



**Achina A.V., Sinchenko T.Yu.**

## The study of the success criteria of psychodiagnostic problem solving by practical psychologists and psychology students

*The comparative analysis of success in solving psychodiagnostic problems by practical psychologists and psychology students was carried out in this article. The success criteria and markers of psychodiagnostic activity components are distinguished. The psychodiagnostic process strengths made by practical psychologists are described. The skills of semiotic, logic, technical and deontological components of the psychodiagnostic activity among psychology students are estimated. The further ways of research are traced.*

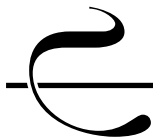
**Keywords:** *psychodiagnostic activity, success criteria, structure of psychodiagnostic activity, components of psychodiagnostic activity, psychodiagnostic problem solving, learning process of psychology students, experimental program.*

The analysis of the works dealing with professional and personal development of students showed that in the structure of intellectual abilities psychology students are characterized by the dominance of the visual components over verbal, the average level of thinking operations: generalization, classification, drawing parallels and anticipation abilities, that can cause problems in psychodiagnostic problem solving.

We can often hear critical statements about insufficient levels of the educational process at high school institutions. Besides, some researchers attract the attention to the problem of insufficient levels of psychology students' readiness to psychodiagnostic activity: lack of some stages of diagnostics, difficulties in analysis of study results and data interpretation, insufficient psychometric grounding, break of psychodiagnosics ethical norms. We would like to underline, that psychodiagnostic activity is an integral part of any process of psychological consulting; it means that it is directly connected with the psychologists' practical activity, and, then, it is necessary to achieve an adequate level of psychology students' training.

In learning conditions the solution of the problems taken from real psychological practice is an adequate model of studying psychodiagnostic problems. In our research we tried to compare the characteristics of the success of problem solution by practical psychologists and psychology students, to find out strengths of practical psychologists, to find strengths and weaknesses of psychology students, and also the directions which require attention and additional examination.

As it was underlined more than once, psychodiagnostic activity is a mental process which can not be reflected. More and more researchers point to a problem method as



the most adequate method of the psychodiagnostic process research. That's why in our research we also had used this method to evaluate the level of the development of psychodiagnostic activity components and particularities psychodiagnostic problem solution by people with different types of the intellect.

The respondents were suggested to solve six diagnostic problems, referring to different spheres of psychological consulting (age, pedagogical, individual, and professional). The problems are represented as the clients' enquiries. The solution of the problems was analyzed according to a number of the parameters, suggested in the studies carried out by A.F. Anufrieva, I.V. Dubrovina, O.P. Bussarova and S.N. Kostromina. In our research we used the following parameters:

- 1) success in psychodiagnostic problem solving;
- 2) number of the diagnostic processes stages;
- 3) consequence of the diagnostic process stages;
- 4) number of preliminary hypotheses;
- 5) correspondence between hypotheses and symptoms;
- 6) number of methods;
- 7) adequacy of methods;
- 8) feedback.

The above mentioned parameters allow to assess the level of the development of the psychodiagnostic activity different components: a logic component is represented by the criteria of number and consequence of stages of the diagnostic research, and the number and adequacy of the suggested hypotheses; a semiotic component – by the criteria of correspondence between hypotheses and symptoms and adequacy of methods; technical component is estimated by the number of the offered methods and their adequacy; a deontological component is represented by feedback.

The process of problem solving and the psychological diagnosis itself were described freely, and it gave us one more opportunity to make the **content-analysis of the responses**. As a result we found out seven categories, which were fixed in the respondents' answers:

- 1) search for a problem/disturbances;
- 2) search for resources;
- 3) search for solution;
- 4) questions to the client;
- 5) clients' support;
- 6) neutral description;
- 7) "unprofessional judgments".

We would like to submit the comparative analysis of the success rate of psychodiagnostic problem solving by psychology students and practical psychologists.

As the respondents had to solve 6 diagnostic problems, each of them was estimated according to 8 parameters and 7 categories of the content-analysis; when we applied statistical methods, we used arithmetic mean values for each respondent.



Let's compare the whole of average indices according to all parameters of psychodiagnostic problem solving in the subgroups of psychology students and working psychologists (table 1).

Table 1

**Average indices of solving psycho diagnostic problems**

Criteria of assessment	The average score	
	psychologists	students
Success	1,58	0,92
Number of stages	1,98	2,67
Consequence of stages	0,42	0,27
Number of hypotheses	2,31	1,39
Adequacy of hypotheses	0,90	0,58
Number of methods	0,35	1,07
Adequacy of methods	0,42	0,79
Feedback	0,35	0,55

As we can see from the table, the average index of success in problem solving among psychologists is extremely higher, than among students ( $\alpha \leq 0,001$ ).

