IMPLEMENTATION OF THE PROCEDURES FROM STANDARDIZED TESTS ON PREPARATION OF INFORMAL OBJECTIVE TESTS

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НАСТОЯЩИЯТ ТОМ СЕ ПОСВЕЩАВА НА
НАЦИОНАЛНАТА КОНФЕРЕНЦИЯ
С МЕЖДУНАРОДНО УЧАСТИЕ
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НА ТУ – СОФИЯ, ИПФ - СЛИВЕН

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➢ доц. д-р Цанко Узунов;
➢ гл. ас. Пенка Драганова;
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От Редакционната колегия

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IMPLEMENTATION OF THE PROCEDURES FROM STANDARDIZED TESTS ON PREPARATION OF INFORMAL OBJECTIVE TESTS

Violeta Janusheva, Jove D. Talevski

ABSTRACT: *In the vocational literature it is pointed out that informal objective tests (IOT) do not need to have checked metric characteristics neither regarding the questions nor regarding to the test on the whole. Still analyses show that it is desirable for the teacher to study the parameters necessary during preparation of the standardized tests (ST) because with the application of these procedures while preparing the informal objective tests (IOT), a multiple goal is achieved: teacher's competence in preparing IOT in order to gather more valid and more objective information about students' achievements is increased, the validity of achieved results is increased, as well as the students achievements.*
In the article the procedures that are used to create the ST are described and through surveys and informal conversation with teachers, the opinion of teachers is studied and it is consolidated how much teachers are familiar with these procedures and how much these procedures are used while preparing the IOT in everyday educational practice.

KEYWORDS: *procedures, standardized tests, informal objective tests*

The assessment of students' achievements[1] should be a result of implementation and combination of various methods, techniques, strategies for assessment, which advantages and disadvantages the teacher, has to know in order to satisfy the needs and abilities of students. Informal objective test[2] (IOT - a test which is prepared by the teacher in everyday teaching practice to measure the level of students' gained knowledge through so called objective questions[3]) is the most used instrument and in function of assessment which improves learning (assessment whilst students are still in the learning process, i.e. formative assessment) should be one of the instruments for collecting data on students' achievements, and the mark from IOT should be one of the marks which helps to form the summative mark.

In the teaching practice a teacher is constantly facing the challenge to create IOT that possess a great quality in order to improve students' achievements. Though the vocational literature

implies that IOT should not have checked metric characteristics neither in relation to the questions, nor to the IOT on the whole, this paper goes from the assumption that in order for the IOT to be more valid and objective instrument to measure students' achievements it is necessary that teacher should take into consideration the metric characteristic of a knowledge test[4] when preparing IOT, as well as the procedures used while preparing the standardized tests (ST)[5], at least to a certain degree which are going to be helpful to him in order to improve his pedagogical-psychological competences, to create a quality IOT and to use the results of its application with great certainty. This in a great extent will also increase the validity of IOT, improve students' achievements and satisfy the demands for more objective assessment in every day school practice. In order to prove this assumption surveys (S) and informal conversation (IC) with teachers were realized[6] with a sole pur-

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[1] The knowledge is not a simple concept - it contains students' achievements on cognitive, psychomotor and socio-emotional level (knowledge, skills and other competences), s. K. Popovski. (2005). Dokimologija, str. 51-65. Skopje: Kitano

[2] s. V. P. Beshka. (2007). Ocenuvanje so testovi na znaenje, str. 12-15. Skopje: Filozofski fakultet, K. Popovski, Z. Stojanovski. (1995). Testovi na znaenje, str. 7. Skopje: Prosvetno delo

[3] For the characteristics of the types of objective questions, s. Petrovska-Beshka, 39-50, Popovski, Stojanovski, 87-110

[4] For the metric characteristics of the knowledge test: validity, reliability, objectivity and discrimination, s. Popovski, Stojanovski, 24-86

[5] For ST, types, and preparation, s. Popovski, Stojanovski, 7-9, 112-133

[6] Research (S and IC) refer to 160 teachers (80 from 10 elementary schools in RM, participants in the project „Modernization of Education" which was realized in 2009/2010, s. J. D. Talevski, V., Janusheva, M. Pejchinovska. (2010). Learning through Research, a Possibility for Permanent Professional Improvement of the Teaching Staff in the Elementary Education, p. 251-255, vol. 17. Educational Technologies: National Conference with Interna-

