THE CONCEPT AND DIDACTIC VALUE OF THE WORK SHEET

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Experiments with work sheets in the Department of Pedagogy in József Attila University began in 1964, under the direction of Professor György Ágoston. The experience acquired from such experience acquired from such experiments during the subsequent years permits the characterization of the main specifics of the work sheet, and the summing-up of its didactic value.

The work sheet occupies a particular place in the modern system of teaching methods, and is already used by a large number of teachers.

It can be used in the treatment of new material, in the accessory elements, in the primary fixation, in the construction of miniature systems, in the control of the understanding, and in the primary application. The use of work sheets is also of great importance when the application, systematization and fixation are promoted to independent phases.

Since the solution of the problems demands the recollection and application of earlier-acquired knowledge, the close connection between the acquisition of knowledge and its application can be followed well in this independent work.

In the introduction we present the work sheet "The plum tree relatives" prepared for the teaching of biology to the 5th class of the primary school.

Serial number .....

The fruits of the relatives of the plum tree

1. Compare the bisected fruits of the peach and the plum!

   What covers: the kernel ..... ?
   the stone ..... ?
   the pulp ..... ?

   How do the skins differ?
   The plum skin .....
   The peach skin .....

2. Now compare the fruits of the peach and the apricot! /On the basis of the coloured pictures on pages 11 and 13 of the text-book/

   What covers: the kernel ..... ?
   the stone ..... ?
   the pulp ..... ?

3. What similar fruits can you see on page 14 of the text-book?
   List them: .....
   .....

4. Complete the following sentence!
   The plum, apricot, peach, cherry, sour cherry and almond are all ..... fruits.

5. Why do we call them all stone-containing fruits?
   .....

6. Check your work on the basis of the first paragraph on page 11 of the text-book!
   Have you answered correctly? yes no

7. State which part of the stone-containing fruit you have not studied yet! Give its name .....

Constructed by: Dr. Varga-Nagy

A. The characteristics of the work sheet

The name of the work sheet indicates the independent work carried out by the pupils with it. The work sheet is a short series of problems serving for the solution of a partial-task of the study; it is printed on a separate sheet /or written, typed, or drawn/. Its role is primarily of importance in the acquisition of knowledge. The primary use of the work sheet is to promote the pupil's mastery of the teaching material. The series of problems have the following characteristics:

a. The complex problems are generally split up into elementary problems /steps/, and the course /algorithm/ of solution of the problem types is elaborated.

In the work sheet presented above the examination of the fruit is a complex problem. One of the concepts in the curricular requirements is: stone-containing fruit. The text-book promotes the acentuation of the characteristics of the concept which are to be mastered. In this way, with the aid of the syllabus and the text-book the logical breaking-down does not give rise to difficulties. The features of this concept to be mastered are reflected in six facts. These facts are the content elements of the concept, by means of which the algoritum of the solution /achievement/ can readily be elaborated. /Each of the facts is also associated with an image /I/./

stone-containing fruit 1. ------
2. ---------- stalk /I/
3. ---------- skin /I/
4. ---------- pulp /I/
5. ---------- stone /I/
6. ---------- kernel /I/

The steps are interdependent both as regards content and logically, and the unknown is linked with what is already known in such a way that the solution of every previous step forms the starting basis for the following step. On the work sheet given

above it was illustrated how the structures of stone-containing fruits are studied, starting at the centre and proceeding outwards.

The algorithm of the solution is given by instruction:

"1. Compare the bisected fruits of the peach and the plum!
What covers: the kernel ..... ?
the stone ..... ?
the pulp ..... ? "

By means of the given algorithm the pupils learn by practice the manner of studying the fruit.

In the second task on the work sheet the pupils again work with an algorithm, but now the basis of examination has changed.

The solution of the third task demands a listing from the pupils. The coloured pictures in the text-book provide the facts for the solution of the task.

"3. What similar fruits can you see on page 14 of the text-book?
List them: ....."

The similarity can be established in the listing only by accentuating the essential elements.

In the fourth task the pupils must confirm that they have mastered the knowledge of the essential content elements of the concept, and can apply it /Stone-containing fruit/:

"4. Complete the following sentence!
The plum, apricot, peach, cherry, sour cherry and almond are all ..... fruits."