Correspondingly, the individual success rate in the subgroups of students and psychologists differ. In whole, the respondents solved 1044 problems: practical psychologists made 576 solutions (96 men – 6 problems), psychology students – 1512 (252 men – 6 problems). Practical psychologists solved 384 problems correctly (66,7 %), 144 problems (25 %) were partially correct, 48 diagnostic problems were completely incorrect, that makes up 8,3 % of all problems solved in this subgroup.

In the subgroups of students 372 problems (24,6 %) were solved correctly, 648 problems (42,9 %) were partially correct, there was no correct solution in 492 problems (32,5 %). As one can see, the percentage of the problems correctly solved by psychologists almost three times exceeds the same index among psychology students.

The quantity of the diagnostic process stages in a problem solution description on the average is greater than among psychologists. Only 108 solved problems of practical psychologists (18,7 %) have more than two stages, and in the rest of 468 cases (81,3 % of the solved problems) – the description of problem solving includes 1–2 stages; it means they use the diagnostic activity shortened scheme. 41,3 % of students' diagnostic problems were fulfilled in 3–6 stages, and the rest of 58,7 % were made through 1–2 stages.

On the whole while analyzing the results we were guided by the psychodiagnostic process general scheme, consisting of 6 stages: history taking (HT) – preliminary hypotheses advancement (H) – choice of methods (M) – the received data analysis (DA) – psychological diagnosis (D) – client feedback (CF). The qualitative analysis of



diagnostic problem solution descriptions showed that, in the process of diagnostic problem solution the respondents implemented the following stage schemes. Single schemes: HT; H; D; CF. Compressed schemes (2 stages): HT –D; H–M; H–D; M–D. Reduced schemes (3 stages): HT –H–D; H–D–CF; HT–M– CF; M–D– CF; H–DA– CF. Schemes with the missing stage: HT–H–M–D–CF; H–M–D–DA– CF; HT–M–D–DA– CF; HT–H–DA–D– CF; HT–H–M–DA– CF; HT–H–M–DA–D.

The frequency of each diagnostic stage isn't similar (table 2).

Table 2

**The frequency of diagnostic stages in the solved problems**

Stages of diagnostics	psychologists		students	
	frequency	%	frequency	%
History taking (HT)	114	19,8	552	36,5
Hypotheses (H)	310	53,8	984	65
Methods (M)	120	20,8	816	54
Data analysis (DA)	68	11,8	232	15,3
Diagnosis (D)	488	84,7	1158	76,6
Feedback (F)	180	31,3	756	50

From the table it is clear, that in the subgroups of psychology students all stages of the diagnostic process are found more often, apart from the “diagnosis” stage which can be found in the psychologists’ decisions. We think that such stages as “history taking”, “methods” and “feedback” in students’ problem solutions almost twice exceed the same index among the psychologists. Obviously, while solving psychodiagnostic problems psychology students emphasize search for information and feedback giving, however psychologists concentrate on the exact psychological diagnosis.

Besides we can construct the hierarchy of different stages of diagnostics in the description of problem solving for each subgroup. The stage of psychological diagnosing is at the first place for practical psychologists; then there is the stage of advancement of preliminary hypotheses, the stage of recommendations and feedback, the stage of diagnostic methods, and at the last place we can find the stage of history taking and the diagnostic information analysis.

Very often, there is the stage of psychological diagnosing in the descriptions of psychology students; as psychologists at the second place they have the stage of advancement of preliminary hypotheses, the stage of diagnostic methods, the stage of recommendations and feedback; at the last place they have the stage of history taking and the diagnostic information analysis. Therefore, it is possible to say, that the frequency of different stages of the psychodiagnostic processes in the subgroups of students and psychologists do not distinguish practically. The only significant difference is that psychology students pay more attention to the stage of diagnostic methods, as it was mentioned above.



**The consequence of the diagnostic process stages.** The average mean shows that the working psychologists more often observe the consequence of stages, than the students. In the subgroups of students 27 % of all solved problems were completed consecutively, 73 % of the diagnostic problems were made with irregularities of the stage consequence. The correlation analysis showed that, the consequence of the stages of the diagnostic process among psychology students is not connected with the success rate of problem solution.

