method is based on the idea of mind maps and the word cards method, and it asserts the importance of focus on integrity, as well as the details. It has the ambition to teach vocabulary in a real context and make learning vocabulary more comprehensible, motivating, and therefore easier for students. Observations of four users of MMB from one-to-one courses have been analysed that have brought some positive results. Also some questions have arisen from the observations. One of them includes possible use of modern technology to overcome some limits, such as the time-consuming character of the method. It has been also illustrated on a student with dyslexia that MMB might be a convenient strategy for students with special needs. Thus possible directions of the future research and the potential utilization of MMB have emerged. What is more, the development of the method still carries on. There are some more tasks to accomplish. At this moment, *Mind map box for phrases and fixed expressions* is being developed. Thus there is still a great number of ideas and plans to be elaborated and implemented into practice.

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