

## EDUCATIONAL GAME. A BEST PRACTICE FOR IMPROVING ACADEMIC ACHIEVEMENT TO STUDENTS WITH SPECIAL EDUCATIONAL NEEDS

Nicoleta LUPU

Special School, Braşov, Romania (gheorghenicoleta22@yahoo.com)

DOI: 10.19062/2247-3173.2018.20.55

**Abstract:** Integration of persons with disabilities is a matter of topical interest. Although the current educational system encourage and promote the educational integration, the process of integration of children with special educational requirements (SEN) in the inclusive schools is still, in contemporary society a real challenge. In the current context, investigating and re-evaluation of the solutions for the recovery of children with disabilities is required. Starting from these ideas, the present article proposes a new forms of support for the child with disabilities through the game. Thus, the first part of the article presents general considerations relating to the game and finally are offered examples of games to develop the skills for writing-reading and numbers to students with special needs.

**Keywords:** *educational game, special educational requirements, academic achievement*

### 1. INTRODUCTION

*Educational game* is a type of game combining instructive, educational elements with fun. (Purcaru, 2008). Moscal (2006), Purcaru (2008) emphasize the fact that educational game differentiate itself among other games through objective, content, educational task, rules, action of the game, elements of the game and teaching materials.

In order to make the educational game effective, Putnic (2006), Purcaru (2008) add the following *conditions for organising the game*:

- clear formulation and clear settle of the aim and title of the game
- specification of the objectives to be pursued
- the explanations of the teacher should be short and simple, conducting the learning during the game
- rules of the game should be few and simple, simple in order to be understood and learned easily
- special attention should be given to preventing conflicts, superiority or inferiority complex
- games will be varied to offer any child the opportunity to win
- organisation of the group should be homogenous as to provide equal chance to each group.

A special attention should be given to the children with learning difficulties, by stating the criteria for successfully doing the game, ensuring the transfer by complicating the game, providing the necessary material conditions, adjusting the content of the game to the students' particularities, using a variety of teaching aids, attractive for the students.

## 2. INTERVENTION

The purpose of intervention is the development of writing-reading-numbers skills. The method used is the educational game. Intervention can be applied, either by teachers in the classroom, in the extended group, both for the typical students and students with special needs, either by specialists (speech therapist, teacher support) in the resource room, in the framework of the individual therapy.

Examples of activities:

### ***"The Animal Alphabet"***

*Objectives:* 1) identification, 2) sound recognition, 3) association with the capital letter

*Materials :* cards with pictures and letters on both sides

*Description:* The package contains double-sided cards, with letters and pictures of animals that begin with the respective letter (A-bee). The teacher puts the cards with animals (only those cards with the letters that will be learned in the context of that activity are chosen, (for example A-M), asks the student to choose an animal, the teacher pronounces the word first and extends the first sound, asks the student to say what sound the words starts with, it is associated with the image (A from the "albină" - bee), the card is turned and the capital letter is shown. The teacher changes the position of the cards on the table and asks the student to choose an animal that starts with "M".

In the course of other activities, apart from the letters A-M, other sounds and letters are introduced, the student is asked to recognise the letters learned previously, the identification and recognition of sounds and letters newly introduced.

### ***"We learn the alphabet"***

*Objectives:* 1) sound identification, 2) recognition of letters, 3) associating the sound with the capital letter, 4) the analysis of the graphic signs that compose the letter

*Materials :* cards with letters and pictures, notebook, writing instruments

*Description:* The package contains cards with letters and pictures that start with the letter in question. The teacher puts on the table the cards with images on one side and the cards with letters on the other side. The student chooses an image, the teacher prolongs the initial sound, the student identifies the sound and searches for the appropriate letter. It can be played the other way around, a letter is selected or the teacher tells the student what letter to choose, the image is found whose name begins with the letter in question, the graphic signs that compose the letter are identified. The letter is written on the notebook.

