

VaKE and Education for Leadership and European Citizenship¹

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Introduction

VaKE – Values *and* Knowledge Education is a didactical approach for which it is claimed to combine values education and knowledge acquisition. Usually, in school education, values education and subject matter learning are seen as incompatible and done in separate lessons. Being asked about the importance of values education the teachers attribute an enormous impact on the personal development of the students. But they say that there is not enough time for this because of the need of content teaching, and they do not have the necessary competences to do values education (Hofmann & Patry 1999).

Evaluation of the availability of the school knowledge show that it is mostly inert and related to the subject to be taught. Students learn and know content and facts until the moment of examination. After that they forget about it very soon because they do not need this knowledge any longer.

In school students do not become aware of the relevance of the acquired knowledge for problem solving. In the lessons they are rarely confronted with questions of daily life, and the problems in school education do not refer to real world problems. So school knowledge can hardly be transferred so that it can be used to master challenges outside the school (Renkl 1996).

The development of society and economy has increased its speed. Aspects of globalization affect the daily life of any individual person. For example there is almost unlimited access to knowledge and experience about different cultures, religions, traditions, life styles, and other issues. Evidence can be found for different points of view. Nearly any job requires skills to manage lifelong learning, multilingual communication and far distance team networking, to mention just a few competencies. So one of the new challenges for school education is to provide skills for knowledge acquisition, critical thinking, character education, and the development of a stable and individual personality. The ability to cope with the future problems of human society will require the individuals to be able to answer the following three questions:

- On the side of the individual: Who am I? Who should I be? The answers will have to look into hindrances and possibilities for the growth of personality.
- On the side of the society: Where do we go? Where should we go? – The answers will have to work on the establishment of a reliable values system as point for orientation.
- On the side of the school: How does education in school contribute to answer these questions? The answers will have to address to the appropriateness of curriculum, support and nurture.

Gifted children are expected to take up leading positions in the social, cultural, scientific and political areas of the society. They are attributed to bring about intellectual and activating abilities to contribute to the creative solution of future problems, to take into account the

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consequences of their decisions not only on the personal level but also on the level of society and global community, and to take over responsibility for the effects of their decisions on other persons. Therefore, answering the three questions gets a special importance for leadership education and gifted children.

The progress of European Union needs people who are able to cope with the complexity and novelty of this community. 25 European nations have declared their will to form a political union based on common values. Together they want to realize ever-lasting peace, values and welfare among them. Freedom, security, justice and home market on fair and unadulterated conditions are guaranteed in the whole geographical area of the EU. Beside others the abundance of the cultural and linguistic diversity should be preserved, and the cultural heritage should be protected and developed. The slogan of the European Union is “different but united”.

The problems with these aims and the slogan become obvious when they should be transformed into concrete resolutions to become inherent in political contracts. There is no agreement between the member states about the definition of values. To take just one example: In the Netherlands the law does not forbid a doctor to give mortal support, provided that very special circumstances are given; in other countries this support is strictly forbidden. Another problem is the type of political unification: The constitution should mould a new political type different from the states and nations that make up the EU, but the structure of the national countries with national governments should be conserved. The question about the geographical shape of this new political creation expresses the described problems in the best way: There is no agreement about the answer.

Especially the ongoing integration process of European Union makes obvious the importance of the reflection about the three questions mentioned above.

Three questions

Who am I? Who should I be? – The growth of personality (Question 1)

The situation for growing up in the 21st century can be characterized by diversity and instability. Children and young adolescents experience that relationships in families are not certain to last for ever. Patchwork families have become more and more common. Other basic elements of the construction of personality like religion, cultural tradition and customs of living together have lost their importance and impact on the way of creating personality and identity. Within the period of growing up the children become members of different social systems, many of which are not determined by the norms of the origin family. As the society in general develops towards multiculturalism, children live side by side with children coming from a different cultural background. But not only the daily life exposes children to different life styles. The new communication technologies offer the opportunity to explore different worlds, whether real worlds or cyber worlds. Especially the use of internet, world wide web and chatrooms allow a very personal construction of personality.

