

THEORETICAL AND METHODOLOGICAL BASIS OF DEVELOPING STUDENTS' LOGICAL THINKING SKILLS

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Abstract: In the article students logical his/her thinking development theoretical basics and lessons effective organization of reaching modern pedagogical approaches analysis Logical of thinking the essence of it structural components and training in the process place illuminated.

Also, J. Piaget, H. Gardner, J. Bruner and L. Vygotsky logical thinking about approaches, scientific views based on education process organization and students his/her thinking formation features studied.

Students independent and critical their thoughts in improvement problematic education and interactive of methods importance seeing This is the with together , modern education from technologies use through of learners to know activity increase , analytical thinking skills develop and education efficiency possible .

Key words: logical thinking, cognitive development, pedagogical technologies, digital education, independent thinking, education efficiency, abstract thinking, intellectual, interactive.

Login

Current fast developed going technique in the century education in the process main demand is students independent, logical and critical thinking development. Especially logical thinking develop students intellectual knowledge potential in increasing important role plays.

Logical thinking is every one human analysis to do, the situation the reasons clarification, conclusion release and generalization such as mental is the ability. Students logical thinking through given knowledge just iodine they can't, on the contrary information deep thinking them understand Modern education in the processes only knowledge to give not, maybe thinking abilities develop main goal is considered.

This for some reason, the students logical thinking skills development theoretical and methodological the basics study is a pressing issue.

Literature analysis and methods

Logical thinking and him/her develop and education in the process importance and methods about various scientists by various interpretations there is .

For example, Swiss scientist J. Piaget in his cognitive development in the concept child's thinking his/her to age suitable in a way formation emphasizes. That is, the child grows up progress during your name thought to do ability too expands and every in stages thinking level from each other difference does.

Students around event - events between dependency understanding individual experience through takes and this experiments based on conclusions release their logical his/her thinking improves.¹

Training in the process Piaget's from the theory use education quality and efficiency increases, education recipients activity strengthens this with together them independent to think and alternative conclusion to release This process students knowledge deeper and more perfect to occupy provides.

Howard Gardner scientific to their views according to, abstract thinking human mental potential inseparable part is, it is logical - mathematical intellect through wallet In this process person mutual connections to determine and problems solution to do abilities improvement possible.²

Pedagogical Gardner's approach to the process very important is, it is individual training in application system working exit necessary. Because all students one kind not theirs both thinking and abilities kind to that according to lessons their to the intellect suitable in a way organization necessary. Logical thinking develop for training in the process problematic assignments to give them together analysis to do, mathematics logical issues more work necessary.

This process no one learner aside mold it won't go away, because every one of knowledge level on the surface separately processed to them suitable in a way information This is explained. The lesson interesting does and students activity increases.

J. Bruner cognitive psychology and education theory large from representatives It is education in the process logical thinking in development to students ready knowledge to give not, on the contrary them independent to study, analyze to do and conclusion to release redirect necessary emphasizes.³

Bruner's knowledge 3 types of process to form will be :

1. Enactive (practical movement) – students knowledge movements through takes. That is lesson in the process students active participation will reach.
2. Iconic (pictorial) – information demonstrative weapons (pictures, diagrams, tables) and via is expressed.
3. Symbolism (logical) – students problem understanding him/her analysis to do, solutions search and independent conclusion release through information learns.

¹ Piaget, J. The Psychology of Intelligence. – London: Routledge & Kegan Paul, 1950. – p. 134–145.

² Gardner, H. Frames of Mind: The Theory of Multiple Intelligences. – New York: Basic Books, 1983. – p. 127–135.

³ Bruner, J. The Process of Education. – Cambridge, MA: Harvard University Press, 1960. – p. 33–40.

Bruner's "discovery" through "learning" idea the learner passive knowledge from the recipient active to the seeker. It also turns students analytical and critical thinking noticeable at the level increases.

Also, L. Vygotsky his/her own in the opinion of thinking human around social environment and education in the process his/her speech activity through formation proved.⁴

This approach education in the process teacher and student cooperation "Provides". Close development "zone" idea students themselves independent complete unobtainable assignments those around through score to do and logical his/her thinking to grow. This approach shows in classes traditional education from the method give up passing by instead of modern interactive from methods to use encourages. Interactive games and digital from technologies use knowledge thorough to take efficiency increases.

Above are the works of J. Piaget, H. Gardner, J. Bruner and L. Vygotsky. Logical thinking according to various scientific approaches seeing We went out. Their thoughts various to be possible but main goal – logical thinking skills develop general was.

Logical thinking develop for education in the system following methodological from approaches use to the goal appropriate will be :

- Developer education approach is to the approach mainly student knowledge ready without not, itself independent movement to do through occupies. Problematic situations create through their thinking activates.
- Competency approach is approach students learned apply your knowledge in real life application ability Logical thinking and main from competencies one is considered
- To the activity based approach is in approach only teacher not , maybe student education process subject is considered. Lessons practical activity with connects.
- Interactive methods – problematic education and like a case study methods student's independent and critical thinking develops.

Results and discussion

Education in the system above cited from methods use through following to the results achieve possible :

- Interactive methods students training in the process activity increases
- Problematic situations students independent thinking ability increases
- Students own to their thoughts has will be and him/her based on to give to his/her skill has will be
- Lessons further interesting and will be rich in debate, knowledge to take, lessons mastery efficiency increases

⁴ Vygotsky, L.S. Mind in Society: The Development of Higher Psychological Processes. – Cambridge, MA: Harvard University Press, 1978. – p. 86–90.

Students logical thinking develop for only theoretical knowledge himself/herself not enough. Study activity interactive organization to, students attention problematic to situations attraction It is also important to do is considered.

Also, lessons in organizing students young category and individual knowledge level into account to take need. Every one human thinking ability and level various that it is into account take, differential approach important importance has.

Developer education based on organization pedagogical processes children's not only knowledge level this with together their thinking It also enhances culture.

Conclusion

Logical and critical thinking formation modern education system priority from the goals one is considered. Interactive methods and digital technologies training to the activity integration to do through of learners to know activity, independent thinking ability increases.

We know that logical contemplation only ready knowledge possession with not, maybe problematic situations solution, mutual dependency understanding and independent conclusion release through develops. In this process modern pedagogical technologies, interactive methods and problematic teaching important importance has.

Scientists theoretical views based on students his/her thinking step by step develop effective to the result to achieve help gives. Their approaches training in the process implementation to grow through knowledge recipients cognitive potential reinforcement possible.

In particular, in education logical thinking to develop directed innovative from approaches use intellectual development of students provides them time requirements based on independent think can person as shapes.

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