In the subgroup of practical psychologists the consequence of stages was observed in 41,7 % of cases, in other problems the consequence of stages of the diagnostic process is broken; it comes to 58,3 % of all problems fulfilled by psychologists. It is interesting that among the psychologists the stage consequence parameter is considerably positively correlated with the integral index of success in diagnostic problem solution; we can come to the conclusion that in difference with the sample of students, the observation of the consequence of the diagnostic process stages is in direct proportion with the success rate of this process – the more they observe the consequence of stages, the higher the success rate of problem solution is.

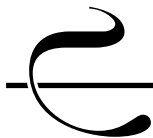
Concerning **the number of preliminary hypotheses**, put forward in the process of diagnostic solution, the practical psychologists had from 1 to 6 hypotheses, and students from 2 to 5.

**Correspondence between hypotheses and symptoms.** We didn't take into considerations the completeness of the psychological diagnosis (when there exist several possible versions of problem solution, any of correct decisions is successful), because we were mainly interested in correlations of the criteria of correspondence between hypotheses and intellectual styles, which will be considered in the following articles.

The average mean of correspondence among the working psychologists is higher than among psychology students. Between the parameter of the hypotheses correspondence and the general success rate of problem solution there is a strong positive correlation in the sample of students as well as in the sample of psychologists, that is quite regular and predicted – inadequate hypotheses can not lead towards an adequate diagnosis.

All the inadequate hypotheses put forward by the respondents in the process of problem solution, can be divided into the three thematic groups:

- substitution of hypotheses for unprofessional everyday judgments*: as hypotheses they advance such statements, as “bad up-brining”, “bad character”, “bad will”, or they advance hypotheses-accusations “mother has only herself to blame”, “she (a client) treats men badly”, “it was a client who spoils the relations (he was rude to the colleagues, reported to the authorities)”. Let us note, in the solutions of the diagnostic problems among practical psychologists the category of inadequate hypotheses do not exist at all, among psychology students, on the contrary, it is quite widespread (we found 562 similar pseudo-hypothesis in the students' responses). This category is the most numerous and form 67 % of all inadequate hypotheses;
- rigid hypotheses*: we put here the cases when almost all hypotheses of a respondent (in solution of six problems) are reduced to the idea of the deep psycho-



logical trauma or age crisis. In some diagnostic problems these hypotheses are adequate; however they are cited by the respondents in other problems. This category was found in 60 problems made by psychologists and 90 problems made by students and it comes to 18 % from the total number of the hypotheses, inadequate to the symptoms;

–*substitution of hypothesis for the problem*: the respondents paraphrase the problem as a hypothesis. For example: “the boy has problems with progress in studies/cognitive sphere/emotional and will sphere”, “he has difficulties in the interpersonal sphere”, “he has no interest to work” and etc. This category is rarely found; it is only fixed in responses of psychology students – and it comes to 15 % of all inadequate hypotheses.

**The number of methods**, suggested for checking up the hypotheses, among the psychologists didn't exceed 2, and among the students it varied from 0 to 3, on the average, among the students the number of the suggested methods of psychodiagnostics is higher than among the psychologists. In those cases when the methods were not suggested, the solution of diagnostic problems lacked several diagnostic stages, which were studied above. The correlation analysis showed, that for the psychologist the criteria of the suggested methods is positively correlated with all the other parameters in diagnostic problem solving, and students – with the index of the average success rate of solutions, quantity and consequence of stages. On the whole, we can say, that the methodical instruments are important factors of a professional problem successful solution, but only when it corresponds to the problem.

**The adequacy of methods**. The data analysis showed, that the practical psychologists in the descriptions of diagnostic problem solution do not mention diagnostic methods or mention adequate methods in the considerable quantity, that speaks about the high level of the development of the technical component of the psychodiagnostics among the specialists who took part in the research.

**The correlation analysis** (using the sample of working psychologists) revealed the well-expressed positive correlations between the parameter of the method adequacy and all other criteria of estimation of psychodiagnostic problem solution. The higher the adequacy of hypotheses is, the higher it is the percent of successfully solved problems, the number of hypotheses, consistently constructed stages and etc. The adequacy of the students' hypotheses is positively correlated with the number of stages and the consequence of stages of the diagnostic problem and with the general success rate. The index of the quantity of the hypotheses is negatively correlated; it means that the more hypotheses are, the lower the adequacy of the suggested methodic instruments is; it indicates the low level of the development of the technical component of the psychodiagnostic activity among psychology students.

**Feedback** – we took into considerations the recommendations given to the client. According to these criteria the average grade is similar among students and practical psychologists. It may be argued, that by the number of the recommendations to the clients, the indices of students and psychologists greatly differ.