The solution of the fifth task is an exciting step for the pupils for the reason that thereby they answer the question: "What are the fruits of the relatives of the plum tree like?" The whole series of tasks was prepared in order that the pupils, with the direction of the work sheet, and building on their own experience, be able to give an answer to the problem set. The results of their work to date are summarized in this solution.

The creation of the basis of motivation of independent study

forms the subject of separate provision in the phase of forming the series of tasks. /The shaping of the problem, the creation of various opportunities for consideration and activity, the guaranteeing of success by a step-by-step advance, the basis of a many-sided examination, varied combinations of questions, the development of the method of work into a custom, etc./

Depending on the nature of the task, the formation of the series of tasks is modified on the work sheets providing new knowledge, ensuring its application, and serving to fix it.

b. The checking of the solution of the task is ensured

The checking of the solution of the task should not be neglected in work with work sheets. Depending on the nature of the task, this exhibits a rich variety.

Our aim is for the checking too to become more and more an independent activity of the pupils. The realization of this as a general requirement can not be declared, however. It does occur that after the solution of more complex tasks collective checking is considered more fruitful.

The checking does not follon after the solution of each individual step, but generally only after the solution of the entire problem. The establishment of the position of the checking also depends on the nature of the task. It could be said that it is incorporated adaptably at a given point of the series of tasks.

c. A combined question technique is used

The work sheet given above provides a good basis for the illustration of the combined question technique.

In the independent work with the work sheet the questions appear in a combined form, and the means of answering varies accordingly in the series of tasks on each work sheet. We are of the opinion that the combined answering possibility has a favourable effect on the pupils' activities.

The content of the partial-task, the logical structure of the knowledge, and the psychological and didactic points of view, all play a determining role in the construction of the questions and answers. Their application is not optional, but is determined by a number of factors.

d. Instructions and information are given

The pupils' studying is made effective on the work sheet by exact directions. The instructions provide a guide to the carrying-out of both the mental and active performances. Let us consider the instructions on the work sheet from this point of view.

The instructions to the first and second tasks, for instance, demand the performance of mental operations of comparison. As the first step of the comparison the identical features are recognized, and then the differences are required.

The reason why the research and planning with regard to the possibilities of active performance are considered important, is that the effectiveness of the discerning activity is increased if it is associated with practical activity.

e. Aids are inserted

Aids are unconditionally necessary in independent work with work sheets. The aids form those objective conditions which promote the solution of the task. The text-book frequently features among these aids. Reference is made to its pictures, its figures and its data. At other times the working exercise-book proves useful as an aid. In the work sheet work the pupil does not lose touch with the traditional teaching means.

The role of the aids is further enhanced by the fact that on the work sheet there may be a complex task, the solution of which is impossible without the aid.

The aids assist in the solution of the individual steps, and thus are connected to them in the series of tasks.

f. Reaction to "reporting-back"

The work sheet gives rise to a wide network of connections. A good connection is created between the teacher and the pupils. The teacher reacts to the "reporting-back" received, and modifies the further activity. The connection which develops between the work sheet and the pupils should not be forgotten, and there is also an appreciable relation between the teacher and the series of tasks he has prepared.

In the work with the work sheets, the connection which emerges on the surface is always that which appears justified at a given point of the teaching process. If the pupil has a problem in the solution of the task, the teacher hurries to his aid. If the success of the pupil is coupled with his work with the work sheets, then he likes to work with them. If one step in the series of tasks can be solved by only a few pupils, then an amendment is necessary in the series.

B. The didactic value of the work sheet

The work sheet is one of the means of making the study more intensive. With its help the pupils can carry out independent activity in the realization of every didactic task. The role of the independent work is important, particularly in the treatment of the material, for the independent study increases the effectivity of the mastering process. The didactic value of the work sheet can be summarized fundamentally in one statement: it permits work based on independent activity. This function of the work sheet brings to the surface immeasurable didactic value, among which the following are considered to be of importance:

1. In task solutions carried out with the work sheet the function of the application is extended.

The development of the knowledge becomes of an applicative nature, since the solution of the tasks requires the recollection and actualization of the earlier acquired knowledge. In every task of the series of tasks the application of the knowledge appears in

the solution as a precondition. As a result of this, in the long run the knowledge is of a dynamic nature, being in the stage of development, the conceptions widen, are enriched with new elements, and deepen.