The clue for the establishment of a stable personality can be found in the concept of the personal identity. Identity is created with the components of self concept (Erikson 1959), feeling of one's own value and of an internal locus of control (Filipp 1979, Hauser 1983). The self concept expresses the totality of different perspectives a person has about himself or herself. These perspectives differ according to the context and the social environment, and they are combined with feelings and cognition (Cantor & Kihlstrom 1987). The feeling of one's own value depends on the existence of another person who responds to the actions like looking in a glass (Cooley 1902). The concept of locus of control defines how a person attributes success towards personal abilities. The realization of the efficiency of the own activity has a core impact on the structure of mind, motivation, performance and emotions (Bandura 1982).

The self concept can be subdivided into four different concepts of self: the cognitive self, the moral self, the social self, and the physical self. Cognitive abilities and knowledge determine the cognitive self. Values brought into an individually shaped hierarchic structure form the personal values system and create the moral self. The social self is established by the individual's relationships to other persons. The constitution of the body creates the physical self. All four parts of the self concept are interdependent, but each of them can show a different moulding of awareness.

Answers of the questions "Who am I?" and "Who should I be?" are influenced by the consciousness of these parts of the self, on each of which is been put a value at any time. This valuation occurs with respect to two different perspectives: the perspective of the moment and the perspective over the life time. For example in general a person can attribute her or his self concept as stable and reliable, but in a particular situation the person feels unsure of the knowledge base or of the preferred values. Many varieties of the opposition between awareness / unawareness, consciousness / unconsciousness and self confidence / lack of confidence are possible.

The creation of a stable identity combined with flexibility and openness is the most challenging developmental task a child or adolescent has to cope with nowadays. Hence, the development of personality and the establishment of identity are not solely based on the person's individual decisions. The individual person is embedded in the culture and tradition of the society, in which she or he is brought up. Being educated means to become a member of this particular society.

Where do we go on to? Where should we go on? – Values as points for orientation (Question 2)

Values are constituted by the society and society is constituted by values (Durkheim 1924, Mead 1934, Parsons 1951). There are various systems to classify values. For our discussion values are classified in moral or ethical values, economic values and aesthetic values. Values belonging to these three categories have an impact on behavior and activity. Social action is orientated towards purposes, values, emotions, or tradition (Weber 1921). The same four orientations dominate the decision making processes by individual persons as well as by institutions and communities. Sense and meaning form the background of any action, they are core criteria for setting the course of action. So we have to think about the importance of values, especially of moral values. Research in Neurobiological Sciences have come the conclusion that human evolution has created morality to increase the chance of survival of the human being (Maturana & Varela 1984). In daily life this focus on the human survival is paraphrased less dramatically with the slogan of a good and happy life.

Going forward in this reflection we have to distinguish between the personal values system and the predominant values system of a community. Any culture has a hierarchy of values on which the society builds law and order, the conception of legality and the interpretation of law. In the same way any individual person creates the own preferences of values and the interpretation of law and order, norms and tradition. According to the situation the preferences vary according to the appropriateness of the personal interpretation of a good life. These preferences and the hierarchic order of values form an interacting system.

Hence neither the personal nor the common values system are stable. A change from materialistic to postmaterialistic values has been noticed within the last decades (Inglehardt 1977). These results may be confirmed by the personal experience overviewing the life span: An adult person lays emphasis on other values than an adolescent or a child do.

In summary the situation for a young person seems to be very complex regarding the process of socialization. The young girl or the young boy has to differentiate between many roles he or she is playing in the social community. In any role or position the value system might be a different one. At the same time each of them is an individual person, a member of different

groups, a member of a local community and a member of a national society. All the activities carried out in these roles are orientated towards progress and development, whose direction and shape nobody knows yet.

Consequences regarding the aims of education are tied to the description of personal abilities and competences in addition to knowledge and skills. Communication, discussion, argumentation, valuation, self organized knowledge acquisition, self reflection, problem sensitivity, taking on opposite perspectives, critical thinking, decision making, problem solving and taking on responsibility will become important for the future. Individuals who are self-aware and self-secure, who can think critically, who can master the own process of life-long learning, who can select and check the reliability of the information source, who can assess and judge, who can decide with respect to their social responsibility as a member of a community, and who can evaluate their decisions and actions – these people have the appropriate mental and emotional fitness to manage the challenges of the social development and to create a good and successful personal life.

The realization of the European vision of unity and most of all leadership in this very diverse community will depend on the level of the further development of these competences. Gifted students like to work on complex tasks, which enable them to higher order thinking skills. They like to deal with real world problems, and they enjoy self organized learning. But nevertheless they are not born that way, and they need to be supported and trained.