We also found out, that the number and the quality of the recommendations made by psychologists are directly proportional to the quantity and adequacy of the methodic instruments, as for the students – to the number and adequacy of preliminary hypotheses. It is possible to suppose that the working psychologists are inclined to give feedback with orientation to information received in psychodiagnostic research, and students – proceeding from the problem causes and disturbances. The adequacy of feedback is directly connected with the success rate in problem-based assignments; the higher the success rate is, the better the qualitative feedback is; it is quite logic and doesn't require further explanations.

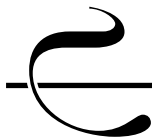
The respondents fixed the problem-based method and the psychological diagnosis itself in the free way, which gave us additional possibility for carrying out the content analysis of the responses. As a result, we have distinguished seven categories which were found in respondents' answers:

- 1) search for a problem/disturbances – questions, judgments, methods, statements, which are designed to disclose the clients' accompanying disorders and problems in all spheres of life activity are markers of this category;
- 2) search for resources – questions, reasoning, methods, statements, directed to discover clients' positive aspects of life, interests, inclinations, aims, resourceful environment, which can become a support in the process of problem solving;
- 3) search for resources – number of suggestions of possible ways out and solutions of a problem situation;
- 4) questions to clients – number of questions, addressed immediately to the subject, figuring in a psychodiagnostic task;
- 5) clients' support – statements and reasoning, directed towards client's psychological support;
- 6) neutral description – enumeration of the facts, titles of the methods and other descriptions, not related to any of the categories;
- 7) "unprofessional judgments" – accusations, everyday advices, blaming words and other statements, which are against ethic norms and rules of psychodiagnostic and practical psychology.

In each psychodiagnostic task we counted a number of markers of these categories; then the average mean was found for each category and for each respondent. The average means were used in correlation analysis and other statistic calculations. The average means of problem solving among psychologists and psychology students are represented in table 3.

As the table shows, in the process of solving psychodiagnostic problems practical psychologists resort to "search for resources", "search for decisions" and "clients' support" more often than psychology students. Students resort to "search for a problem/disturbances", "neutral descriptions", "questions to clients" and the category of "unprofessional judgments", which is not found in the psychologists' responses at all.

Therefore, in the process of psychodiagnostic problems solving, the practical psychologists are concentrated on the search for resources in a client's life and possible



ways out of a situation (not on description of a problem) and do not break ethical rules that speaks about the high level of the development of the deontological component of psychodiagnostics. It means that the experience of work with a client allowed them to make diagnostic problems more efficiently and laconically. While working over the challenge the psychology students are mostly oriented towards the detailed description of a problem and accompanying disorders, concentrate on the diagnosis instead of a client and often deny ethic norms of professional psychologists; it speaks about insufficient level of the development of the deontological component in psychological activity.

Table 3

**The average frequency of categories**

<b>category</b>	<b>psychologists</b>	<b>students</b>
Search for a problem	1,96	<b>3,32</b>
Search for resources	<b>1,38</b>	0,47
Search for solutions	<b>1,08</b>	0,89
Neutral descriptions	1,17	<b>1,83</b>
Clients' support	<b>0,38</b>	0,25
Questions to a client	0,98	<b>2,87</b>
Unprofessional judgments	0,00	<b>0,68</b>

The criteria, described above, allow us to evaluate the level of the development of different components of the psychodiagnostic activity. A *gnosiological component* demonstrates itself through the criteria of quantity and consequence of stages of the diagnostic research, and the number and adequacy of the suggested hypotheses; a *semiotic component* – through the criteria of correspondence between hypotheses and symptoms and adequacy of methods; a *technical component* is assessed by the number of the suggested methods and their adequacy; a *deontological component* is represented by the criterion of feedback and clients' support, and also by the index of unprofessional statements.

Each of the parameters of the estimate of efficiency of psychodiagnostic problems was related to one of components of psychodiagnostic activity. The *gnosiological component* is represented by a number of stages, consequence of stages, number of hypotheses, the search for problems category, search for problem solution, search for solutions. The *semiotic component* of the psychodiagnostic activity is reflected in the adequacy of preliminary hypotheses and the suggested diagnostic methods. The *technical component* is reflected in parameters of the number and adequacy of diagnostic methods, and the types of questions asked to the client. The *deontological component* of the psychodiagnostic activity shows itself in the quality of feedback, and also in the type of the support given to a client in the process of psychodiagnostics..



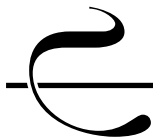


From the results of our research it follows that the practical psychologists' integral success rate in solving psychodiagnostic problems positively correlates with components of psychodiagnostic activity (through the parameters of solving problems).