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pose to find out whether and how much they are familiar with the metric characteristics a knowledge test should have and with procedures for preparing ST, how much they use them in teaching practice and whether their usage contribute to improve students' achievement. The paper, also, indicates certain implications while preparing IOT which come as a result of the question whether the teacher practice the implementation of these procedures, or not. The paper stresses out the procedures relevant for creating ST (knowledge from both type of ST are used) and IOT and it does not go further into analysis of the types of ST, preparation for their usage and the procedures for their assessment. The procedures for preparing ST are briefly described and compared with the activities that teacher takes in practice when he prepares an IOT.

1. The teaching goal (TG) is determined (general goal, special goals, material which is an object of assessment (generally), the levels of knowledge[7] of that material and a decision for the usage of the results)[8]. In this step detailed analyzes of the teaching program (TP) where teacher finds all the necessary information should be made. **Practice**: The TP contains a general teaching goal (TG), special TG, concrete TG which refer to certain thematic area, i.e. to the teaching contents (TC) of that area, didactical directions, concrete activities, methods of work, and number of classes given for realization of TC. The Department for assessment, as a branch of BDE (Bureau for Development of Education), has prepared standards[9] for success in all teaching subjects, according to the levels of knowledge. Despite this facilitation, most of the teachers do not determine, neither the general goal of IOT, nor the material (generally), nor, the levels of knowledge because, according to them the general goal and the material are well-known – achieving the material which they have taught, for, exp., until the end of first trimester. Considering the S and IC it can be noticed that a small number of teachers practice this procedure,

as a result of the knowledge gained from the participation in the projects.

1.1. The TG for every level of knowledge[10] are determined, taking into account the relevance of certain TC (the relevance of TC is determined on the number of classes teacher has taught a certain TC and on the number of pages that TC is presented in the book). The teacher should make selection of the TG he measures and to operationalize them into concrete activities/tasks. **Practice**: Most of the teachers do not determine special goals, i.e. they do not make selection of TG which are an object of assessment and do not determine TG for every level of knowledge, simply because they believe that through preparing the tasks they indeed measure the TG given in the TP, i.e. that the tasks (tasks that come out from TC, and TC are given in TP from the BDE) are representative sample of the TG they measure. Most of the teachers, also, do not make a decision about the usage of the results of IOT, because, again, according to them it is a well-known fact – the results are used for creating the summative mark at the end of the first trimester. It is known that with IOT the three levels of knowledge are assessed (recognition, understanding, implementation), and according to the teachers, that is the reason why the levels are not been specially defined. A small number of teachers comply with this procedure, again as a result of their knowledge gained from their participation in the projects. These two procedures are very significant for all the further activities while preparing an IOT.

1.1.2. Precision of TG according to levels of knowledge is connected with the Taxonomy of Blum. Although it is perceived from the S and IC that most of the teachers are familiar with the concept Taxonomy of Blum (with its role in defining the levels of knowledge, in connecting this levels with TG, as well as in the selection of the types of questions and their solid language formulation), still most of the teachers partially understand this concept and this imposes the need of further education in this area. As a result of the insufficient competences of the teacher, quite often the teacher chooses a verb, makes a statement about achieving a certain TG and concludes that it refers to TG from the level implementation, without taking into

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tional Participation. Sliven, and 80 teachers from high schools. Most of the teachers were participants in projects for promoting the assessment, such as SEA - Secondary Education Activity and PEP - Primary Educational Project

[7] The levels of knowledge are connected with the Blum Taxonomy, s. Prirachnik. (2007). Unapreduvanje na ocenuvanjeto vo uchilishtata. Prirachnik za sredno struchno obrazovanie, str. 76-78. USAID, SEA. Skopje

[8] s. Petrovska-Beshka, 24, Popovski, Stojanovski, 112-114

[9] http://www.bro.gov.mk/?q=standardi

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[10] For, ex., if the test measures TG from the level understanding which are presented with 40%, the tasks which refer to this level should make 40% of the total number of tasks in the test, s. Petrovska-Beshka, 24

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consideration that the same verb occurs, for, ex., in the next two, or in the previous two levels and that the statement may refer to TG from the level analysis, or understanding. Determination of the TG according the level from the Blum Taxonomy is not a simple task and in order to be more objective teacher are obliged to pay a serious attention to it.