How does education in school contribute to answer these questions? (Question 3)

First we want to concentrate on the support and nurture of the personal and individual development. In school the main emphasis is put knowledge acquisition. This knowledge base is examined several times during the school year. The assessment concentrates on reproduction and repetition. Methods of creative problem solving as well as trial and error are not recommendable, because not the process but only the result will be assessed. Hence, if a student fails in an exam, he or she maybe will attribute this lack of knowledge to the whole personality, not only to the cognitive domain.

The reason for this attribution is that in school character education and social education happen by chance or are taught in separate lessons. Development in personality cannot be assessed and evaluated with marks or points. But verbal feedback to strengthen individual endeavor and to increase social competences and ego strength, etc., is also very rare. Good behavior is combined with doing things in the right way, this means in a traditional way. But with old fashioned manners no future problem can be solved. As character education and social education is not made explicit, the development of the abilities, competences and skills mentioned above is not nurtured systematically.

Second, let us have a look at the content of teaching. The obligatory curriculum can be criticized, too. The presentation of content in school lessons is not combined with real world problems. The selection of knowledge springs from past experience, either because the knowledge enabled successful solutions of problems or because it is presumably a heritage of the particular community. In any way there is a common agreement that the selected knowledge should be transmitted. But nobody knows whether this experience will remain the same in future times.

Third, we want to put the focus on the responsibility of learning. Teachers do not feel responsible solely for their teaching but also for the learning of their pupils and students. It may happen that they provide learning opportunities in which the students can manage the time by their own. Or they offer projects to work in teams or on one's own. In any way, the teachers guide the knowledge acquisition. The personal interests of the pupils and students receive scarce attention. But outside of school learning happens only according to the personal interests and needs. Nobody will provide material or sources to gain knowledge, and nobody will tell the student what and how to do things.

This analysis results in the conclusion that with regard to our question the reality of school education can be described as unsatisfying in general. When it comes to the education of gifted children for leadership in the European Union we are forced to realize that the needs of this group and the demands of leadership education are widely neglected. It may be possible that the teachers will mention the same reasons for this unsatisfying situation as for the missing integrative values education: they complain about being over laden with work and tasks and they do not know a method to do this education.

In the next chapter a didactical approach will be presented for which we claim that it meets the needs for a special teaching competence as well as the needs of children to be prepared for the future. Especially gifted children and students can be trained with this method for taking up leadership and responsibility.

VaKE – Philosophical and theoretical basis

VaKE is the acronym for “values *and* knowledge education”; it combines both knowledge acquisition and values education. This method is based on the theoretical work of Jean Piaget (Piaget 1937, 1954, 1967, 1985), Lawrence Kohlberg and Moshe Blatt (Kohlberg 1976, Blatt & Kohlberg 1975) and on the principles of constructivism in the tradition of Ernst von Glasersfeld (Glasersfeld 1995), Heinz von Foerster (v. Foerster 1993), Humberto R. Maturana and Francisco J. Varela (Maturana & Varela 1984).

Theoretical background

Before presenting the *VaKE* approach, we want to make a few observations about this theoretical basis (see also Patry et. al. forthcoming). The philosophical background of Constructivism refers to the epistemological opinion that there does not exist any objectivity concerning reality. The way how a human being sees and experiences the world is the product of the own mental construction depending on the physical and neuronal condition of the individual (Glasersfeld, v. Foerster). We cannot see the world through the eyes of another person, but we have the ability to come to an agreement with each other that there might be similarities between the personal experiences of reality.

If we decide to follow consequently these fundamental principles regarding education in school, we end up with the change in the paradigm of teaching. Accordingly the focus of planning school lessons has to be put on the question how the students learn. The question how the teacher organizes teaching a specific content is then secondary. The personal characteristics of the individual pupil or student, his or her interests as well as his or her styles of learning and thinking serve as points of orientation for lesson planning. These aspects also form the background for the development of criteria for an appropriate evaluation of school education. The emphasis of assessment is put on the quality of teaching, not on the quality of learning. This teaching quality is defined as the extent of which the interests and needs of learning are supported by the provided environment, material and method during the lesson. The teacher has to know these different needs and interests, and he or she is responsible for appropriate learning opportunities so that the pupils can learn according to their interests and needs.

The constructivistic paradigm releases the teachers from a full responsibility for learning. The responsibility for learning is on the side of the individual pupil. This seems to be a very radical turn around of the view on the interaction between teaching and learning. This interaction cannot be described with behaviorist terms like stimulus and response.

