



The Skills of Students of Psychology in Working with Psycho-Diagnostic Methods

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ARTICLE INFO	ABSTRACT
Published Online: 27 February	In the psycho-diagnostics of the individual, it is important for specialists to be able to select research methods, provide their psychometric criteria, know the stages of compiling and adapting questionnaires, apply them and interpret empirical indicators. Such skills are provided at the stage of professional preparation of students majoring in psychology. The article analyzes the results of the empirical study of the professional competencies of students majoring in psychology to prepare them for the application of methods of psycho-diagnostics in research, to ensure their compliance with the criteria of psychometry. Psycho-diagnostic methods of students majoring in psychology; in particular, a multi-stage study has been established in the empirical study of the skills of applying personality questionnaires in psychological research. Empirical indicators cover the factors influencing the formation of students' theoretical knowledge and practical skills in working with personal questionnaires, the ability to use questionnaires. Students' theoretical knowledge and practical skills in working with personal questionnaires were analyzed over the academic years. Criteria such as the educational process, independent study of educational and scientific literature, professional motivation, the importance of having the ability to work with questionnaires, meeting the requirements of a science teacher are highlighted as factors influencing the formation of students' skills in using personal handouts. Significance levels of empirical indicators obtained from the study were provided by mathematical-statistical methods.
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INTRODUCTION

Surveys are the most common form of assessment of personality in psychological research. It is important that students in the field of psychology have the skills to work with personal questionnaires in their professional activities. It also places special demands on the work of specialists, depending on the nature of the formation and implementation of personal surveys. Students who have sufficiently mastered the practical application of personal questionnaires will effectively organize the measurement work on research tasks and achieve the desired results.

THE PURPOSE OF THE STUDY

The purpose of the study was to study the degree to which students have developed the skills to work with personal surveys and the factors that affect it.

In accordance with the purpose of the study, bachelors in Psychology from the National University of Uzbekistan were involved as respondents. The study provides an analysis of the three-year undergraduate learning process.

METHODOLOGY

Person psycho-diagnostics is a field of psychology in which extensive research is being conducted. Person psycho-diagnostics serves to ensure the implementation of personality concepts into reality and substantiates them [1], [2], [3], [5]. For this reason, on the basis of the theory of each person [5], his practical evaluation tools are formed. As part of the factorial approach to personality, R.B.Kettell's 16 RGs [2], [4], [10], [11], Myers-Briggs's MBTI methodology [8], M. Kray's and P. Costa's "Big Five" questionnaire [7], G. Eisenk's EPI and EPQ [1], [6], [7], [9] methods are among

them. These methods are considered to be the classic forms of personal surveys, and it is important that every professional trained as a psychologist has an idea about them and be able to apply them in research.

One of the scientific and practical aspects of the methods of psycho-diagnostics of a person is the process of their application or organization of psychological examinations, compilation of questionnaires, and verification of compliance with the requirements of psychometrics, processing and interpretation of results. In organizing our research in this area, we have to rely on the problems that correspond to the content of the program “General Psycho-diagnostics”. The specificity of this problem is the formation of psycho-diagnostic methods in the local context, their compliance with psychometric requirements and the training of specialists who know, can and analyze the results of research. In his research on this problem, the Russian scientist N.A. Baturin listed the lack of specialists in the field of test technology as a key factor [1]. These analytical data also relate to the degree of application of methods in the field of psycho-diagnostics of the individual in psychological research, the formation of assessment tools appropriate to the local environment, the methodologies and the requirements for their users. Also, most of the local methodologies are questionnaires devoted to the diagnosis of social psychology, intelligence and ability diagnostics, the essence of the problems of pedagogical psychology. The main focus of our research was on the psycho-diagnostics of the individual, in particular, the practical features of the questionnaires [8]. However, the requirements to ensure the scientific nature of the methodologies are naturally the same for all categories of methodologies. When analyzing the state of research on the methods of psycho-diagnostics of the individual, taking into account both cases, we are talking about the questionnaires, the features of their design and application. This situation has led our psychologists, in particular, to study the level of training of students in the field of "Psychology" in this area. Research in this area is based on the acquisition of training materials on the subject "General Psycho-diagnostics" by respondents on “Professional and ethical principles of psycho-diagnostic psychologist”, “Stages of organization of psychological examination and research”, "Basic stages of testing" (on compiling personal surveys) origin required research. For this purpose, the research conducted by students of “Psychology” played a decisive role as the most suitable object of research. For the respondents who participated as other subjects of the study, there were some difficulties in organizing the research on this situation and it was not possible to get clear expected indicators.

