

Achievement motivation in the Java programming Teaching

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Abstract: This achievement is an important factor in encouraging students to actively learn, a lot stronger when the student overcome a learning difficulty which stimulate enthusiasm for learning than the other way to bring results, the teaching process in Java, because Java programming complexity itself cause difficulties on student learning, the research group in the teaching process, the introduction of the achievements of the mechanism, by contrast to the 40 students in the experimental results show that the use of achievement motivation will increase the effectiveness of teaching Java.

Introduction

With the development of information technology and the popularity of the Java language in software development, more and more colleges and universities offer courses in Java programming, Java programming, but for Chinese students, especially after a major force as a programmer in vocational high tertiary students in learning, especially in-depth study on the feeling is very difficult, so the lack of interest in learning and learning initiative, which is in the Java teaching a urgent problem.

1930's achievements in educational psychology theory appeared, some teachers began trying to domestic achievement motivation theory into teaching, such as achievement motivation theory Jiangsu Revenue school applications in computer teaching is through the achievement motivation theory, it is introduced to the computer teaching, and achieved good results.

Combining Java teaching characteristics, the introduction of teaching achievement incentives, and applications in computer professional 40 students, the results show the effect of improving achievement incentives Java teaching.

Achievement motivation

In educational psychology in the 1930s, Murray's study stems from the concept of achievement motivation. He said: efforts to overcome obstacles, to display their abilities and strive to solve a problem faster and better desire or tendency to achievement motivation. 40 to 50 years, such as McClelland and Atkinson Murray accepted the idea, and the development of the theory of achievement motivation.

McClelland's study found that people with low achievement motivation, generally choose less risky, less independent decision-making career; and people with high achievement motivation, like working on a groundbreaking, and the courage to make decisions at work. Furthermore, achievement motivation can be developed and stimulated. Atkinson further states: in the learning activities, the main response to a question by the tendency of strength within Trg drive strength (also known as needed) Mg, the possibility to reach the target (also known as incentive) Erg, and goals the main

attraction (also known as value) I_g common decision. Expressed by the formula: $Trg = Mg * Erg * I_g$. And $Erg + I_g = 1$. When the more difficult

Small possibility (Erg) when the larger goal of achieving the target, the smaller of the main attraction (I_g); on the contrary, when the degree of difficulty increases, reducing the likelihood of achieving the target, the target value will increase. If you just let the students simply repeat what has been learned (Erg close to 1, I_g close to 0), or too difficult for students to learn something, (Erg close to 0, I_g close to 1), students not interested (Trg close to 0). Only those in the learning/half-baked 0/0 not really understand thing, only students interested and eager to master it.

Features of Achievement Motivation

1) Human activity always points a certain goal, always trying to achieve something in some respect.

2) In overcoming obstacles and difficulties in the process of achievement motivation people face setbacks and failures encountered, showed great tenacity and perseverance, and do not give up.

3) Achievement motivation has a complex multi-level nature, from toddlers to teenagers, adult children until old age, there are many different situations. When young children, verbal learning, games daily living are the main activities on the performance of their achievement motivation in trying to do these things; children whose main activity is to learn after school, get good grades is a major motivation for their achievement goal; to adolescence, achievement motivation became more complex, in addition to still pursue good grades, but also the pursuit of cultural and sporting success ,on group activities; as adults and the elderly, who mostly work in the pursuit of labor ,academic and other aspects have success.

4) Human achievement motivation is motivation system throughout a motive, it is self-improvement and knowledge, create and praise, compliance attribution motivation intertwined, interwoven, interacting.

Java Teaching

Java is a major tool for software developers now can be used in many areas management system development, mobile development, game development, so in order to improve the competitiveness of graduate students, many colleges and universities offer courses in Java programming.

Java is a pure English wording of the programming language, therefore, for non-English speaking countries the series, the first obstacle to China's college students learning Java is the language barrier. Second, Java language itself, there are many difficulties need to work in order to learn to master, so in order to make students a good grasp of the Java language, we must introduce a new educational philosophy.