Neurobiological research on cognition (see Maturana and Varela) has confirmed the observations and conclusions of Piaget: Mind and cognition develop in an adaptive process by creating and moulding neuronal structures in different areas of the brain. It depends on the differentiation of these cognitive structures whether a new information can be assimilated. Assimilation in the sense of Piaget means to extent the stability of the existing structure. With

other words, assimilation supports traditional ways of thinking. Hence conservatism does not enable a person to cope with the uncertainty of the future. The neuronal system has the additional ability to mould and change itself towards a more diverse differentiation. This ability to adapt the cognitive structures according to new information is called accommodation (see Piaget). These findings make obvious that learning is an active process of the mind, although the individual is not always aware of this fact. Learning in school requires this awareness. One of the conditions to stimulate the conscious acquisition of knowledge is to increase the sensitivity for differences and dissent.

Problem solving

A very successful method to initiate this sensitization is to expose the learner to a cognitive conflict, which has to be carried out in a problem solving process. The characteristics of a problem are that the learner does not know the solution, and he or she does not know how to come to a solution. The main characteristic of solutions is that they are determined by situational components and by the involved persons. According to the Greek philosopher Heraklith, no person can jump twice into the same river.

The problem solving process can be transformed into the learning algorithm presented in Fig. 1 (see also Patry 2001, p. 74):

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Figure 1: Learning Algorithm: Learning as a problem solving process (modification of Patry 2001)

A problem is presented to the students; this might be one or more questions concerning a single issue or a more complex situation, in which several different issues are involved. The student finds ideas about the problem. She or he tries to find a concept for solving the problem. A special focus is put on selected factors to reduce complexity. Memory is activated whether there is previous own experience with the same or with similar problems. Maybe these successful solutions can be used for the actual problem. The learner is weighing up the several possibilities, which one is viable to be brought into action (viability check). At the end of this process there is the decision to act. If the viability check is successful, the problem is solved. The new experience will be assimilated to the existing experience, and the cognitive structures remain as they are. However, the student has to be aware that the found solution does not represent the objective reality or the truth, but it is an agreement between the involved persons and the situation they have been during the problem solving process. If the weighing up or the application of the chosen solution does not end up successfully, the learner starts to think whether the problem can be solved with a new concept. The moment of creativity has come, because new combinations between experience and focused factors are tried out in many variations. The focus can be put on other factors. Other experience has to be taken into consideration. The learner can look for relevant experience of other people, either asking experts or searching for evidence in books, museums, exhibitions or using the world wide web.

If the learner was able to invent a new concept for a successful solution, this solution is tried out. If the viability check is successful, the problem is solved (for the moment), otherwise the procedure will continue in another turn. The creation of the new concept was possible because of the adaptive ability of the cognitive structures.

Viability check

The viability check can be done in six different ways (Patry 2001, 2003):

1. by experience: the learner tries out the solution
2. by simulation: the learner imagines whether the solution ends up successfully.

3. by representation: the learner watches somebody else to see whether a certain behavior of this person will guide to the successful end.
4. by communication: the learner is discussing the proposed way to solve the problem
5. by reflection (Weinberger 2006): after having brought a specific problem solution into action, the learner thinks about how good the problem was solved in this way.
6. by getting feedback (Weyringer forthcoming): after having brought a specific problem solution into action, the learner is given feedback by other persons, how good the problem was solved in this way.

All components of personality are subjected by viability checks during the whole problem solving process, especially knowledge, points of view, communication skills and social behavior. The viability checks structure the whole process. Therefore they can serve as a starting-point for the development of instruments with which the process can be evaluated and the performance of the students can be assessed individually.

The WALK

For the assessment of the student's performance a specific instrument has been created, the WALK (Patry 1999). WALK is the acronym for "W assessment of latent knowledge". "W" derives from the sort of questions, which are used to gain all relevant information about an incident; these questions are Who?, What?, Why?, When?, Where? And How? This assessment instrument is related to the idea to challenge the student's sensitivity for problems, her or his creativity to find questions concerning the problems and her ability to answer these questions. It also can be used like a diary of work attendently to the VaKE course to follow and to document the student's own learning process.

The WALK has to be trained so that the students get familiar with the instrument.

