What is (not) Active Learning? How to Learn Actively?

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The Stages of Active Learning Approach in Historical Process

According to Smith & Lusterman (1979), lots of models and theories have been developed to explain teaching-learning process and improve the quantity and quality of learning in education. It can be observed that researchers have focused on ''Active Learning Approach'' which is based on John Dewey's student-centered education and became even more important after 1980s. In the student-centered education, Dewey defines classroom as a democratic atmosphere where students learn interaction with each other and participate actively.

There are lots of definitions of active learning. Demirel (1999, p.198) thinks that active learning is an approach which makes individuals involve actively in the learning process. According to Karina D. Torralba & Loomee Doo (2020: 2), active learning is a student oriented approach that contains active participation of students in the classroom through readin, writing or discussion. Robert and Simons defines active learning as a learning process that an opportunity to decide for various aspects of learning process is given to the learners and students are forced to use their intellectual skills during learning (Ozkaya 2000, p.1). According to Harmin (1994) however, what accomplishes high student participation is the planning and executing of the courses. The most efficient way of this is to make students active in learning process at the possible highest level and make them responsible for their own learning. We can explain these definitions in two groups. These are;

- In the learning that emphasizes the organization of phases of learning process by the students a great deal; the student makes his/her own scheme, decides his/her goals and favorite activities, evaluates his/her progress, represents his/her mistakes and achievements.

- The student barely takes part in the decisions related to learning. The aims and activities, providing learning, and checking are teacher-controlled. Students attend scheduled activities actively instead of taking part active decision making about their learning (Stern and Huber 1997, p.19-21).

Active learning is compatible with the term of flipped classroom. This term has much gained popularity in that students are expected to equip themselves with fundamental knowledge before the class and attend the activities encouraging research, complex

thinking, peer-peer or peer-teacher interaction, and lastly do their homework in the classroom (Medina, 2017).

The Differences between Active Learning Approach and Direct Instruction Method Adopted Environment

Johnson, Johnson and Smith summarize the differences between teaching environments designed in accordance with Active Learning Approach and Traditional Education as: (Akt. Ozkaya 2000, p.5).

Direct Instruction Method Adopted Teaching Environment

Knowledge: It is transferred from the teacher to the learner.

Students: An empty vessel loaded by teacher.

The Purpose of the Teacher: Classify and separate.

Relations: There is no individual relationship between the teacher and learner.

Context: Competitive, individual.

Premise: Every expert can teach.

Active Learning Approach Adopted Teaching Environment

Knowledge: The teacher and learner structure together.

Students: Active, constructive, exploratory, translates information into his/her own knowledge.

The Purpose of the Teacher: To develop the student's abilities and proficiencies.

Relations: There is an individual relationship between the teacher and learner.

Context: Cooperation in the classroom and work.

Premise: Teaching is complicated. Requires training.

The main idea of active learning is to make students, who are passive in the traditional education, makers, doers, performers, in other words active individuals. Efficient participating is crucial for active learning. Nevertheless, it was not enough (Ozkaya 2000, p.2).

''What makes the learning active?'' When the learning is active, students do the most of the work. They use their brains, think, solve problems, and apply what they have learned.

Active learning is entertaining, supportive and personally occupies. Mostly, students cannot sit at their seats. They are on the move and think aloud.

''Why is activating the learning necessary?'' Learning something well leads to hear it, see it, ask questions about it, and be able to discuss it with others. Further to that, students are eager to do it. They evaluate in regard to knowledge they have and have acquired (Silberman 1996, p.9).

How can we activate the students in the beginning?

Team Building: Assisting students to get acquainted with each other or establish a cooperative spirit and act together.

On-the-spot Assessment: Information about students' behaviors, knowledge, and lives. Immediate Learning Involvement: Creating the first interest about the subject.

In addition to these techniques, students are encouraged for an active role from the beginning. How does our brain work? Our brain does not work like a tape or video recorder. Obtained information is continuously being questioned. Our brain's process is like a computer in many aspects. We are the users. A computer should be on in order to work. When learning is passive, our brain is not on. A computer needs to interpret a compatible software to be able to work. Our brain tries to make a connection between what we know and how we think and what has been thought. If the learning is passive, then our brain cannot make a connection with our brain's software. Consequently, a computer cannot keep the information it did not save. Our brain needs to test or store the information by explaining to someone. If the brain is passive, it cannot keep what is presented (Silberman 1996, p.3).