The first phase of the development of the knowledge, the establishment of the facts, may be the result of independent activity. In the teaching of biology, geography and chemistry the pupils frequently become acquainted with the facts /objects, phenomena, processes/ by observation of concrete reality. At other times the reality is presented by maps, figures, pictures, models or films. If the pupils are faced with the facts, then on the basis of their previous knowledge all of the pupils can make findings from them. The tasks of the work sheet give a guide, and help in the fact-finding work of the pupils. Recognition and establishment of the facts may be the result of independent pupil activity in innumerable cases.

The series of tasks often compels the pupils to carry out the analysis independently. The series of tasks directs the thinking activity of the pupils, and as a result of this the pupils may pass on from the concrete fact to the concept. In the course of their considerations predominance is given to the establishment of similarities and differences, to the extraction of the essence, and to generalization.

In every task solution it is easy to follow the close connection between the acquisition of knowledge and its application. By way of illustration, let us look at a work sheet prepared for the study of the leaf and used in the 5th class of the primary school.

Serial number .....

The leaf of the walnut tree

Compare the leaf of the walnut tree with the leaf of the plum tree! /Help is given by the coloured picture on page 16 of the text-book/

Decide which of the following statements is true for the leaf of the walnut tree! /Underline your answer!/

There is one leaf on a stalk.

The leaf is composed of several leaflets.

The walnut tree has a composite leaf.

Why do we call the leaf of the walnut tree a composite one? .....
.....

What is the leaf of the walnut tree like? /Answer in only one word!/ .....

Voluntary task: Name at least one more tree which has a composite leaf! .....

Constructed by: Dr. Varga-Nagy

2. The pupils acquire effective knowledge by the constant independent application of knowledge

As confirmed by experiment, knowledge acquired by means of independent thinking activity is more permanent, for it comes about as a result of independent effort, its basis being formed by the understanding. If the results of measuring test papers given at the end of the theme are evaluated statistically, then it is seen that by and large the pupils' knowledge relating to the whole of the theme is the same as the partial knowledge. The performance of the pupils does not decrease, therefore, with the application of summaries.

Work sheets were used in the geography lessons to the 5th class in six primary schools. Below is given the average of the performances of the six classes in the work on five work sheets, and this is compared with the level of knowledge shown in the theme-concluding tasks.

Performances in % points

Class	No. of work sheet 1	2	3	4	5	Theme-concluding
A	87.93	83.41	77.43	86.03	81.77	79.40
B	49.75	62.71	57.87	73.33	70.52	76.48
C	54.89	63.48	59.41	83.46	85.50	80.20
D	41.19	57.74	65.66	65.88	65.71	77.60
E	77.63	84.58	63.60	83.96	80.77	82.10
F	76.73	91.58	65.67	81.88	91.80	77.10

The average of the achievements of the six classes in the work with the theme-concluding test sheets is 79 % points.

Let us consider the spread of the achievement in the Table.

Performance in % points	Number of pupils	Percentage distribution of the pupils
47-52	1	1
53-58	6	3
59-64	9	5
65-70	18	10
71-76	38	22
77-82	34	19
83-88	39	22
89-94	20	12
95-100	10	6
Total	175	100

On the basis of the Table, the effectivity of the work sheet can be established in various respects.

/a/ In the six experimental classes no pupils at all had a performance of less than 47 %.

/b/ The average /79 % points/ was exceeded by 59 % of the pupils.

/c/ The spread is small.

/d/ This result is also of significance from the point of view that the high average is given not by a majority of excellent pupils, but by the majority of the pupils who came up from lower performance levels to rank among those achieving a higher result. Let us look at a graphical illustration of these data. The graph shows the standard deviation /$\pm$ s/.

79 % points

Number of pupils

Performance in % points

The graph gives rise to the following findings:

/a/ The performances of the experimental classes are balanced. The data are spread in the range of 50-100 % points. The majority of the pupils are concentrated about the average performance.

/b/ The most characteristic frequency in the higher performances in the experimental classes is given by the 39, the 38 and the 34 pupils.