The structure consists of four phases. A specific impulse is given to the student: this can be a picture, an article of a newspaper, a poem, a walk through a special area, a video-clip or other stimulating material. The structure consists then of three phases. Now the student starts to work on seperated tasks in each of the four phases:

- Task of phase 1: formulation of different problems as many as possible, written down as key words
- Task of phase 2: bringing the problems into a hierachic order according to the personal judging
- Task of phase 3: working out a certain number of problems, written down as "W"-questions and their classification to areas of science
- Task of phase 4: finding appropriate answers and solutions as many as possible, written down as short articles with references

The criteria of valorisation of the performance differ in each phase:

- Criteria for phase 1: number, variety and complexity of the problems
- Criteria for phase 3: number, comprehensibility and inherent logical relation of the questions concerning one specific problem
- Criteria for phase 4: clarity of the content and the statement, extent of reflected details, logical comprehension of the argumentation, quality of the references.

The WALK-instrument offers a very individual way to work on a particular problem. The students can follow their own interests, and they also can organize the search for information and knowledge by themselves. They are informed about the criteria of judgement, so they can control their own work permanently.

Two other instruments are used to document the whole process of problem solving including all facts relevant for the argumentation during the debates and to save all products like articles, reports, minutes and personal statements. These instruments are the mind map and the portfolio.

The mind map

The mind map is a graphic design, which shows the relationship between various aspects of a topic. These aspects are formulated as key words. The representation can be moulded, so a flexible adaptation according to the progress of knowledge acquisition and to the increase of problem sensitivity is possible.

Two different mind maps will be created during the VaKE course. First a personal one is created to include the personal interest and the personal main points looking at the problem. The personal mind map will be developed in phases of reflection, in which the student has time to think about the problem and to modify the own knowledge base and the moral point of view.

The second one represents the problem area according to the main points of emphasis of the whole group. This general mind map of the class includes fields of knowledge, which are addressed by the arguments posted during the debates. It will show the whole field of knowledge, which was brought in during the knowledge acquisition process.

Both mind maps can be done either on paper or digital with the computer.

The portfolio

A portfolio will be created to save all the relevant documents, articles and facts, which are judged to be relevant to strengthen the own argumentation in the debate. It shows the elaboration of the key words posted in the mind map. The structure of the portfolio is more hierarchic, either following a chronological order or showing the importance of aspects. It also includes personal statements and emphasis on special focus. This portfolio of the class conserves all facts of knowledge gained by the whole group; it is the knowledge base of the group and the summary of the whole VaKE process.

After the explanation of the background we now will present the VaKE-concept.

VaKE – the concept

The prototypical course of a VaKE-lesson (see Figure 2) starts with a dilemma-story (step 1). A dilemma is a problem situation in which the person has to make a decision between two values. For example the person has to decide with which means of transport she or he will go to the job every day: going with public buses, with the train or with the own car. Each of the possible decisions can be based on values, for example coming home earlier and having more time to spend with the family can be much more important than to contribute to the conservation of the nature. So the person decides to go with the own car and not to use the train.

The presented problem should be a realistic one. It has to stimulate a cognitive conflict in the student. Therefore links to personal aspects of the student should be inherent in the story, for example the protagonist is in the same age. Furthermore the horizon of the problem should be opened to the personal interest of the students, so that they can get involved with their personal emotions. The protagonist should be described very vividly in her or his emotions to create identification. Also the social context of the protagonist is of interest, so the story gets an affective and emotional touch.

A general brainstorming is done with all participants to open the sensitivity for the problem. Each of the students has to find the own personal point of view, so that she or he can decide what the protagonist should do (step 2). After they have posted their decision (step 3), the students discuss their personal point of view, and they have to defend their decisions (step 4) – this will lead to groups (e.g., supporters and opponents of a particular decision). During the discussion the students realize that they have less information and knowledge to keep up their argumentation, or they become uncertain whether their own position is the right one. So after

the debate the students get time to think again about the problem (step 5). Then they exchange their experience, they judge the arguments and they organize how they can find the missing information (step 6). Afterwards the students start to look for information (step 7) to strengthen the own arguments or to criticize those of the opposite opinion. They also can be asked to take the opposite point of view, or to take different roles and to find arguments for the defense of this position. So the students learn to understand contrary points of view. Having finished the search for information the pupils exchange the facts they have found (step 8) and present their findings to the whole class (step 9). Again the students get time for reflection (step 10), being followed by the second decision and debate (step 11 and 12). After the discussion there can be a second turn from step 5 through 12 (step 13) – for this the groups may change (one reason might be that the students changed their mind!). Before a general synthesis is done, the students finally can reflect on the whole process, and they can summarize their personal learning progress (step 14). In the general synthesis all information and points of view are brought together and presented as a final summary (step 15). This summary can be a special product, for example a newspaper, a broadcasting show, a video clip, a drama, a panel discussion and others. This product works as the conclusion of the course. This does not necessarily mean consensus among students, because sometimes it could be hard to come to an agreement of all discussants within a given time. Finally, reflections about similar problems take place to enhance the transfer of the new knowledge bases (step 16).