Active learning means students not only watch and listen but also participate actively in the process, act independently and research (Weikart, 1993, p.70). In active learning, students attribute what they have learned to themselves. They are efficient in the classroom. They read, write, speak, discuss, make connections with their past. They apply what they have learned to their daily lives (Lubbers and Gorcyca 1997, p.67-68).

Active learning is not only entertainment and game group. The value of active learning depends on discussing its point with others and mostly thinking on activities. Students are able to question how much they have learned by active learning. While carrying out education with active learning, there should be a reliable upbringing and limited aims. If content is minimized, teacher has time for activities, presentation, and practice. Active learning activities can beautify even dull and uninteresting information. Teaching interesting subjects is easy. Although the subject is dull, motivating the students is easy thanks to active learning activities. The key word is variety. Variety enhances a good

teaching. Lots of techniques related to the active learning provide alternatives to build small groups.

There is some threat, causing students to mislearn from each other in the group works of active learning approach. On the other hand, bringing a social aspect in learning is an advantage. The teacher should review the material constantly concerning students' self-learning and teaching each other (Silberman 1996, p.7-8).

Students solve the problems with group work, take part in the discussions, answer the questions, and write essays, aside from listening to the lesson in the process. Teaching activities include students doing something and thinking about what they did via strategies, which improve active learning (McConnell 2000, p.1).

Mitman and Lambert (1993, p.506) accepts that active learning approach contains each teaching and learning strategies. Critical thinking, cooperative learning, efficient communication, and project-based learning are the other methods and strategies that form active learning operations. Those operations focus on students' self-governance, development, and acquisition of higher thinking skills. Students have study and thinking abilities to arrange the study time, organize the work, identify the rules, make predictions based on events, recognize the prejudice, and figure out the reason based on similarities.

Whichever strategy is used, the classroom should be safe for students and long-term learning should be provided. McConnell states that these techniques applied in the classroom produce a powerful effect on students, students prefer active learning strategies instead of traditional method in many researches, and students' thinking and writing skills are improved according to the most researches evaluating students' success.

Challenges of Practicing Active Learning Approach

Practicing of active learning can be restrained because of some elements of teaching system especially student, environment, and teacher. For instance, students may not be accustomed to study independently or determine their own learning or some students put the responsibility on teacher's shoulders thinking that only the teacher can decide about learning. Teacher may observe students' state and feel that he/she has to take the responsibility. Therefore, we should not be content with leaving students independent, we should also persuade them to achieve this. Even if some students believe in active learning, they do not have cognitive strategies to apply. They even do not know what to do for that. For this reason, students need to be educated about active learning strategies such as orientation, management, examination etc. When this is accomplished, it is confirmed that students implement learning more actively and effectively (Vural, 2004, p.175-176).

Holdbacks, related to practicing active learning, stated at the result of Niemi's research (2002) are generalizable. These holdbacks are: due to the fact that available syllabuses are loaded and all of the subjects must be treated in academic year, active learning applications requiring long time cannot be given enough time; teachers do not want to waste time and energy because active learning needs far more preparations than traditional methods; teachers do not want to take risks because it includes structured activities and results cannot be predicted precisely; unwritten norms and a hidden curriculum cause pressure on teachers; teachers practicing active learning in the school feel alone; they cannot receive support, yet face passive resistance; the most important point is that the institutions training teachers cannot raise teachers, who are qualified to practice active learning. Otherwise, in schools and universities, existance of a passive learning culture between both students and instructors and the willingness keep old habits are significant holdbacks for active learning (Niemi, 2002, p.777).

It is known that the toughest of holdbacks is student related concerning active learning in teaching institutions. Others are because of the teacher or qualities of the teaching institution. The basis of teacher related holdbacks are student related holdbacks in fact because the teacher has been raised in the same atmosphere of that country. In all levels of education, including higher education, there may be educators, who did not experience or are not experiencing active learning, and they can even be education directors as well. Therefore, holdbacks due to the teaching institution are a result of the existence of these sort of educators and education directors, instead of the regulations these institutions are based on (Unal, 1999, p.377).