Atkinson believes that the pursuit of success and failure will determine the behavior of individuals. Avoid the losers tend to choose very easy or very difficult task, contrary to pursue successful achievement aims, they are most likely to choose the probability of success is about 50% of the task, because this choice will give them the greatest practical challenges, their success or shoo impossible task, motivation levels decreased. Secondly, due to the success of failure will also result in different behavior of student learning. When a person is attributed to the success of internal factors such as ability and effort, he would be proud, satisfied and confident. And the success is attributed to external factors, such as the task easier and luck, the sense of satisfaction generated is less. Thus

stimulate and sustain student achievement motivation will facilitate students' learning success, and can fully mobilize the enthusiasm of their learning.

Incentives introduced Java teaching following measures:

1, with the introduction of a similar problem, and related solutions: in school classroom before the introduction of links, deliberately make some procedural issues related to these issues need not be very difficult and requires only a few simple questions, for example, in explaining the Java program and database connectivity problems when only need to introduce the issue: database programming problems, we use the Java language, what steps should adopt it? This does not require specific implementations, just introduce a few simple Java language class on the line.

2, a simple example using interesting: learning programming languages, students generally very interested in images, sound, animation, but for example they feel boring, so the time to explain, to make use of sound examples, such as the input the output stream, the conventional example is about the writing and reading of a document, for multi-threaded, ABAB sequence is simple, if you are using these examples sound and picture, and that the effect is not the same as teaching, for example, students learn the picture flip, learned to control the sound of the thread, so motivation is very big accomplishment.

3, simulation project development: Another wonderful course not as a project to better meet students' achievement, and therefore the incentive program introduced in teaching, undoubtedly urge the students to better grasp the Java language approach.

4, good use of the students' prior knowledge, skills, build a good step to make it more smoothly every step of obtaining new knowledge, this is indeed the teachers should pay more attention to the preparation Problem.

5. The use of learning outcomes feedback. Allow students to keep abreast of the results of their study will have a significant incentive, because they know their progress and achievements in practice, such as the effectiveness of the application of knowledge, can arouse the desire to learn more, but through timely feedback and can see own shortcomings and mistakes, correct and timely inspire motivated.

6. The correct evaluation and appropriate praise and criticism. Affirm or deny students through learning activities, in order to consolidate and develop the proper motivation.

Results

We applied computer science in computer science, select a class of 40 people to do the pilot, using the appropriate method of teaching achievement motivation, other classes using traditional teaching methods. Comparative experiments were testing grammar, concepts, grasp the overall contrast and Java applications in four areas of knowledge, including syntax and concepts used are written the way, a simple way to the overall project development to master the use of, Java knowledge application using race way. The results are shown below:

1, in the grasp of grammar: 40 pilot students than the average student to master grammar singular phenomenon, and expectations are not the same, 40 student pilot on some students do not master the grammar as common teaching methods, such as `i++` and other knowledge, many students do not tell the pilot that meaning.

2 grasp the concepts: object-oriented concepts for students to master the pilot and non-pilot students' overall grasp or less;

3, the overall grasp on: for the same project development, 40 students for the pilot and the realization of the project on the development of flexible, beautiful and practical in terms of functionality, the stronger than the average student.

4, from the application of knowledge of Java, the pilot students knowledge than non-pilot student wider and wider.

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References

- [1]Weiner B. An attributional theory of achievement motivation and emotion[J]. Psychological review, 1985, 92(4): 548.
- [2]Nicholls J G. Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance[J]. Psychological review, 1984, 91(3): 328.
- [3]Achievement motivation and attribution theory[M]. General Learning Press, 1974.
- [4]Pintrich P R. An achievement goal theory perspective on issues in motivation terminology, theory, and research[J]. Contemporary educational psychology, 2000, 25(1): 92-104.
- [5]Raynor J O. Motivation and achievement[M]. VH Winston & Sons, 1974.
- [6]Busato V V, Prins F J, Elshout J J, et al. Intellectual ability, learning style, personality, achievement motivation and academic success of psychology students in higher education[J]. Personality and Individual differences, 2000, 29(6): 1057-1068.
- [7]Rosen B C, D'Andrade R. The psychosocial origins of achievement motivation[J]. Sociometry, 1959: 185-218.