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Figure 2: Prototypical course of VaKE (an adaption of Patry and Weinberger 2004. In: Weyringer forthcoming)

During the whole process both aspects, knowledge and values, are relevant in a similar scope. There are several steps in which a special emphasis is put on one of them. Moral viability checks will happen especially during the debates and discussions (steps 3 and 4, steps 11 and 12). Content related viability checks will be dominant in phases when the students are looking for evidence of information (step 7).

Possibilities to create a very personal opinion strengthened by a very personal knowledge base are offered in the phases of individual reflection (step 2, 5, 10, 14). Here the WALK is done to document the progress of knowledge acquisition and its viability for argumentation of the personal priorities of values. This documentation is saved in a personal project diary either on paper or as a digital port folio.

Parts of the personal portfolios will be integrated in the portfolio of the whole group. Those documents, which are judged to be very strong for the argumentation, are important for further discussions about other aspects of the problem.

VaKE can be used with any target group of learners. There is experience of successful implementation in formal education and non-formal education, for example in the regular school-lessons doing content teaching (Patry & Weinberger 2004, Weinberger 2006), or doing intercultural learning (Hofer 2006). Especially for gifted pupils and students VaKE offers the challenges and opportunities, which this target group need to learn successfully (Weinberger et.al. 2003, Patry & Weyringer 2005, Patry & Furlan 2005, Weyringer forthcoming).

VaKE - an example

The following dilemma story is written for a special training course. I assume that most of the participants are women in the age between 20 and 40 years old; they all are interested to continue with their professional carrier besides having family.

Sarah's dilemma

Sarah is pregnant with her third child. She and her husband Juan did not plan to have another child: Their two children, Sebastian and Maria are already young adolescents. Sarah has started her professional career again, and Juan has applied for a position as a manager in his company. In the first weeks it was not easy for the whole family to become familiar with this new situation and to accept the fact. But after long conversations and considerations they all came to the point that with the help of all four they will manage the new situation. So they all were looking forward to the baby.

In the fifth month her doctor recommended a medical check-up for mongolism because Sarah was close to her forties. So Sarah went to this check-up.

One week later Sarah got a call from her doctor asking her to come immediately to the surgery. There Sarah was told that the check-up came to a positive result: Her baby will be mongoloid.

The doctor offered her to carry out an abortion.

What should Sarah do?

Prototypical course of realisation

Step 1: Introduce dilemma: we talk about the dilemma; we sort out all lack of clarity; we figure out possible values at stake; we do a brainstorming about Sarah' problem also stressing the problems of each member of the family.

Step 2: Reflection: the individual thinks about the story and finds the personal point of view; the student prepares for the first decision and the first discussion; the first phase of WALK is done collecting key words of possible problems; with these key words a personal mind map is created; afterwards the problems are brought into an hierachic order starting with that one, which is assumed by the individual to be most important.

Step 3: First decision: there are three options for the decision: am I in favor or against the abortion, or am I not able to decide because I have too little knowledge.

Step 4: First dilemma discussion: in the debate I have to present the arguments on which my decision is based. In these arguments my preferred values and the dilemma become obvious. Let's say life is highest value in our story: on which facts I will built my arguments? Very soon I will realize that I don't have a proved knowledge about abortion.

Step 5: Reflection: after the first debate I get time to think about all the arguments. I can adapt my personal mind map, and I work out questions, which will guide my search for facts to gain more and better knowledge about abortion.

Step 6: Exchange experience and missing information: now groups, which share the same opinion, are formed; in my group we judge the strength and logical stringentness of the arguments; furthermore we find out which additional information we need; I also can fix my personal points of interest, for example the reliability of the test for mongolism.

Step 7: Looking for evidence: I am checking the internet; I am looking for information in medical reviews, and I am asking experts about the method, how mongolism can be found out with an unborn child. I will save all relevant information and I will broaden my mind map, if I have found additional areas of interest.