Troubles which could be encountered during the active learning process could be summarized as follows (Acikgoz, 2003, p.300-308; Bonwell and Eison, 1991; Niemi 2002, p.772-776; Ozkaya, 2000 ; Silberman, 1996, p.7-8; Duztepeliler, 2006, p.14-15):

- Some teachers' lack of self-confidence in practicing the activities.

- Teachers' requirement of creating very detailed plans.

- Teachers' requirement of excessive research.

- Teachers being forced to create the learning materials on their own.

- Some teachers' lack of energy to practice the active learning activities.

- Student's not being ready to be active learners.

- Some students' lack of acceptance into their groups by other students.

- Teachers' not being able to answer all the questions of the students.

- Requirement of spending time for students to learn how to learn.

- Requirement of spending time for students to teach them how to work within a group and individually.

- Teachers' not acceding to giving the responsibility of learning to the students.

- Students giving false information to each other in group learning or peer learning.

- Syllabus being fully loaded and the time requirement for the implementation of active learning strategies.

- Halting the plan due to the inability to fit into the established time for the activities.

- Inability to make students participate and interact in all the planned activities.

- Number of students being too high.

- Lack of sufficient education technology opportunities.

- Disorder and noise occurrence during the activities.

- Teachers' lack of knowledge in utilizing education technologies.

- Hesitance of teachers', who are nearing retirement, in trying a new strategy and developing a sarcastic behavior against the young teachers, who are trying.

- Lack of cooperation among teachers.

In conclusion, holdbacks in active learning may stem from many reasons, both in-class and non-class. When these reasons are considered, the reasons such as, student's and his/her family's past perceptions, teachers' lack of sufficient knowledge in practicing active learning, schools' physical attributes, lack of materials, test anxiety, time management issues, course hours, etc. and most importantly, wrong and deficient practice of active learning are viewed as the most significant holdbacks against active learning.

Benefits of Active Learning

Teachers, who use this strategy effectively are listing the benefits of active learning as follows;

It helps allowing more time to slow learners and gifted students.

It aids students to develop self-control.

It helps new teachers in class management.

It provides life long learning (Stern and Huber 1997, p.14). Teachers who use active learning in primary school are influenced by Piaget and are aware of the fact that students can learn better through substantial learning experiences based on activities, they can focus their attentions for a short time and their quiet sitting periods are limited (Silberman 1996: IX}. Students learn decision making and taking responsibility during active learning process. Students' motivation increase and class discipline issues decrease in active learning (Simons 1997, p.21-22).

Students themselves utilize the information sources in active learning. Teachers and students gather information from various sources and organize them. Students' organization and presentation of information is emphasized. In their projects students have both individual and group responsibilities. Each student work on a different topic but in such a way that they are related to each other and beneficial to the group project. Students share information, interact and cooperate (Ward and Tiessen 1997, p.22).

According to Bonwell and Eison (1996, p.2), there are five strategies of active learning. These are:

- Students take part in class, more than just listening.

- Improving the learning capabilities of the students are more important.

- Students are elevated to higher thinking levels such as analysis, synthesis and evaluation.

- Students are encouraged to do activities such as reading, writing and discussing.

- Student's own attitude and values are taken into consideration.

Student Activities in Active Learning

They think about possible goals and activities. They choose their individual learning goals. They trust in themselves and develop their self-confidence. They choose and plan learning activities. They motivate themselves. They determine a suitable beginning strategy, focus and use their previous knowledge. They read, listen, analyze, correlate and establish a scheme. They think and implement possible applications for a new situation. They express themselves with their own sentences. They try out new strategies. They think of possible situations to succeed another time. They evaluate the learning process and decide about their own performances. They consider the future rewards. They take a break from studying (Simons 1997, p. 20).

Five qualities are at the forefront in a class, where active learning is used. These are; confidence, energy, self-control, belonging in a group and being sensitive. Due to these

qualities, students participate in class instead of just listening. Improving their skills is more important. Active students become individuals, who are more willing, think further about a subject and merge their former knowledge with what they learned. Aside from students themselves being more active, they also help other students learn as well for the success of the group (Harmin 1994, p.3-4).

Confidence: Students feel safe and comfortable in clasroom. It can be observed that students, who trust in themselves and are ready to learn respect themselves.

Energy: Students are participants. There are no students who just wait around, get bored or waste their time in the class environment. Students do not want the class to end.