METHODS

In this study, the scales of research quality "Assessment of the readiness of students in the field of psychology to apply

methods of personality psycho-diagnostics”, the Student's t-criterion and unrelated results Kraskel-Wallis (N) criteria were used to determine the level of reliability of differences between research objects.

The scales “Assessment of the readiness of students in the field of psychology education for the implementation of methods of psycho-diagnostics” included in the research program, their level of professional training consists of six sections. These criteria are included in the criteria that determine the skills of specialists in the application of methods of psycho-diagnostics of personality and the factors influencing its formation, and their evaluation is achieved.

PARTICIPANT

The research program includes a study of the problem and details of its research methods and techniques. Students of the National University of Uzbekistan, Department of Psychology, participated in the study. In the course of this study, 156 students were involved in the study over the academic years.

DATA ANALYSIS

This led us to distinguish the stages of methodology development as the main criterion for the situation of the respondents for the study. This scheme serves as a criterion for the development of methodologies and their overall assessment of user performance.

The empirical study was conducted over the academic years. At this point it will be possible to push another specific working research hypothesis; “*It is natural that there are no differences between the skills of developing psycho-diagnostic methods, organizing research and analyzing research results, and practical performance in the same professional training environment*”. This working hypothesis was formed taking into account that it serves as a fundamental basis for all stages of professional training of specialists. As a result, the general scheme of testing and the criteria formed on the basis of the characteristics of the use of psychologist-psycho-diagnostic methods are important aspects of professional training of respondents in psycho-diagnostics, professional-ethical principles, stages of organization of research, stages of personal questionnaires, stages of adaptation, psychometric provided an assessment of the knowledge and practical skills associated with providing appropriate (Table 1).

The results of students' knowledge and ability to apply personal questionnaires were compared comparatively for students over three academic years. Differences in the obtained results were determined on the basis of statistical criteria. There were differences in the results of students majoring in “Psychology” on a number of criteria.

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Table 1. The results of the assessment of students' theoretical knowledge and practical skills in working with personal questionnaires

№	Criteria of theoretical knowledge and practical skills	academic year 2017-2018 N=51		academic year 2018-2019 N=45		academic year 2019-2020 N=60	
		M	σ	M	σ	M	σ
1	Ethical rules for the use of psychodiagnostic techniques	7,20	1,14	6,93	1,05	7,23	0,68
		1 to 3 points		2 to 1 points		3 to 1 points	
		t=1,28		t=0,68		t=-014	
2	Features of the organization of psychological research and examinations	6,73**	0,91	7,31	0,84	6,79***	-0,14
		t=-2,75		t=-0,14		t=-3.21	
3	Knowledge of the stages and rules of compiling personal surveys	6,33**	0,85	6,86**	1,05	6,74***	2,88
		t=2,74		t=2,88		t=4,11	
4	Knowing the steps of compiling a personal survey and how a person compiles a survey questionnaire based on a sample	6,51***	0,50	6,93***	0,88	6,92***	0,11
		t=4,34		t=4,13		t=-3,76	
5	Know and be able to apply the steps to adapt a person's questionnaires and tests	6,95	0,82	7,33***	0,79	7,66***	-0,76
		t=-1,92		t=-3,76		t=-3,7	
6	Know and be able to apply the rules to ensure the reliability of personal inquiries	7,00	0,90	7,02	1,01	6,92	0,52
		t=-0,14		t=1,21		t=0,52	
7	Know and be able to apply the rules to ensure the validity of personal inquiries	6,46	0,58	6,51	0,78	6,76	-1,11
		t=-0,32		t=-1,13		t=-1,11	
8	Use of person questionnaires and interpretation of their results	5,66	0,92	5,88	1,11	6,25	-3,14
		t=-1,40		t=1.41		t=-1,14	

Note: *p≤0,05; **p≤0,01; ***p≤0,001

Due to the fact that the curriculum of “General Psycho-diagnostics” is introduced in the educational environment for the first time in the 2015-2016 academic year, the results achieved by students in this academic year compared to the other two academic years, “Features of psychological research” (6,73 and 7, 31; $r \leq 0.01$); “Knowledge of the stages and rules of compiling personal surveys” (6.51; 6.93; 6.92, $r \leq 0.001$); “Knowledge and ability to adapt the stages of adaptation of personal surveys and tests” (6.95; 7.33; 7.66; $r \leq 0.001$). According to other criteria used in the experiment, no statistical differences were found in the performance of students by academic years. According to the indicators of

students, which do not reflect statistical differences, it can be said that their knowledge and skills in the implementation of personal study questionnaires and their application are relatively equally strong. However, in this case, although the respondents in the stages of compiling psychological tests have mastered the knowledge of certain professional training, but their skills on these criteria of psycho-diagnostics have not been demonstrated in practice.