### ***"The sculptor"***

*Objectives:* 1) letter recognition, 2) identification of graphic signs which compose the letter

*Materials:* modelling clay, match sticks, wire, cards with letters

*Description:* The teacher puts on the table the cards with letters asking the student to show the letter, the graphic signs are identified, the student forms the letter from wire, then from modelling clay and then from sticks.

### ***"At the seaside"***

*Objectives:* 1) letter recognition, 2) identification of graphic signs which compose the letter

*Materials :* plate with sand (or flour), cards with letters

*Description:* The teacher puts on the table the cards with letters asking the student to show a letter, the graphic signs are identified.

The student writes the letter in the sand (flour) or the student writes a letter in the sand (flour) and asks the teacher to guess what letter he has written, the teacher asks for details (what the letter is formed of), the student must say what he drew to write the letter.

**"Guess the letter"**

*Objectives:* 1) letter recognition, 2) identification of the graphic signs which compose the letter

*Description :* The teacher writes with his finger on the back of the student a letter, he must guess what letter he wrote.

**"Magnetic syllables"**

*Objectives:* 1) formation of syllables, 2) syllables reading, 3) copying syllables 4) dictation of syllables

*Materials:* magnetic whiteboard, colored letters, notebook, writing instruments

*Description:* This game is made each time a letter is taught, in addition to the letter taught which will be of one colour, other letters are added of other colours and syllables will be formed. The combination of the two letters is done in front of the child. The teacher puts on the magnetic board the letter M, in front of the letter M, he puts in turn the letters A, I, O, U, the syllable is read, it is copied in the notebook. In order for the exercise not to be abstract, words beginning with the syllables in question are found, the syllables will be taken from the visual field of the learner, and the practiced syllables are dictated.

**"The race"**

*Objectives:* 1) formation and reading of syllables, 2) forming and reading words, 4) copying syllables and words

*Materials :* cards with letters

*Description:* The teacher puts on the table only letters (he begins with two letters, and along the way, others are added). The teacher has in front of her/him the letter M, the student has in front of her/him the letter A, the two letters are cars that collide, M comes towards A and when they collide they form the syllable MA, the student reads the syllable, copies the syllable formed with the help of the cards on the notebook. The two syllables come together to form the word MAMA (MOTHER), the student reads the word and copies it in the notebook. Other letters already studied are also added and words are formed.

**"Objects and their use"**

*Objective :* 1) association

*Material:* cards with objects and cards that illustrate their usefulness

*Description:* The teacher puts on the table cards with objects on one side and cards showing their usefulness on the other side, asks the student to select an object, the teacher pronounces the name of the object, the student finds the card that shows what we do with that object, a pair is made (e.g. chalk-board, watering-can - flower, pencil-pencil sharpener, etc.)

**"Families of animals"**

*Objectives:* 1) forming an set, 2) identifying the elements of a set, 3) sorting

*Material:* cards with families of animals (e.g. hen, rooster, chicken, lion, lioness, lion cubs)

*Description:* The teacher puts on the table the cards with the cubs of the wild and domesticated animals and the cards with the parents of the wild animals and domesticated animals, asks the student to choose a cub, the teacher pronounces the name of the cub.

The student finds its parents, forming a family of animals (a set), identifies the elements of the set (names with some help the family members), after forming the families of animals, the teacher asks her/him to group them in families of wild animals and families of domestic animals.

**"Fruit salad"**

*Material:* cards with the image of some fruit, cards with the image of some fruit cut into half

*Objective:* 1) association, 2) forming sets, 3), sorting, 4) identifying the notions of half/whole, 5) estimation of quantity

*Description:* The teacher places on the board the shuffled cards, asks the student to form two sets (of whole fruit, of cut fruit), asks the student to make pairs, then the teacher takes the card of a cut fruit, gives the student the card of a whole fruit, asks the student who receives more, after the formation of the pairs, the student must sort the fruit according to their colour.

**"The pyramid"**

*Objective:* 1) ordering of elements by size

*Materials:* game, pyramid tower

*Description:* The student must build the pyramid, he will order the pieces from the big ones (base of the pyramid) to the small ones (top of the pyramid), the order is discussed. This game anticipates the sequence of the numbers.