Step 8: Exchange information: after my information search I will inform y opinion group about my findings; we will check whether all our gained information and knowledge will be sufficient to continue with the debate.

Step 9: Synthesis of information: as a group we will inform the whole class about our findings; all the documents will be collected in the class portfolio; also we will create a class mind map, which includes all key areas, which were found by all of us.

Step 10: Reflection: once more I have time for myself to think about all the aspects, which were brought in; maybe I have found further aspects of interests and more questions about abortin; maybe even my point of view has turned towards the opposite opinion; if so I have to summarize the arguments, which introduced this change.

Step 11: Second decision: after the reflection I am able to make a second decision (which might not be the same than my first one), and I am prepared to participate in the second debate.

Step 12: Second dilemma discussion: based on the new knowledge I will find strong arguments to defend my decision.

Step 13: Repeat 5 through 12: if necessary a next turn of knowledge acquisition can follow; new groups can be formed, for example mixed opinion groups; or I am asked to take over the contrary point of view.

Step 14: Reflection: the fact that time for the whole VaKE course will be limited requests the problem solution at a certain time; maybe we have not yet come to a general solution or to an agreement; but nevertheless I have to summarize my whole consideration on the problem of Sarah and her family. I will work on my mind map, and maybe I will keep on finding additional key words and questions.

Step 15: General synthesis: the whole debate on Sarah's dilemma and all the findings, arguments and points of view will be brought into the mind map and the portfolio of the class; this sequence will close the whole process; maybe we transfer our experience to the public, either organizing a panel discussion with other experts, or creating a broadcasting show, or producing a power point presentation, a folder and a newspaper, or writing and performing Sarah's dilemma as a drama.

Step 16: Generalization: finally we will talk about our experience during the whole process; and we try to find other but related issues, for example there is evidence that in several countries abortion is practiced because of gender.

These prototypical course allows students of any age, developmental cognitive condition and level of ability to participate in the whole process. Any student can bring in the own preferences of interests. The participants can organize their learning process very individually, they will gain knowledge and cognitive skills meeting aims of higher order thinking skills according to the taxonomy of Bloom (1972). The VaKE approach also offers learning situations, which fulfill the criterias of Vygotsky's level of proximal step for development (Wygotsky 1934).

The VaKE course offers challenges for personal development in the cognitive as well as in the moral domain of personal development appropriate to the individual personality. As we have already pointed out in school education the teachers have the responsibility to organize challenging learning opportunities, which allow the individualisation of the learning process. Organizing an VaKE course causes a variety of challenges, which the teachers have to cope with.

Challenges for the teacher

The most important principle for the relationship between a teacher and a student is to be a companion. Teachers have to support the students in their learning so that they can help themselves to organize this learning process. They have to do it in a direct and in an indirect way. How can they practice this idea?

They find provocative learning situations in presenting an appropriate dilemma or problem. They find a stimulating way to start the process; this can be a story, a movie, a theater-play or others. They fix the learning goals, which they want students to reach. These are the content goals provided by the curriculum. They make the students to think about the values relevant for possible decisions. They provide basic information about the VaKE approach, the program, the structure of time, the material and the access to information sources. They don't present any knowledge and content. They even don't answer questions of the pupils besides they explicitly are taking the role of an expert. They don't teach, but they facilitate the process of knowledge acquisition. They make sure that the students have competence to use all the

sources and facilities, like computer programs and others. They arrange rules for discussion and agreements. They give support to the students during the phase of collecting information. They stimulate viability checks, either with questions, paraphrases or examples. They draw the students' interest to additional aspects of the problem. They always keep the overview of the whole process. They are aware of the structure of the concept: They are aware of the learning process of the students. They are aware that the students follow the rules and arrangements for discussion and learning process. They give support in summarizing, organizing, documenting. They maybe moderate the discussions or enhance students to contribute. They guide the students to the final synthesis, expressed in a final product: this can be a role play, a round-table discussion, a public discussion, and others. They encourage the students to continue with activities outside the school.

Conclusion: Education for leadership and European citizenship

Taking responsibility is most important attitude of leadership. The attitude to this ability is based on on the ego strength to decide on the base of proved knowledge about myself, about my cultural background and about the consequences of my decision. The reality of cultural diversity in the European Union challenges to broaden the personal horizon beyond national borders towards the consciousness of European citizenship. If we want to fulfill the aims of the European Union we have to support the open-mindedness towards this diversity of cultural traditions. Education towards Europe and leadership has to take this challenging situation into account. The VaKE approach is an appropriate method to cope with this challenge.