The following empirical indicators were also obtained based on the criteria for determining what factors influence the formation of knowledge and practical skills on the characteristics of the ability to use and apply personal surveys (Table 2).

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By summarizing the results of empirical indicators of students in the field of “Psychology” for all years of the educational process, it was possible to study the importance

of factors influencing the formation of the necessary knowledge and practical skills.

Table 2. Factors influencing the knowledge and practical application of the rules of application and use of psychodiagnostic methods (questionnaires) in the field of “Psychology” (average color index, N = 156)

No	Factors	Ethical rules for the use of psycho-diagnostic techniques	Features of the organization of psychological research and examinations	Knowledge of the stages and rules of compiling personal surveys	Compile an individual study questionnaire based on a sample	Know and be able to apply the steps to adapt a person's questionnaires and tests	Know and be able to apply the rules to ensure the reliability of personal inquiries	Know and be able to apply the rules to ensure the validity of personal inquiries	Use of person questionnaires and interpretation of their results
1.	In the learning process	398,50	377,32	409,13	379,83	408,38	381,35	419,54	403,92
2.	Independent study of educational and scientific literature	209,38	245,82	174,28	229,44	181,36	230,64	157,94	196,75
3.	Interest in professional activities	269,72	270,74	268,50	263,64	267,36	265,97	255,09	222,01
4.	Considering that it is important for professional activity	295,76	323,59	313,31	339,64	314,46	327,91	315,87	370,14
5.	To meet the requirements of a science teacher	422,50	370,98	429,83	376,69	421,69	385,03	448,68	395,00
	Kraskel– Wallis criterion	122,540	55,71	171,753	77,943	157,137	77,67	226,20	176,34 3
	Significance (p)	,000*	,000*	,000*	,000*	,000*	,000*	,000*	,000*

Note: * - Expression of statistically significant differences.

In determining the level of significance of empirical indicators, the Kraskel-Wallis criterion was used to determine non-parametric indicators. According to this criterion, it is possible to note that each of the factors influencing the characteristics of students in the field of “Psychology” in the knowledge and application of the rules of use of methods of psychodiagnostics of personality has its place. Empirical indicators show that respondents have “ethical rules for the use of psychodiagnostic methods”, “features of the organization of psychological research and examinations”, “knowledge of the stages and rules of compiling personal questionnaires”, “compiling personal survey questionnaires based on samples”, Each of the results on the criteria of “knowledge and ability”, “knowledge and ability to ensure the reliability of personal inquiries”, “knowledge and ability to ensure the validity of personal inquiries”, “application of

personal inquiries and interpretation of their results” is significant. It is natural that their spheres of influence differ from each other. For example, for the rules of using the methods of psychodiagnostics of personality, students are “in the learning process” (knowledge of ethical principles: K = 398.50; analysis of the characteristics of the organization of psychological research and investigations by K = 398.50 and other criteria); There is a difference in the “independent study of educational and scientific literature” (knowledge of ethical principles: K = 209.38; analysis of the characteristics of the organization of psychological research and investigations on K = 245.82 and other criteria). This situation encourages us to keep in mind the importance of each of the factors influencing the formation of knowledge and skills to work with personal questionnaires for the process of professional training of psychologists. In fact, the educational process is

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also embodied in the requirements for the formation of professional knowledge, skills and competencies of students.

Due to the empirical indicators, there are differences between the factors influencing the training for students' skills and abilities to work with methods of psychodiagnostics (questionnaires), but the guidance and pedagogical skills of teachers are the guiding factors in ensuring the effectiveness of these factors. Even the reasons for this conclusion are reflected in the empirical indicators obtained by students that they act "in order to meet the requirements of a science teacher" in the formation of knowledge and skills ($K =$

422.50; $K = 370.98$; $K = 429.83$; $K = 376.69$; $K = 421.69$; $K = 385.03$; $K = 448.68$; $K = 395.00$). Thus, it can be concluded that in the process of vocational training it is not necessary to single out a single factor in the formation of the necessary knowledge, skills and abilities for the specialist.