Self-Control: Students are responsible from their own learning. They manage and motivate themselves. They make their own choices. They begin, finish and if necessary correct their own studies. Students control their own learning speed and manage their studies.

Belonging in a Group: Students have already established positive relationships with managing personnel and other students and they listen to each other. They acknowledge and are acknowledged. They receive and offer respect. They do not feel rejection or separation.

Being Sensitive: Students are thoughtful and aware, knowing what is going on around the classroom. Students, who are attentive, curious, creative and diligent stand out.

Teacher's Role in Active Learning Approach

Many students in traditional classes worry about pleasing their teacher, understanding what is being thought and their classmates' reactions when they make a mistake and thus, fear learning. Excess worrying diminishes thinking. Students cannot think straight when they fear making a mistake or when they feel they have to learn immediately. Teachers can reduce the worrying of their students by using statements, which improve the self-confidence of the students while active learning approach is being used. If we were to provide a sample for these; teacher can write down statements such as, everybody requires time to learn and think. It's natural to make a mistake. That is how we learn. Each person has their unique learning style and learning time. It is smart to ask for help. No one can accomplish everything on their own. We are all smart at different things. No one needs to know everything. We all help each other, on cards and make a student read them first. Then, as a chorus, whole class can repeat those statements. In active learning, teacher makes learning interesting, uses inspirational statements and does not have negative feelings and expectations about his/her students. He/she knows that even the students, who did not do their homeworks had important reasons and thinks that

they will do it next time. Selective homeworks given by the teacher grab the attention of the students even more. When a teacher gives his/her students the right to reply, he/she listens to them without criticizing.

In active learning, group rewards are used instead of individual rewards. (i.e. This group demonstrated a tremendous development. You all work well together. You have learned very well, even though the topic was hard.). Many people enjoy being rewarded. However, the reward should be used very carefully. If not, it can create many negative effects. Students, who did not get a reward, could feel unworthy and they might think they are not good enough.

In active learning, teachers let their students know that they are understood, acknowledged and not alone, in other words they give the message of "I am with you". They use statements such as, "I could have done the same mistake. I can relate to how you feel. I share your troubles.".

In active learning, teacher provides a response to a student's correct answer by using statements such as, "Yes, correct. Alright. Thank you.". When a student gives a wrong answer, teacher does not offer a second student a chance to reply, but gives the correct answer himself/herself. "No, the correct answer is..............." etc. In active learning, teacher determines students' mistakes and takes notes: He/she does a study on that topic some other time (Modell, 1996).

Teachers during the Active Learning process;

Ask interesting questions, which would help the students to become careful observers.

Let the observations be expressed in written or verbal form.

Provide students reading books about their questions.

Create learning experiences supporting scientific research and experiments and provide materials.

Are willing to share students' curiosities and questions about the world. Are innovative, creative and empirical individuals (Klein 1991, p.23-27).

Five-Step Model in Active Learning

Five-step model in active learning are establishing the need to learn, setting the goals of learning, determining the source material for learning, choosing the suitable learning strategies, anticipating the benefits of learning beforehand (Telman 1998, p.29). Active learning is not only necessary to provide excitement, but also knowing the individual differences as well.

Methods to Use to Prevent Wasting of Time in Active Learning

The duration of students' attention is directly related to the duration of the class. If the class is too long, the attention of students starts to fall away and students begin to have difficulty in learning and memorizing the subjects (Risko, Anderson, Sarwal, et al., 2012; Risko, Buchanan, Medimorec, et al., 2013). The methods to be used to avoid wasting time in active learning are as follows: Activities should be starting on time, clear instructions should be given, visual data should be prepared to gain some time, study papers should be quickly handed out, reporting of the sub-groups should be quickened, letting discussions go on and on should not be allowed, volunteers should be quickly determined, tired and unwilling groups should be prepared for, activities should be quickened from time to time, class' attention should be drawn on time (Silberman 1996, p.28-29).

