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Developing Skills of Deductive Thinking for Post Graduates in Faculty of Education

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Abstract

The present research tries to test the effectiveness of some acts aiming at developing the skills of deductive thinking for postgraduates in faculty of education via applying deduction rules on the formal problem model concerning the subject of programming things as an example. The deductive thinking is defined as the process of using postulates and premises in order to reach the particulars (elements of programing forming the final design). The research sample included) 20)postgraduates from faculty of education, Tanta University. It is remarked that stages of designing programming was coincided with applying of deductive thinking skills.(20)-clause- test was formed to measure the deductive thinking for students focusing on) 3)basic skills: induction, deduction and inference. These skills aim at knowing students ability to thinking about issues and topics and how good they are. Results showed that the more programming skills students have, the cleverer they are in deductive thinking skills

Keywords: *Deductive thinking, programming things, induction, deduction and inference*

Introduction

It is Common that inference consists of induction and deduction. To clarify, deduction is a process of using general rules to understand particulars [1], whereas induction means using particulars to understand the general rules. Philosophers and logicians see that deduction is from general to specific, but induction is from specific to general .In (1934) and (1941), Therston divided inference thinking into deduction and induction. Meanwhile [2], others argue that inference depends on other brief ways such as availability, stability and amendment. These ways aim at choosing or selecting information related to the problem from a big amount of data far from untruthfulness and prejudice until we reach new deductions. To add, while inferring, we depended on presenting a new element [3]. That is to say, we reach a new relationship between non relevant things and in that process; the individual reaches new and unexpected information [4]. Moreover, inference is described that it is a relative thinking in which relationships are used to get new information. Hence, inference should be paralleled with logic [5]. Since the main goal of the inferring thinking is to reach new results, we wonder if induction and deduction lead us to new findings. To answer, we should reconsider the belief saying that the inferring thinking equals the total of its parts (induction and deduction). We also notice that induction and deduction do not mean reaching to a new result. To clarify, in deduction, the individual can't go from the general rule to particulars (Result) unless the latter is included in the general rule; consequently the result is not new [6]. As for induction, it depends on using particulars to reach general rule (result) which contains these particulars. That means the new results are derived from the available information.

Inferring thinking is related to other kinds of thinking. It is a part of the critical thinking which links between general rule (introduction) and particulars (result) or links between hypothesis and proof, whereas the critical thinking means judging the truth of introductions on which results depend via checking concepts and terms of these introductions [7]**.**Inferring thinking is also related to creative thinking. Al Geshtalt sees that creative thinking is a kind of inference whether it is mental creation dealing with abstract concepts or cognitive one. In other words, creation results from interaction between persons' imagination and mental processes such as inference and cognition [8].

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Methodology

Considering thinking skills an educational aim, schools and universities do their best to save a good environment for thinkers. That research traces students' performance of vocational diploma of instructional technology at faculty of education in Tanta University during teaching "programming things" subject via doing discussion. It is noticed that those students took care of understanding basic concepts and information only lacking in developing their mental abilities namely skills of deductive thinking . Thus, that study tries to overcome these above mentioned problems to make students able to write codes of programs in programming curriculum. The study sample included (20) students from the vocational diploma of instructional technology. They were chosen randomly at the second term of the year 2019. Depending on the previous studies dealing with deductive thinking, a measure formed of (20) multi choice question was timed by(6o) minutes to test basic skills of deductive thinking. The researchers used statistical analysis programs (spss) to measure arithmetic means, standard deviation and T value.

Result

After applying deductive thinking measure on students during programming things lectures, the research showed differences with statistical significance at level of (0,05) between arithmetic means of previous and subsequent measure grades for students of vocational diploma for the benefit of the subsequent measure as the table (1) shows.

Table 1. differences with statistical significance between arithmetic means of previous and subsequent measure grades for students

	mean	Standard Ddeviation	Freedom degree	**T** Value	Significance level
Pre	3.0	1.2	15	37.7	0.05
Post	10.3	1.6	15	37.7	0.05

Discussion

The previous table.1 shows a big difference in the experimental group's performance before and after the application measure. The pre-measure was lower than the subsequent one .T-value was higher than T-value at significance level of(0.05). That proves that this thesis is acceptable by looking at the numerous studies concerning deductive thinking which helps students to self- study and be active in the learning situations..

Recommendation

- Paying attention to deductive thinking for university students generally and post graduates particularly.
- Providing Ccurriculum with deductive thinking skills.
- Increasing summer activities which strengthen thinking skills for learners.
- Paving the road for teachers or managers to invent new way of thinking.

Conclusion

Deductive thinking is traced to the existence of scientific mentality for students which help them to solve problems in a scientific way and reinforce their self – confidence to do achievements in their career.

References

[1] Hunt, (1999) Cognitive Science: Definition, Status and Questions, Annual Reviewed Psychology, 40,, PP; 603-629.

[2] Fawad Abu Hatab, and Mahmoud Al-Srouji (1981), Educational Psychology, The Anglo-Egyptian Library, Cairo, Egypt.

[3] Scriven (1974) Reasoning, McGraw-Hill Book Company, New York.

[4] Helmy El-Melegy (1972) Contemporary Psychology, Arab Renaissance House, Beirut, Lebanon.

[5] Ahmad Muhammad Salih (1991), Piaget stages of mental development and its relationship to originality among third-graders, "Abu Dhabi", Journal of Educational Studies, Volume: 6, Number: 32, Abu Dhabi, UAE, pp. 291-263.

[6] Ali Kamal Maabad, (1999) Effectiveness of using the Merle and Tenson model in acquiring second-year preparatory pupils for some political concepts in the social studies course, unpublished Master Thesis, Faculty of Education, Assiut University, Egypt.

[7] Medic, Halfawi (1997), deriving performance criteria on the scale of critical thinking for undergraduate students in Jordanian public universities, unpublished master's thesis, University of Jordan, Amman, Jordan.

[8] Shaker Abdel Hamid (1995) Psychology of Creativity, Dar Gharib, Cairo, Egypt.