Attention was also paid to the expression of the respondents' empirical indicators by academic years. The importance of factors influencing knowledge and skills was compared across academic years in accordance with the indicators presented in the initial table in this area (Table 3)

Table 3. Factors influencing the knowledge and practical application of the rules of application and use of psychodiagnostic methods (questionnaires) in the field of "Psychology" (average color index for academic years, $N = 156$)

№	Factors	Academic years, respondents N	Ethical rules for the use of psycho-diagnostic techniques	Features of the organization of psychological research and examinations	Knowledge of the stages and rules of compiling personal surveys	Compile an individual study questionnaire based on a sample	Know and be able to apply the steps to adapt a person's questionnaires and tests	Know and be able to apply the rules to ensure the reliability of personal inquiries	Know and be able to apply the rules to ensure the validity of personal inquiries	Use of person questionnaires and interpretation of their results
1	2		3	4	5	6	7	8	9	10
1.	In the learning process	2015-2016, N=51	68,23	62,62	67,63	65,91	66,55	66,90	67,14	64,85
		2016-2017, N=45	57,74	65,94	59,38	60,61	61,31	61,26	58,33	60,37
		2017-2018, N=32	66,13	63,45	64,74	65,77	63,71	63,21	67,06	67,87
	Kruskal – Wallis criterion		2,32	0,228	1,473	0,696	0,563	0,683	2,504	1,188
Significance (p)		0,313	0,892	0,479	0,706	0,755	0,711	0,286	0,552	
2.	Independent study of educational and scientific literature	2015-2016, N=51	67,18	67,97	65,54	65,03	64,55	65,95	60,46	64,58
		2016-2017, N=45	59,04	56,48	60,74	62,04	61,47	61,31	62,40	60,32
		2017-2018, N=32	65,97	68,39	66,19	65,15	66,77	64,69	72,15	68,10
	Kruskal – Wallis criterion		1,429	3,074	0,607	0,215	0,439	0,433	2,426	1,167
Significance (p)		0,490	0,215	0,738	0,898	0,803	0,805	0,297	0,558	
3.	Interest in professional activities	2015-2016, N=51	66,34	64,72	64,59	62,92	64,99	68,35	64,77	65,10

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		2016-2017, N=45	61,07	62,29	59,93	62,03	61,03	60,48	60,39	61,67
		2017-2018 N=32	64,40	65,31	68,94	68,63	66,68	61,95	67,97	65,58
	Kruskal – Wallis criterion		0,527	0,165	1,194	0,820	0,522	1,427	0,942	0,657
	Significance (p)		0,768	0,921	0,551	0,664	0,770	0,490	0,624	0,720
4.	Considering that it is important for professional activity	2015-2016, N=51	67,16	66,40	66,21	67,65	64,03	67,69	65,28	64,71
		2016-2017, N=45	61,53	60,83	60,44	60,11	62,10	60,50	61,28	59,87
		2017-2018 N=32	62,39	64,65	65,53	63,65	66,71	63,02	65,84	68,84
	Kruskal – Wallis criterion		0,671	0,592	0,710	1,118	0,309	1,027	0,487	1,401
	Significance (p)		0,715	0,744	0,701	0,572	0,857	0,598	0,784	0,496
5.	To meet the requirements of a science teacher	2015-2016, N=51	65,30	60,36	64,68	69,85	64,74	67,78	65,85	64,85
		2016-2017, N=45	62,32	69,47	59,50	58,90	59,43	60,30	61,39	60,37
		2017-2018 N=32	64,29	62,05	69,42	61,77	69,42	63,15	64,74	67,87
Kruskal – Wallis criterion		0,184		1,594	2,586	1,565	1,121	0,552	1,188	
Significance (p)		0,912		0,451	0,274	0,457	0,571	0,759	0,552	

The significance of the differences between the factors influencing the formation of skills in the application of psychodiagnostic methods and their application in the 2017-2018, 2018-2019 and 2019-2020 academic years was determined by the Kruskal-Wallis criterion. In the empirical indicators analyzed by academic years, the person on such factors as "learning process", "independent study of educational and scientific literature", "interest in professional activity", "taking into account the importance of professional activity", "to meet the requirements of a science teacher" no differences were observed in the criteria for assessing the formation of skills in working with questionnaires. Such findings of the study will motivate psychologists in the future to conduct research within the framework of personal questioning skills.

CONCLUSION

It is noteworthy that students in the field of "Psychology" know the use of methods of psychodiagnostics of personality and in the formation of skills to apply them, regardless of the different academic years or different students, there are no

differences in factors. The main reasons for this are the focus on the traditional teaching system in the educational process, the inability to increase the creativity of teachers in the organization of the educational process, the formation of a learning environment that takes into account the individual psychological characteristics of students.

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