1.1.3. Indicative are the insights of the teachers, related to determination of TG, which can affect the TG they measure as well as the validity and objectivity of the results. Half of the teachers do not agree with the TG given in the TP at all and the other half agree only partially. Most of the teachers consider that the TG given in the TP are, too high in relation to the structure of the students they are working with. According to them a small number of students will achieve the TG set with the TP. Due to this information mentioned above it can be concluded that the teacher can determine different TG (usually lower) in relation to those set with the TP, even TG which are not connected with those presented in TP, according to his judgment of the intellectual capacities of students, and this will certainly affect the validity and the results of the test.

1.1.4. The suggestions about number of classes the teacher has taught about certain TC which should be considered when determining TG are very questionable. Although the recommendation by the educational authorities for the teacher to hold on to number of classes given for the realization of certain TC that are a part of the TP, the results from S and IC show that there is a significant number of teachers who step back from that obligatory number of classes (increasing it, or reducing), due to their own judgment, because in their opinion certain TC is too relevant to be represented, for ex., with 2 classes, or too irrelevant to be represented, for exp. with 4 classes. In that case a determination of the significance of certain TC depends on the teacher's own perception. This subjective judgment of the relevance of certain TC is connected with the books for certain subject that they use in every day practice.

1.1.5. The suggestions that the relevance of certain TC is determined according to the number of pages TC is represented in the books may not always be important for the objectivity and validity of the test. For ex., the same TC may be represented in two different books with different number of pages, though according to TP the number of classes is equal. The different number of pages

is a result of the authors' different points of view about what should be stressed in a particular TC. The new practice – there are different books even for the same year of education and vocation, and the teacher with the teachers council and the council of parents chooses the one which will be used during the current year, according to the teachers is more confusing than helpful when determining the significance of certain TC. This, in one hand, indicates the need of more precise directions for the authors in relation to TC, and on the other hand, it raises the question of the validity and objectivity, because two teachers, even from the same school, for the same subject, for the same year of education can choose a different book. Following the procedures which are to be taken into consideration while preparing quality IOT and bearing in mind that there are no unified books teachers can really be confused in relation to the relevance of certain TC which should help them to determine the TG by the levels of knowledge.

2. The TC[11] that are an object of assessment are determined more precisely. **Practice**: According to the S and IC teachers do not define precisely TC that are object of assessment while planning IOT because during the annual program preparation for certain subject (planning the realization of TC) it is known when the trimester is over, so the TC that are going to be the object of assessment are the same he taught about till the end of the first trimester. Impreciseness of TC reflects the representative sample of tasks (validity)[12] which is connected with reliability[13] of a test, especially if till the end of trimester teacher has taught about TC from different area. For, ex., IOT for subject Macedonian language and literature may contain TC from areas language and literature, and it is known that TC from the literature area are usually measured by essay questions with limited or extended questions[14]. Therefore, very

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[11] s. Popovski, Stojanovski, 114-116, Petrovska- Beshka, 22

[12] For ex., if the teacher wants to measure the competence of the students to implement the orthographic rules, the type of the questions should reflect this intention of the teacher (the tasks should be representative of the competence that he wants to measure), s. Popovski, Stojanovski, str. 25-26

[13] When using a test for the second time with the same students and in the same conditions it is supposed that the test should have equal or almost equal results. There are many procedures that teacher can use in order to determine the quotient of reliability of IOT, s. Popovski, Stojanovski, 39-55

[14] Certain TC from the literature area can be presented with objectivity questions, but because of the nature and the

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often there are tests with questions from objective and essay type. Defining of TC in this case is very important because at first sight it can be seen whether the test is valid and objective, especially if the test is considered to be an IOT but the given questions are the ones of essay type. A small number of teachers state precisely TC. Unfortunately, teachers are not familiar with the reliability and to what it refers, so they cannot take it into consideration when preparing IOT.

