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Using The "Smart Robot "Method in Teaching Programming Languages

Kamalova Nilufar Ilkhomovna
Bukhara regional center for retraining and advanced training of public educators, a teacher of "Methods of exact and natural sciences "

Annotation The advantages of using interactive methods in programming teaching and the procedure for interactive using the "smart robot "method is given in the article.

Key words: Innovative educational technologies, interactive methods, python, smart robot, pedagogical process.

The attention to education in our country is growing from year to year. A number of laws have been passed to improve the quality of education. In particular, the Resolution of the President of the Republic of Uzbekistan dated September 5, 2018 No PP-3931 " **On measures to introduce new principles of governance in the public education system** " to improve the quality of education and the introduction of innovative educational technologies Measures have been identified [1].

Innovation is derived from the English word for innovation means. Innovative educationaltechnologies mean innovations and changes in the learning process. It is interactive in education management methods are used.

Interactive (" inter " means to interact , " act " means to act) means to interact. In interactive learning . learners learn from each other.

Today, there are many interactive methods used in the pedagogical process, aimed at improving the quality and effectiveness of education.

R.Ishmuhammedov, M.Yuldashev, A.Abdukodirov, A.Pardayev, S.Usmanov studied them in detail and covered them in their scientific works.

According to R.Ishmuhammedov and M.Yuldashev, the main basis of pedagogical technologies is the systematic, collaborative achievement of the teacher and the student from the set goal, the guaranteed result on the basis of a clear sequence. [4]

Targeted use of interactive methods can make the learning process more efficient and effective. However, the methods used in pedagogy may not always yield the expected results in andragogy. The methods used in adult education will have to be selected taking into account the psycho-physiological characteristics of the adult. However, the interactive methods chosen in teaching a programming language should be aimed at acquiring certain programming skills. These methods are most appropriate when focused on analyzing program code and creating new programs.

Smart robot method.

This method can be used to improve the skills of computer science teachers, to develop the skills of programming in the Python language. The main purpose of the method is to understand the program plates, to understand them, to conduct program analysis and to teach to return the result based on the unwanted value.

Tools used in the method : a presentation of 10 programs prepared for analysis, a card index with numbers from 1 to 5 , a computer and a projector.

Application of the method : Can be used in lectures and practical classes, individually or in groups.

How to use the method : Divide students into 5 groups purposeful. One member from each group is invited to the board and is told to choose a card index with 1 to 5 numbers written on it. After one member from each of the 5 groups selects the card indexes, the participants are said to

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become a smart robot and practice the information printed as a result of the program displayed using a projector, without making a sound. The number in the file will be unwanted information for the program. 1 program itself returns different results for each unwanted information. For example, consider the following program :