The integral index of psychology students' success in solving problems positively correlates with the majority of parameters which represent the components of the psychodiagnostic activity, apart from the category "questions to clients" and "clients' support" (negative correlation). Such situation can be explained by the facts, which are fixed in the students' responses to the client and attempts to give support in many cases which are not professional and prevent from the successful solution of the psychodiagnostic problem. We didn't note such mistakes among practical psychologists.

Thus, the analysis of the efficiency of solving psychodiagnostic problems enables us to make the following conclusions:

- the average index of success in solving practical problems among psychologists is much higher than students' one. In general the percentage of the correctly solved problems by practical psychologists almost three times exceed the same index among psychology students;
- the number of stages of the diagnostic process in the description of problem solution is higher among students than among psychologists. Each stage of diagnostics is used unequally: in the subgroups of psychology students all stages of the diagnostic process appear apart from the "diagnosis" stage, which one can find in the psychologist's solutions. We should also underline, that the frequency of such stages, as "history taking", "methods" and "feedback" in students' solutions twice exceed the same index among psychologists. Therefore, in the process of solving the psychodiagnostic problems, psychology students emphasize information and give feedback, and psychologists concentrate on finding an exact psychological diagnosis;
- among practical psychologists the number of preliminary hypotheses, put forward in the process of diagnostic decision is much higher than among students; the more the number of preliminary hypotheses is, the higher the possibility of the diagnostic problem correct solution finding is;
- while the process of psychodiagnostic problem solving, practical psychologists are more concentrated on a clients' resources and possibilities of ways out of a situation (but not the description of this problem); they do not violate ethical principles, that speaks about the high level of the development of the deontological component in psychodiagnostics. We suppose that the experience of immediate work with the client enables us to solve diagnostic problems more efficiently and quickly. Psychology students are mostly oriented towards finding out details and attendant disorders, concentrate on the diagnosis, but not on the client and often ignore ethic norms of professional psychologists; it indicates to the need of the efficient development of deontological component of the psychodiagnostic activity;



–among practical psychologists the average mean of correspondence between hypotheses and symptoms is higher than among psychology students. All inadequate hypotheses, put forward by the respondents in the process of problem solving, can be divided into three thematic groups: 1) substitution of hypotheses for unprofessional everyday judgments; 2) rigid hypotheses; 3) substitution of hypotheses for a problem.

–while solving psychodiagnostic problems practical psychologists turn to the category “search for resources”, “search for decisions” and “clients’ support” more often than psychology students. The students refer to “search for a problem/disturbances”, “neutral descriptions”, “questions to clients” and the category “unprofessional judgments”, which were not discovered in the psychologists’ answers at all.

All received data were analyzed; we have found problematic zones in the forming process of the psychodiagnostic activity components of psychology students; particularly, we tried to take into account insufficient conditions of forming deontological components while studying at the institute of higher education. Taking into consideration the results of our research, we elaborated the experimental program with a view to form the components of the psychodiagnostic activity among psychology students while studying at the institute of higher education. The program approval was carried out from 2009 to 2011 at the psychological faculty of the Southern Russian Humanitarian Institute, as well as at the psychological faculties in Shakhty, Astrakhan, Stavropol.

### References

1. Anufriev A.F. *Psikhologicheskii diagnost* [Psychological diagnosis]. Moscow, Os' -89 Publ., 2006. 192 p.
2. Busarova O.R. *Psikhologicheskii analiz resheniia diagnosticheskikh zadach (na materiale konsul'tirovaniia podrostkov)* [The psychological analysis of diagnostic problem solving (using materials of adolescent consulting)]. Moscow, 2000.
3. *Diagnosticheskiia i korrektsionnaia rabota shkol'nogo psikhologa* [Diagnostic and correctional work of a school psychologist]. Moscow, Vados Publ., 2007. 235 p.
4. Kostromina S.N. *Sovremennaia psikhodiagnostika: sistema osnovnykh poniatii: uchebno-metodicheskoe posobie* [Contemporary psychodiagnosics: the system of main notions: text-book]. St. Petersburg: Sankt-Peterburgskii Gos. Univ., 2006. 160 p.
5. Kostromina S.N. Funktsional'naia organizatsiia prikladnoi psikhodiagnostiki [Functional organization of the applied psychodiagnosics]. *Izvestiia RGPU im. A.I. Gertsena – Proceedings of the Gertsen's RSPU*, 2007, no. 7 (28), pp. 123–132.