2.1. The TC for every level of knowledge are determined (recognition, understanding and implementation)[15]. **Practice**: The results from S and IC indicate that most of the teacher, do not state precisely the levels of knowledge which are the object of assessment of IOT. In that sense, in p. 1., the relation of teacher towards TG is already explained, so the same situation can be seen here. A teacher, preparing IOT believes that through the tasks he measures the components of knowledge (TC) that are given in the standards and there is no need for him to determine them separately. A small number of teachers define the levels of knowledge which are going to be the object of assessment, and again that is a result of their gained knowledge from the projects for promotion of assessment they participated in.

2.2. The scope of TC which are going to be represented in IOT is determined[16] (i.e. a scope which one TC is represented with in the IOT comparing it to another TC), by the number of classes teacher has taught about certain TC. **Practice**: The results from S ad IC imply that though this procedure contributes to not having many questions only from one TC comparing to another, only half of the teachers practice this procedure and that is an indicator that further education in this field is necessary. The other half of the teachers determine the TC by their own judgment and according to them the given tasks are representatives of what they intend to measure. It is an undeniable fact that IOT is prepared based on the TC from the books, and in that sense, IOT contains a certain sample from TC

(knowledge) which is measured but this does not necessarily mean that every IOT has a high level of validity. There is no general validity each test should be analyzed in order to claim the degree of validity. If the teacher is interested in increasing the level of IOT's validity he should take into consideration this procedure.

2.3. **The number of questions for every TG applied on every TC is determined**[17]. **Practice**: For teachers' attitude towards TG and TC s. p. 1. and p. 2. It is clear that if the teacher does not make selection of TG and does not define the TC, he will act in the same way concerning the number of the questions. The number of questions is left to his own judgment and this is confirmed with the results from the S and IC. It is of great importance for the teacher to respect the procedures related to TG and TC because the validity of the test on the whole depends on them, i.e. based on the defined object of measurement analyzes of the TC (tasks) are made in order to be figured out how much the tasks are a representative sample of the measurement object, i.e. to establish the degree of IOT validity. Unfortunately, a small number of teachers connect the term validity to IOT and are familiar with the validity as a relevant characteristic in creating quality and objective IOT.

2.3.1. The types of questions are relevant. In order to increase the objectivity of IOT the teacher has to respect the suggestions about using the different types of objective questions which are related to their preparation, to the level of knowledge they represent and giving scores[18]. **Practice**: S and IC show that all of the teachers are familiar with different types of questions, their advantages and their disadvantages and are taking care of the age of the students. Still, the practice is full of IOT which lack quality because the teachers, though knowing the types of questions, do not take into consideration the given recommendations. A small number of teachers are familiar with the suggestions about using tests with multiple choices to increase their objectivity. Increasing the objectivity is connected with assessing the IOT from two teachers (a quotient of correlation between the

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content of this area, for more validity, especially if teacher is not prepared enough to create successful objective questions which will refer to TG from the higher level, it is more usually for them to be measured with essay questions

[15] In practice the most used IOT are those which contain tasks from the first three levels, although often IOT with very unsuccessful questions referring to the higher level can be seen

[16] For, ex., if one thematic area contains 5 TC, and for teaching one TC teacher spends 5 classes, the scope of hat TC is 25%, s. Petrovska-Beshka, 23

[17] For, ex., if the total number of questions in the test is 30, and certain TC is represented in scope of 25%, certain TG is represented with 40%, this percentages are divided with 100 and then multiplied with 30, this determines the total number of questions which will measure this TG and TC, s. Petrovska-Beshka, 28

[18] In practice IOT which combines various types of objective questions are the most used one

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points given from different assessors, according to the key, is calculated) but this is not practiced by the teacher. This leads to the fact that teachers are not concerned with the reliability which depends on the objectivity.

2.3.2. The total number of questions is considered. (The number of questions is correlated with TG and TC). **Practice**: S and IC only proved our insights that the number of questions in IOT is a matter of teachers' subjective evaluation. Only few of them are familiar with the fact that the number of questions is of great significance for discrimination[19] of IOT and that the bigger the number of quality questions the bigger the discrimination of IOT is. The claims that determination of the number of questions/tasks should be left to teacher because he knows his students and their abilities and intellectual capacities the best does not mean that he should not comply with these procedures, on the contrary he ought to know all these procedures in order to ensure more satisfactory validity and objectivity of IOT.