Some Strategies Used in Active Learning Approach

The learning strategies that ease active learning are much more different than passive learning strategies. Passive learning strategies make teachers responsible for providing all the information and knowledge that his/her students need (Michel, Cater ve Varela, 2009; Smith ve Cardaciotto, 2011; Niemi 2002). Active learning necessitates students play an active role through using a material, reflecting the learnt subjects and appyling the knowledge to different contents and activities (Diamond, Koernig ve Iqbal, 2008; Smith & Cardaciotto, 2011; Thomas, 2009). Recent studies have indicated that active learning is of much more effective in learning of students than passive learning strategies (Michel et al., 2009).

Some strategies used in active learning approach are as follows: Composing a poem, writing a story, puzzles, determining what is known and what is desired to be known, invitation to share a new situation, motiveation increasing questions, question - everybody writes, conclusion sentence, to speak or to say pass, ask a friend.

Composing a Poem

Students sit as small groups. Each group member has one piece of paper. Everyone writes a line about the issued topic and hands it to the person next to them. In second round, second lines are written onto the papers that are given to them and again they are handed to the person next to them. This process goes along until the time ends. In the end, all groups have as many poems as they have members. Then, poems are presented to the class (Acikgoz, 2006).

Writing a Story

Stories may be used as a learning goal, at the point of combining intensive topics and

concepts and when they aim to create a chain of event. Creating a story helps improve innate memory. Since the first ages, stories are being used as tools to teach certain values and information. Stories help the brain, which works as a constant recording device throughout the day, as a strong supporter. Brain processes each event after seeking a meaning for them. With story writing, all code and information transformed into a meaningful whole helps brain do its work (Yavuz, 2005, p.203).

Puzzles

"The aim is to work on concepts and evaluate concepts within a certain logical frame. It is used when concepts and situations are being thoroughly evaluated during the learning process. Puzzles are such activities people have fun working on. They can be prepared and worked on for different goals. Aside from that, after a learning experience, teachers can prolong learning processes of students about the topic with a work sheet comprising of puzzles or a puzzle, comprised and filled with concepts, can be handed out and a study, where suitable questions are created for concepts of the puzzle can be conducted." (Yavuz, 2005, p.110)

Determining what is known and what is desired to be known

The main goal for identifying the subjects known or wanted to be known is to determine the level of knowledge of students about a subject that they know and other details they want to know while preparing them for s study or before beginning the lesson. Asking students what they want to learn is a kind of effort with the aim of satisfying their curiosity about something. The teacher may add the suitable questions into the subjects that are going to be taught or hang them somewhere in the classroom to later mention about them. Alternatively, the teacher may turn the questions into individual or group projects. Furthermore, the curiosity of a student may trigger that of others.

Invitation to Share a New Situation

The purpose of sharing a new experience is to gather the attention of students and create a healthy classroom environment. Students share their new or past experiences with classmates. The teacher may ask for volunteers eager to share a new or interesting experience and should accept any idea or experience on any subject and thank to the student. The main goal here is to provide students the opportunity of sharing their interesting, sad or happy experiences with their classmates, even it lasts for several minutes. This strategy gathers all the students' attention and enables students to concentrate on the class.

Motivation Increasing Questions

Starting the lesson by asking motivating questions let students brainstorm over a subject

since it is easier to go on the lesson when students are all ears.

Question - Everybody Writes

Within the quick-write strategy, a question is directed to students and each student is asked to write an answer. Students are given time to think and write their answers. The aim of writing the answers here is to prevent students whose answers are ready to get bored.

Conclusion Sentence

Besides, some students prefer reading rather than talking. If there is only one correct answer, students make a comparison with their classmates and correct their answers on their own. Within the asking for conclusion strategy, there are cards on a corner of the classroom written 'I learned that…' on. Students write such sentences on these cards as;

I learned that …………………………………………………. in this lesson.

It was a big surprise for me to learn that …………………………… in this lesson.

After all I learned in this lesson, I start to wonder …………………………………..

The subjects I learned in this lesson made it possible for me to discover ………………………..

I think I disagree with ………………………………………………….

Now I understand that I want learn much about ……………………………….

I think, after this lesson, …………………………………………………………

To sum up, …………………………………………………………………..

Students write down their conclusion sentences into their self-learning-logs. Students are not expected to learn a subject equally.

To Speak or to Say Pass

Talking or passing over strategy requires many students to take the floor and talk. The teacher may trigger the students by saying "Let's begin with the ones sitting near the window. When the turn is yours, you may either talk or give the turn to your classmate by saying 'pass me over'". This strategy could be used for either the whole class or just a section of the class and is particularly useful when the question has multiple answers.