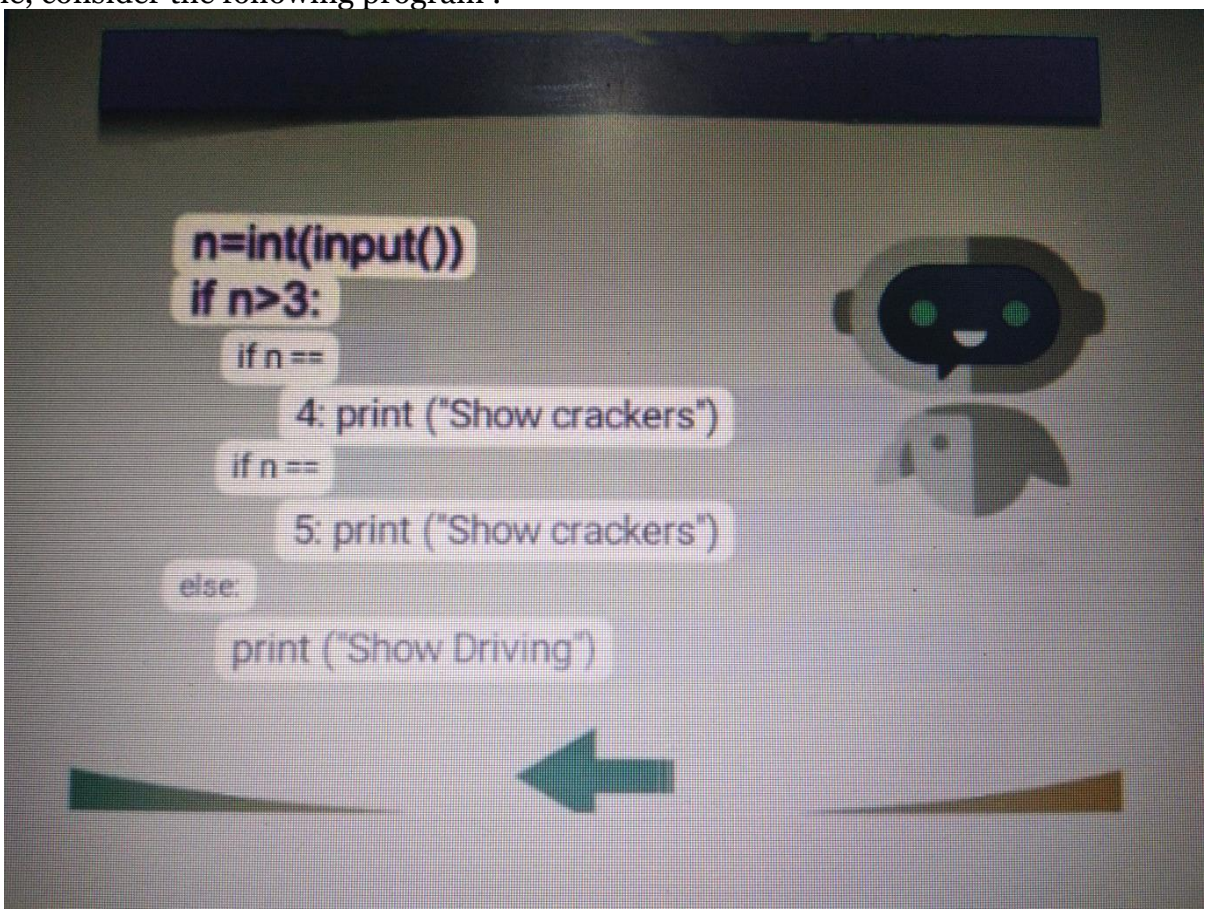

Figure 1 . Sample from the program board.

In the above program, those who choose the numbers 1,2,3 will have to show driving, the participant who has chosen the number 4 will have to show how to bake bread, and the participant who has chosen the number 5 will have to show how to chop wood. Participants do not tell anyone what number they have on hand, just fit. They will have to take action. During this time the rest of each group, participants are said to analyze the program. After the participants have completed the action corresponding to the number, the rest of the group should say what number the participant described in the card index. For example, when a participant demonstrates driving , the group members will have to explain that the participant has a file with the numbers 1,2 or 3 in his or her hand. When a participant shows a loaf of bread, they will have to say that 4 is written on the file. When usiong the method, it is possible to keep track of points. In this case, 10 points for the participant's answer can be evaluated with the comments of group members.

When this method is used, all team members must be equally active. If participants get a result by placing a single given value in the program , team members will need to analyze the program as a whole and determine the results to be achieved at each value. This means that group members need to do more thinking processes than participants.

It would be advisable to conduct an evaluation after listening to the views of the participant movement and the rest of the group. In doing so, they will be able to evaluate each other.

Once the appropriate points have been set, the next 5 participants will be invited and they will also choose 1 of these 5 files. They will be shown the next program sheet through the projector.

The above process is repeated several times.

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Requirements for the selected program:

a)The program selected for analysis should be small in siza. It will be difficult to depict large-scale programs on the screen. Recognizing it and returning the result can also be complicated.

b) The program will not have to perform complex arithmetic calculations The main focus should be on arithmetic operations, not on the program.

c) The tasks performed by the participant should be appropriate to the psycho-physiological characteristics of the adult. Jump in times in it, you should not choose difficult or uncomfortable conditions that adults can perform, such as undressing your feet.

d)Each program should be focused on solving a specific problem. That is, it should represent errors and omissions in the programming process, as well as solutions to problematic issues.

e) Algorithm from similar programs avoid using as much as possible purposeful.

f)Selected programs to achieve a specific goal on a topic should be focused.

g) Attention should be paid to the continuity of topics. New concepts that have not been covered in the programs should not be introduced. That is, the use of unfamiliar operators should be avoided.

Examples of selected programs:

Topic:Programming logical problems	in the Python	programming language
Software	The goal	Note
1)n=int (input) if n>=0 and 5<2: Print ("raise your left hand") Else: Print (" raise your right hand")	Teach the condition of use of logical connectors	When the program returns every false result and the else part of any unwanted informatsion is executed.
2)n=int(input) if n-2==1:print (n+1," with your second finger ") Elif n-4==0 print (n**0,"with your second finger else:print(n**1,"with your second finger") Use the if Elif operator	Unwanted is not to informatsion the following results. Returns:3when4. When 1 is 0 4 when 1 When2 and 5 to show itself of these numbers in an appropriate manner need	
3)n=int (input) if n-2==1: print (" tea for me") if n==2: print ("eat") if n==3: print ("bread") if n==4; print ("coffee drink") else: print ("towel with art")	Conditional operator one apply the view sequentially	Unwanted number 1 is "tea drink" notes. Towel and lip art with both of the should be paid to the publication.

Application of this method in the systems of teacher training via :

a) The theme is reinforced

b) Independent and critical thinking is developed

c) Learners can be more active.

However, they used this method during their pedagogical activities students will be able to apply.

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References:

1. TheDecree of the President of the Republic of Uzbekistan dated September 5, 2018. : People Resolution . No PQ-3931. : On measures to introduce new management cry principles in the education system “
2. Beasley D.- Python. Detailed reference. Saint Petersburg. Moscow 2010.
3. Askarova O.M, Abdullaeva M.A. Andragogy (textbook)
4. Namangan 2014 . ISBN – 978-9943-9989-17-1.
5. R.Ishmuhammedov , M.Yuldashev . Innovative pedagogical technologies in education and upbringing. A handbook for educators, methodologists, teachers, educators and trainers. Tashkent 2013 . ISBN 978-9943-23-075-0.
6. M.T.Jumaniyova, R.J.Ishmuhammedov. The use of pedagogical technologies in education. Curriculum for teachers. –T., A.Avloni HTXQTMOMI, 2010