3. The work sheet records the performance without a special measurement, and permits its checking.

The result of the activity with the work sheet shows the average performance of the class. However, the teacher must always be able to perceive the individual performances too, within the average performance. Thus, it is important for the teacher to know what result is achieved by the weaker pupils, and what is the distribution of the pupils of various grades in the solution of the individual tasks. It is therefore worthwhile examining the development of the performance from several points of view. For example: How does the performance vary in the solution of various didactic tasks? How does the performance of the individual pupil develop? Simply as an example, it is shown below how the average performance of the class developed in the solutions of various didactic tasks in the theme "Fruit trees", studied by the 5th class in Biology:

In development of knowledge	68 %
In checking of the understanding	85 %
In primary fixation	84 %
In theme-concluding measurement	73 %

It can be seen that the performances of the pupils are diferent in the solutions of the various didactic tasks. For every pupil the greatest deficiency can be observed in the act of recognition. This indicates that more emphasis must be placed on the development of the ability to think, and on the independent work of the pupils.

It is worthwhile to examine the distributions of the performances in the development of knowledge and the theme-concluding measurement:

Performance	Development of knowledge	Theme-concluding measurement
80-100 %	8 pupils	11 pupils
70-80 %	9 "	4 "
50-70 %	4 "	14 "
30-50 %	8 "	- "
Total	29 pupils	29 pupils

While 8 pupils had performances below 50 % in the development of knowledge, there was a favourable development in the level of knowledge of the pupils in the measurement relating to the whole of the theme. In this not a single pupil had a result below 50 %.

The teacher knows still more if he takes into consideration the distribution of the pupils according to grades within the average performance. As a random example: the study average of the pupils in the 5th class for geography was 3. This average was made up from the following grades:

Grade	5	4	3	2	1	Total
Distribution of pupils according to grade	5	4	9	8	3	29

At the end of the school year, in a work sheet study of the agriculture of Austria the pupils received the following task:
/Development of knowledge on the basis of a map and pictures/
Of which of the following is there least? Underline your answer!

Woods Meadow and pasture Arable land

Of which of the following is there most? Underline your answer!

Arable land Meadow and pasture Woods

26 of the pupils solved the first part correctly and 21 pupils

the second part. Let us consider the distribution of the pupils according to grade in these results.

Grade	5	4	3	2	1
Distribution of pupils according to grade	5	4	9	8	3
Number solving first problem correctly	5	4	9	6	2
Number solving second problem correctly	5	3	6	5	2

It can be well followed that by the end of the school year the weaker pupils had pulled up to be among the good. The reason for this is explained by the following point.

4. As a result of the use of the work sheet the pupils had learned by practice the method of study based on independent activity.

In the first stage of our experiment the work sheets were used in the acquisition of knowledge for the pupils to learn by practice the method of study based on independent activity. Our standpoint in principle: the dialectic interpretation of the study process.

The pupil begins the independent learning during the teaching lesson. Thus, the independent study does not begin only in the final stage, with the fixation, but already with the initial act of the learning. The learning of the material does not cause a great problem to the pupil who carries out the primary familiarization with the material in part independently.

Learning the method of study by practice promotes the fruitful acquisition of knowledge by the pupils while at the same time the mastering of this method of study is also a result of independent activity with the work sheet, and thus the dialectic interaction of the condition and the result is realized. Proof is required that it is the work sheet by means of which the practice in the method of study is ensured. Restricting matters only to the accentuation of the essence, the following reasons can be listed:

1. The pupil learns by practice the procedure of the solution of different types of tasks.
2. The pupil learns by practice the thought operations.
3. He gradually becomes familiar with the manner of becoming independent.
4. He applies his knowledge systematically.
5. His learning habits develop.
6. The motivation is multidirectional.

The practice acquired in the independent work also has a favourable effect on the frontal class work. The amount of direction may decrease, and its level may be increased. For example: it is sufficient to ask the pupil to carry out a comparison, and he will carry out the identifications and differentiations for himself.

5. The work sheet considerably promotes continuos feed-back.

An important role is played in the attainment of the results by the new situation which the work sheet creates between the teacher and the pupils. The teacher obtains accurate information about the activity of the pupil, and can react to this.

Let us consider the statistic data regarding a 5th class pupil, and the development of his level of performance in the various didactic tasks within a theme. The pupil's performance developed in the following way:

In development of knowledge	30 %
Im recitation	90 %
In the checking of understanding	40%
Theme-concluding	55 %

The data show that this pupil achieves a very fluctuating performance. The main role in his achievement is played by his great diligence. He acquires his knowledge by prolonged repetition. Because of inaccurate observation, even the establishment of the facts is defective, and in general he draws incorrect conclusions and does not perceive the essence. The teacher recognizes these

deficiencies, and can direct the pupil's activity in the common work so that with persevering work he eliminates the disadvantages.