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Figure 1: Learning algorithm

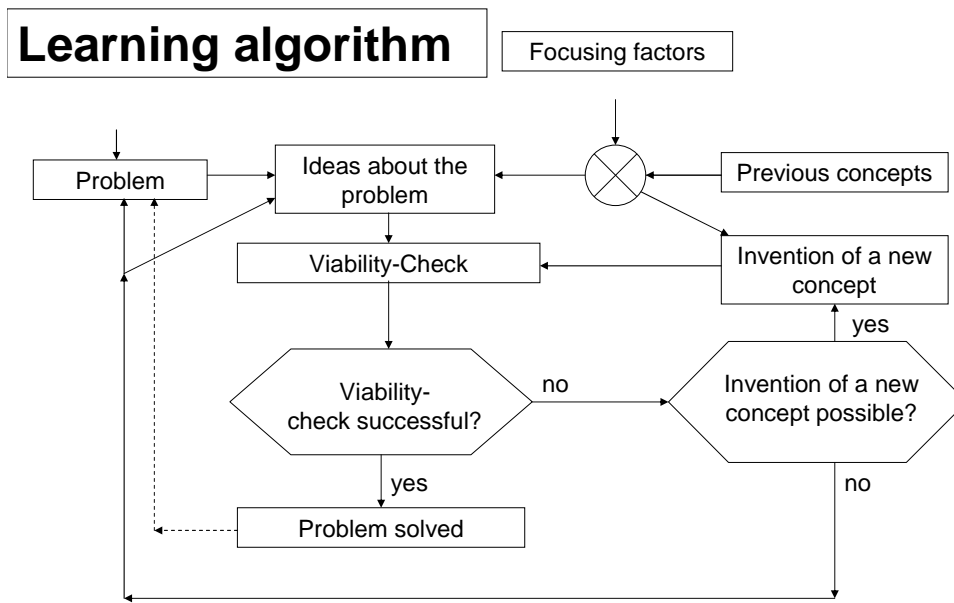


Figure 2: Prototypical course of VaKE

	Step	Action	
1	Introduce dilemma	Introduce dilemma: what is the problem? Which values are in stake? Brainstorming	class
2	<i>Reflection</i>	What do I think about the problem? What is my point of view? Why? Questions? (moral and content related viability check) WALK / Phase 1 Personal Mind Map WALK / Phase 2	<i>individual</i>
3	<i>First decision</i>	<i>Who is in favour, who against? Who can't decide?(moral related viability check)</i>	<i>class</i>
4	<i>First dilemma discussion</i>	<i>Why are you in favor, why against? Do we agree? (moral related viability check)</i>	<i>class</i>
5	<i>Reflection</i>	What do I think about the problem? What is my point of view? Why? Questions? (moral and content related viability check) WALK / Phase 3 Adaption of personal Mind Map (if necessary)	individual
6	Exchange experience, missing experience	Forming opinion groups: Which arguments are strong? What do I need to know further to be able to argue?	group
7	Looking for evidence	Get the information, using any source available! (content related viability check) WALK / Phase 4 Adaption of personal Mind Map (if necessary)	group, individual
8	Exchange information	Inform the your group about the new information! Is the information sufficient?	group
9	Synthesis of information	Present your information and conclusions to the	class

		whole class! Port folio of the class Mind map of the class	
10	<i>Reflection</i>	What do I think about the problem? WALK / all phases (moral and content related viability check) Walk / all phases Adaption of personal Mind Map (if necessary)	<i>individual</i>
11	<i>Second decision</i>	<i>Who is in favour, who against? Who can't decide?</i> (moral related viability check)	<i>class</i>
12	<i>Second dilemma discussion</i>	<i>Why are you in favour, why against?</i> (moral related viability check)	<i>class</i>
13	Repeat	5 through 12 if necessary	
14	<i>Reflection</i>	What do I think about the problem? What is my point of view? Why? Questions? (moral and content related viability check) WALK / all phases Adaption of personal Mind Map (if necessary)	individual
15	<i>General synthesis</i>	Closing the sequence capitalizing on the whole process (moral and content related viability check) Mind map of the class Port folio of the class	class
16	Generalization	Discussion about other but related issues	Class