Ask a Friend

The purpose of asking to a classmate strategy is to increase the inter-student support

and save time and energy for the teacher. Upon the questions of students as "On which page are we?" or "Could you please repeat the homework?", the teacher may direct the student to ask his/her classmate. Through this way, the teacher's load eases off and the interaction between the students increases (Demirci, 2006; Demirci, 2017).

Stages of Practicing the Activities in Active Learning

Activities help make learning active. These are; role playing, games, simulations, visualization, problem solving, etc. These benefit students in learning by experience, instead of learning by hearing.

- Explaining the goals: Students are explained what will happen and why it will happen.

- Establishing the games: Students are explained why we are doing these activities. Correlation between this activity and others are mentioned.

- Speaking slowly when giving directions: Directions should be clear. Visual aides are required.

- If the directions are complicated, activity is demonstrated: Students are presented with the activity before doing it.

- Students are separated into sub-groups before further directions are given: If this is not done, students may forget the directions when the groups are created.

- Students are informed about how much time they have: Time period is expressed before the activities. Periodically, they are told how much time they have left.

- Activity should be animated: All the things students do are not written on the board. Therefore, the activity is not halted. Also, discussions are not allowed to extend.

- Students are given the opportunity to compete: Lots of energy is required for the activity to create a certain amount of excitement. If the activity lacks energy, students do it halfheartedly.

- Activity is always discussed: When the activity is finished, students are given the opportunity to discuss their thoughts and what they learned.

- Practice experiences are carefully structured: Discussion is guided and only a few questions are asked. If the students are in a sub-group, they are given a short amount of time to share their responses.

Role playing is used in active learning to start a discussion, to practice skills and to figure

out what is being thought about the situation. Role playing can be conducted in two different ways; scripted and formatted (Silberman, 1996, p.26-28).

Ideal Sitting Formations in Classrooms, Where Active Learning Approach is Being Used

It can be said that a classroom's physical organization is one of the most important factors influencing the learning dynamic of that class. Therefore, classroom organization can be used as an effective education tool for students to attain desired knowledge, skills, attitude and comprehension. However, it can be observed that the typical classroom organization in many modern-day schools usually consist of a structure, in which seats and desks are arranged one after the other. This kind of a classroom organization is a determinant of whether the students have a passive or an active role in that class (Saban, 2004, p.177).

Classroom's organization of physical environment is important in practicing the chosen strategies. For why, classroom's physical environment either creates or destroys active learning. Thus, for active learning to take place in a class, principally, it befits that there are tables/desks/seats, which can be easily placed, to create different suitable environments in that classroom. Suitable sitting formation could be established by combining traditional desks as well. Students should be tasked with arranging desks, tables and seats. Which would make them active.

U sitting formation: It is suitable for multi-purpose use. Students can easily see each other's faces for writing and reading and they can engage in pair work. It is especially suitable, when there are two seats located on each side of the desk. This is an ideal formation. As you can reach different points with material sets.

Team style sitting formation: Circular grouping and long tables are placed in the classroom. This situation increases the interaction within the class.[1] Seats are located around the table and an intimate environment is created. That way, some students will be forced to turn their seats around to be able to see the front side of the classroom.

Conference table sitting formation: This is the most suitable method, if the table is round or square. This decreases the importance of the teacher and increases class's. The square table provides formality, if the teacher sits at the head of the table. If the teacher sits at the long side of the table, students, who would be sitting at the ends of the table, feel themselves unworthy. Conference table may be created by bringing amny small tables together.

Circular sitting formation: Students sit in their seats, without desks and tables, in a way that all of them are able to see each other. It creates a direct method for face to face

interaction. In following studies, students can be asked to quickly arrange their seats to create many sub-groups. If a group discussion is desired, they can be asked to place their seats around.

Group within a group sitting formation: A meeting table is placed in the middle. Circles of seats are placed around it.

Auditorium sitting formation: Seats are placed in an arc. That way, intimacy and a situation, where the students can see is created. If the sitting area is fixed, students are asked to sit closer to each other.

Traditional sitting formation: If it is not possible to arrange seats, desks or tables in aforementioned formations, then learning partners form groups of two among each other (Silberman 1996, p.9-16).

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