In task solutions with the work sheet the standard errors can be corrected at once. The teacher sees where there is need for supplementation, for explanation, for application, or for fixation; i.e. his further activity is based on the information obtained.

6. The forms of the work sheets can be adapted flexibly in their solutions, their contents, and their requirements, and also in the nature of their evaluation, for the progress of the pupils.

The didactic value of the work sheet is well established by the logical advance in the independent activity. In the task solutions the pupil becomes familiar with the way to become independent.

/a/ The advance is asserted in the formal solution of the work sheet itself. In the initial stage of the work with the work sheet, for example, the fact-finding work of the pupils is facilitated by numbering the facts to be listed:

"1. Find the identical layers in the fruits of the walnut and the almond!

1. .....
2. .....
3. ....."

In the following stage the numbers may be left out, and the places where the facts are to be written are simply indicated by dotted lines:

"Name the parts of stone-containing fruits!

.....
.....
.....
....."

The pupils receive less assistance if the facts are to be

listed one after another, for they do not know the number of facts required:

"List the known stone-containing fruits! .....

.....

/b/ The success of the task solution primarily depends on the advance achieved in the content. At the beginning of the work the work sheet contains a greater amount of and more detailed information and instructions. The establishment of the facts is based on descriptive material. The pupil carries out the comparison in accordance with empirical data. For instance, he compares the bisected apple with the bisected pear according to definite points of view, in order to establish the identical features; he then extracts the essence and performs the generalization. Thus, the direct connection of the subject with the object is ensured with the aid of the descriptive basis, by means of the activity. This connection is loosened in the problem solutions, which requires a continually more complex operation of thinking.

We see that the content of the task influences the thinking operations to be completed, and we have made the inital efforts to influence the development of the pupils' thinking with the aid of the work sheet work.

/c/ In the requirements too the advance has been ensured. The requirements are adjusted to the performance. For example, the rates of progress of the individual pupils are different. The work tempo is enhanced by stimulation. For instance, the three pupils whose work is completed correctly first can receive a grade. The rate of the work can generally be raised only slowly. In the experimental stage little attention was paid to the development of the working tempo; the phenomenon was observed only when it was found in the work with the 17th /theme-concluding/ test paper in the 30-hour theme that the solution required 20-25 minutes in the experimental classes, and 40-45 minutes in the control classes. The means to raising the working tempo is the more frequent insertion of independent activity.

/d/ The adv nce achieved in the evaluation may also contribute to the results of the activity with work sheets. While the performance does not achieve the desired level, only qualitative evaluation can be performed. The excellent performance is highlighted, and attention is drawn to the deficiencies. The performance is later expressed as a percentage. Our experience has convinced us that this form of evaluation is of importance as regards the development of the correct relation of the pupils to the work. The pupil does not receive a mark, but he does know his percentage performance. He reacts very significantly to a change of a few per cent in the performance. With the aim of stimulation, of course, the percentage can be converted to a mark. The results of the theme-concluding test papers are also given in grades.

7. In the activity with the work sheet there is a favourable development in the pupils' work culture.

Preconditions of the solution of a task are the accurate reading and understanding of the text. The series of tasks requires that the tasks be performed one after another, in a previously determined order. At the beginning of the work the pupils wished to vary the order arbitrarily, to solve those steps first, to which they considered they could give an answer without thought. In a series of tasks which are closely interdependent logically, the earlier answers systematically form the basis for the subsequent ones. The pupils relatively quickly become accustomed to solving the tasks in order. The characteristics of their work are that they become absorbed in the solution of the problem, they do not give up the struggle readily, they think, they make good use of the auxiliary aids /maps, text-books, etc./, they work with increasing planning and at a better tempo, and they are able to use their time well.

The solution of the tasks demands persevering work and the overcoming of difficulties. A pupil who quickly gives up the struggle remains a loser. In our view, the work culture developed in the independent work ensures one of the preconditions of the

learning at home.

8. The activity with the work sheets makes the work more variable.

The pupils' independent work gives rise to pedagogic situations in which combinations of methods different from the traditional can develop. The collective work is interrupted by the pupils' independent work. The pupils knew that they would often work with work sheets, but they had no idea as to when or with what tasks. At times the work sheet was used to analyse experiments, at others coloured slides, or often the pictures and figures in text-books, or statistical data were processed, or actual objects and phenomena were examined. In every case the pupils were faced with the solution of some new task.