3. The questions/tasks are created by professionals. **Practice**: All of the teachers create tasks alone. The number of teachers who ask for help from other teachers, pedagogues or psychologists is insignificant. According to them it is considered to be embarrassing to seek help during creating the questions and their analysis because they identify help with their incompetence.

4. The questions are analyzed[20]. **Practice**: Teachers do not practice analyzes of the questions.

5. The tasks are arranged according to the type of questions, and then according to the level of difficulty. **Practice**: Though a significant number of these teachers were participants in projects for promotion of assessment, an insignificant number of teachers organize tasks this way. A small number of teachers are familiar with the fact that discrimination of a test is related to the difficulty level of the questions (the bigger the number of quality tasks with different level of difficulty the bigger the discrimination of IOT. They are completely unfamiliar with the procedures through which the index of difficulty of a question is determined. Most of the teachers determine difficulty level of the task on the base of Blum Taxonomy assuming that the higher level means more difficult task.

6. The written instructions for using the test are prepared and the technical side of the test is considered. **Practice**: Though the role of the written instructions is obvious most of the teachers do not write them. And because of the poor material-technical condition of the schools this parameter is rarely satisfied. There are, unfortunately still test where the students write the questions while teacher dictates the questions to them.

7. The way the results will be assessed is determined. **Practice**: Though the BDE has elaborated criteria[21] which indicates the gained knowledge presented in TP and TC, and besides the knowledge gained from the project, results from S and IC confirm our assumption that almost every teacher transforms the points from the IOT into marks according to scale created by himself and usually 51 points is needed for the IOT to be passed. Some teachers connect different points given to one task to Blum Taxonomy, i.e. to the levels considering one question being more difficult than the other. In their opinion the level of knowledge determines the difficulties of the question.

8. The key (list with the correct answers) is created and the test is tried. Practice: Only a few teachers create the key. None of the teachers try the test before it is given to the students.

Conclusions

The analyses show that creating a quality, objective, valid, reliable and discriminative IOT is not an easy task and raise the urgent need for increasing the pedagogical, psychological and psychometrical competences of the teachers in order to prepare quality IOT which will satisfy the need for more objective assessment in every day school practice. Due to the recommendations on teachers' obligations to create more valid instruments to measure students' achievements the analyses clearly imply the need of using the mentioned parameters and procedures at least in a certain degree that will lead to more objective assessment.

The reasons for this indicated lack of competence can, primarily, be located in the curricula of the teaching institutions which produce a teaching staff, but the teacher should be willing to change the established way of preparing IOT. In this sense projects has to be only an additional stimulus and

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[19] IOT is more discriminative if it is constructed to register smaller differences in the knowledge which is the object of assessment, s. Popovski, Stojanovski, 58-65

[20] Refers to validity of the questions when the test is prepared and ready to be used

[21]
http://app.bro.gov.mk/dokumenti/kriteriumi/Kriteriumi_za_o cenuvanje.pdf

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not the only source where the teacher should gain information for preparing IOT with has a big quality. It is obvious that in their practice teachers use IOT that combines characteristics from the normative and criteria tests, so the suggestions that IOT should be more used as criteria tests ought to be pointed out and further instructions in that directions should be expected.

The analysis also show that the demands for creating more objective and valid IOT imposes the need for taking into account the procedures used while preparing ST as well as being familiar with the metric characteristics of knowledge tests in order to improve the quality of the IOT on the whole. However, some adjustment has to be made referring to some procedures from ST which as it is shown may not be so relevant from the teachers' view point and can be rather confusing than helpful. Despite this, teachers are aware of their competences, but they believe that by using these parameters and procedures, the quality of the IOT will be increased and that the educational authorities will take serious activities in their further education.

This analysis does not give satisfactory data to discuss the improvement of students' achievements due to the small number of teachers which claim that they use the mentioned parameters and procedures. The fact that some teachers have already used some of these procedure promises that progress can and should be expected.

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