**"Rulers"**

*Objective:* 1) ordering of elements according to length

*Materials:* rulers of varying lengths

*Description:* The teacher asks the student to order the rulers from long to short or vice versa, which would clearly show length. This game anticipates the ascending and descending order of numbers.

**"Cars and neighbours"**

*Objectives:* 1) formation of sets, 2) ordering by size 3) identifying the position of some elements in relation to others

*Materials* different sizes: cars of different sizes and colours

*Description:* The teacher places the coloured cars on the table, gathers together the cars (a set), talks about this, asks the student to order the elements of the set by size, from big to small or vice versa, the teacher asks the student what is in front of (before) the yellow car, what is after the yellow car. This is exercised with as many objects as possible. This game anticipates the neighbouring numbers.

**"Who has more"**

*Objectives:* 1) the appreciation of amount, 2) the introduction of terms more/less, 3) introducing symbols

*Materials:* small dimension objects, cards with symbols +,-

*Description:* The teacher puts on the table small toys, asks the student to choose what toys he likes and asks her/him to form a set. It's the teacher's turn to choose, depending on how many toys the teacher chose, he chooses visibly less, a visibly smaller pile, he asks the student who has more, next to the pile with visibly more toys, the addition sign is placed, and next to the pile with fewer toys, the subtraction sign is placed, it is said aloud, insisting on using specific terms (bigger, smaller, more, less)

**"Let's build with sticks"**

*Objectives:* 1) the estimation of amount, 2) the introduction of the terms more/less, 3) introducing symbols

*Materials:* matchsticks, cards with the symbols +,-

*Description:* The teacher forms two piles of sticks, visibly different in size, and asks the student to put next to each pile the appropriate symbol, it is said aloud, a house of sticks is built.

**"Feed the puppy"**

*Objectives:* 1) the formation of piles with a number of objects corresponding to the number of sounds heard, 2) the estimation of quantity

*Materials:* toy puppy, cardboard bones

*Description:* The teacher asks the student to feed the puppy with as many bones as the number of knocks in the table he hears (the professor slowly knocks on the table), the first pile is formed, then the teacher asks the student to give the puppy as many bones as the number of handclaps he hears and to form the the second pile of bones, the student says where there are more bones.

**"Do as I do"**

*Objectives:* 1) the formation of similar piles to those made by the teacher, 2) forming piles on an image, 3) introduction of the term and symbol "="

*Materials:* chips, cards with sets, cards with the symbol "=",,

*Description:* The teacher forms a pile of tokens, the student must form a similar pile, it is said aloud, it is associated with the symbol =, then the student receives images of objects and must put on the table as many tokens as the number of objects in the picture, the symbol "=" is placed.

**"Sets and numbers"**

*Objectives:* 1) the association of set - number, 2) associating the quantity by numbers

*Materials:* "Numbers", playing cards (contains cards with sets, cards with numbers)

*Description:* Until now, sets have been formed and the quantity of items in a set has been estimated roughly, without being associated with figures. The teacher puts on the table cards with sets (sets of tractors, sets of frogs etc) and cards with numbers (1 to 5), asks the student to choose a set, define the set (the set of butterflies), asks how many butterflies there are, counts together with the student the butterflies, the last word said indicates the quantity (if he stopped at three, that is how many butterflies there are) searches number three, puts it next to the set with butterflies, and repeats the procedure with the other sets. On the table there are now the set of objects and the corresponding number, this is repeated with each number.

**"Palettes with numbers"**

*Objectives:* 1) the association set-number, 2) the association quantity-number

*Materials:* "The game of numbers" (contains cards with sets, cardboard pallets with numbers)

*Description:* The student receives the palettes with numbers from 1 to 5, the teacher places on the table a card with sets (the set of spots), the student must count the spots from the card and to raise the respective palette. It is practised with as many sets as possible.