The work sheets were varied in form, and the methods of giving the answers appeared on each work sheet in practically every variation. It was always necessary to examine or investigate something, to be active, and in all cases to think.

In activity with work sheets there is also a variaton in the function of the text-book.

The work sheets are indispensable tools of the group work.

The pupils can be trained to be independent only via independent work. The work sheet has proved suitable for the achievement of independent work.

Naturally, the work sheet too is only one possibility in the modernization of education, but the experimental results confirm that it is worthy of further research.

Понятие "листка для работы" и его дидактическая ценность

МАРГИТ НАДЬ

В предисловии статьи перечисляются те мотивы, которые делают необходимым листок среди других современных средств обучения. Автор подчёркивает, что листок - это средство самостоятельной работы в классе, он применяется в так называемом "традиционном" обучении и только в решении одной частичной задачи. Листок не считается совершенно новым в связи между учителем и учеником, а считается средством установления её ближайшей, потому что он делает планомернее и работу учителей, и работу учеников.

По функции автор отличает друг от друга "листка для работы" и тесты: листок служит для самостоятельной работы, а тест для проверки уровни знаний.

В первую очередь автор подчёркивает - среди дидактических ценностей листка - роль его приведение в преподование и документирует утверждение статистическими данными. Он придаёт огромное значение листку, потому что он регистрирует успеваемость учеников без частных измерений.

Листок имеет и то достоинство, что даёт возможность и для разучивания методы работы.

В работе с листком имеет большое значение "обратная связь" /ученики учителю/, по которой учитель может построить следующий урок на новые информации.

В статьи кратко пишется о постепенности в содержании, в форме и проверке листка.

Автор ссылается и на то, что в работе с листком изменяется и функция учебника, и культура работы учеников формируется выгодно.

В усовершенствовании обучения "листок для работы" считается значительным по его дидактическим ценностям.

Der Begriff des Arbeitsbogens und sein didaktischer Wert

Frau Nagy Dr.M. Varga

Der Aufsatz zählt einleitend die Gründe auf, die eine Existenzberechtigung für den Arbeitsbogen unter den modernen Mittel des Unterrichts geben. Es wird hervorgehoben, dass der Arbeitsbogen ein Mittel der in der Klasse ausgeübten selbständigen Tätigkeit ist, der nur auf die Lösung einer Teilaufgabe im traditionellen Lernprozess angewendet wird. Er bedeutet nichts durchaus Neues, er fordert keine dauernde Veränderung in den Beziehungen zwischen Lehrer und Schüler. Es kann als ein Mittel für das Zustandebringen einer unmittelbareren Beziehung zwischen Lehrer und Schüler aufgefasst werden, denn durch seine reichen Informationen ermöglicht es eine planmässigere Arbeit sowohl des Lehrers als auch der Schüler.

Auf Grund der Funktion unterscheidet der Verfasser zwischen Arbeitsbogen und Testbogen ist für die individuelle Betätigung der Schüler, der Testbogen dagegen für die Kontrolle des Wissensniveaus geeignet.

Von den didaktischen Werten des Arbeitsbogens wird an erster Stelle die Rolle der Anwendung behandelt, dann wird die Behauptung mittels statistischer Angaben demonstriert.

Es wird unterstrichen, welche Bedeutung der Tatsache zukommt, dass der Arbeitsbogen die Schülerleistungen ohne besondere Messung registriert und nachprüfbar macht. Ein weiterer Vorteil des Arbeitsbogens besteht darin, dass er auch die Einübung der Lernmethode ermöglicht.

Es wird eine grosse Rolle der Rückkoppelung in der Anwendung von Arbeitsbogen zugeschrieben, denn mit derer Hilfe kann der Lehrer seine weitere Tätigkeit auf die gewonnenen Informationen gründen.

Es wird auch die in Inhalt, Form und Bewertung des Arbeitsbogens zur Geltung kommende Progressivität entworfen.

Es wird auf die Bedeutung der Tatsache hingewiesen, dass sich während der Anwendung des Arbeitsbogens die Funktion des Lehrbuches verändert und die Arbeitskultur der Schüler vorteilhaft gestaltet. Der Meinung des Verfassers nach ist der Arbeitsbogen auf Grund seiner didaktischen Werte in der Modernisierung des Unterrichts bedeutend.