**"Puzzle"**

*Objectives:* 1) the association set-number, 2) the association quantity-number

*Materials:* the puzzle "The alphabet, the numbers and the addition"

*Description:* Each number (1 to 10) is a puzzle made of three pieces, in the middle you have the image of the number represented through fingers, on the left there is a set of objects representing the respective number, the student must unite the pieces in order to associate the set with the number, the pieces for a number have a certain colour. After uniting the pieces, the elements of each set are counted, they are counted on fingers, the number is repeated.

## CONCLUSIONS

The use of the educational game in the learning and recovery process of students with or without deficiencies is supported by studies from the literature (Sylva et al. (1976), DuPaul, Eckert (1998), Baker et al. (2002), Basil, Reyes (2003), Gee (2005), Ignat, Duta (2010). The results of these studies showed positive effects in the academic, non-academic, cognitive and non-cognitive plan, as follows:

- the game improves the ability to read
- stimulates memory
- make improvements to the cognitive level, IQ coefficient increases,
- stimulate creativity
- keep the attention focused,
- develops the ability of understanding and problem solving,
- allows solving emotional, reduce anxiety, increase self esteem
- improve social skills,
- decreases hyperactivity,
- improves motivation,
- develops empathy, stimulates the communication expression of emotion,
- reduces the problematic behaviors and aggression.

Thus the present work becomes a support theoretical and practical for specialists in the field of education, providing examples of activities which can be used both in the activity of the teachers in normal education, as well as in the work of teachers and specialists in schools inclusive, all contributing to the educational integration of pupils with deficiencies and later to the social integration

## REFERENCES

- [1] Baker, S., Gersten, R., Lee, D. A synthesis of empirical research on teaching mathematics to low-achieving students. *Elementary School Journal*, 103(1), 51-73, 2002;
- [2] Basil, C., Reyes, S. Acquisition of literacy skills by children with severe disability. *Child Language Teaching and Therapy*, 19, 27-48, 2003;
- [3] DuPaul, G., Eckert, T. Academic intervention for students with attention deficit/hyperactivity disorder: A review of the literature. *Reading and Writing Quarterly*, 14, 59-82, 1998;
- [4] Gee, J.P. *Game-like learning: An example of situated learning and implications for the opportunity to learn*, 2005 available at <http://www.academiccolab.org/resources/documents/Game-Like%20Learning.rev.pdf>, accessed on 9.02.2018;
- [5] Ignat, M., Duță, I. *Jocul didactic matematic și rolul său în dezvoltarea capacității intelectuale la preșcolari și școlari mici*, 2010, available at [lectura.bibliotecadigitala.ro/ileanaduta/Jocul\\_didactic\\_matematic\\_si\\_rolul\\_sau.pdf](http://lectura.bibliotecadigitala.ro/ileanaduta/Jocul_didactic_matematic_si_rolul_sau.pdf), accessed on 9.02.2018;
- [6] Moscal, C. Repere metodologice în organizarea și conducerea jocului didactic. În Ilica, A. (coord.) Psihopedagogia și teoria și metodologia jocului didactic. Conspecte pentru pregătirea examenului de absolvire. *Educația Plus*, 4, Arad: Editura Universității Aurel Vlaicu, 2006;
- [7] Purcaru, M., A., P. *Metodica activităților matematice și a aritmeticii pentru institutori, profesori din învățământul primar și preșcolar*. Brașov: Editura Universității Transilvania, 2008;
- [8] Putnic, M. Jocul didactic-metodă și formă de organizare a activității instructiv-formative. În Ilica, A. (coord.) Psihopedagogia și teoria și metodologia jocului didactic. Conspecte pentru pregătirea examenului de absolvire. *Educația Plus*, 4, Arad: Editura Universității Aurel Vlaicu, 2006;
- [9] Sylva, K., Bruner, J., Genova, P. The role of play in the problem solving of children 3-5 years old. În Bruner, J., Jolly, A., Sylva, K. *Play*. New York: Basic Books, 1976.