



Analysis Report About Reform of the Classification and Evaluation Mechanism for Scientific and Technological Talents Based on Questionnaire Star Platform

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Abstract. Talents are the strategic resources to achieve national revitalization and win the initiative of international competition. In order to play the “baton” role of talent evaluation and stimulate the vitality of talent team, we used the platform “Questionnaire Star” to conduct a questionnaire survey of nearly 900 science and technology workers in more than 30 subordinate units of a group on the problems related to talent classification evaluation. After making use of the basic data classification and statistics function provided by the platform, SPSS data analysis function, and cross-comparison and analysis of the core data of the questionnaire, we have found that: it is the basic consensus of science and technology workers to establish a talent classification and evaluation mechanism, which includes both morality and ability, abolishing the “five only”, respecting realistic needs, using evaluation and incentive lever, and breaking the “one size fits all” and “one pot of stew”. It is of great significance to establish a correct employment orientation, encourage and guide the career development of talents, arouse their enthusiasm for innovation and entrepreneurship, and speed up the building of a country with talented people.

Keywords: Scientific and Technological Talents · Classification Evaluation · Institutional Reform · Questionnaire Survey

1 Introduction

In order to give full play to the role of talent evaluation as a “baton”, energize the ranks of talented personnel, and accelerate the formation of a talent evaluation mechanism that is clearly oriented, scientific and reasonable, fair and equitable, and competitive. Combined with the current situation and problems of science and technology talents, we carried out this survey.

Research topic: Research on the reform of classification and evaluation mechanism of scientific and technological talents.

Survey time: From July to September 2020.

Respondent: More than 30 subordinate units of a group.

A total of 950 questionnaires on Furthering the reform of the Classification and Evaluation Mechanism of Scientific and technological Talents were distributed and 867 were collected, of which 832 were valid.

2 Basic Information of the Questionnaire

1. Participants in the survey were mainly young and middle-aged people, with more than 80% of respondents under 40 years old. The majority of respondents were male, with a sex ratio of nearly seven to three. (Fig. 1).

2. Nearly 90% of the interviewees have less than 20 years of working experience, and nearly 90% of all interviewees have a bachelor's degree or above (Fig. 2).

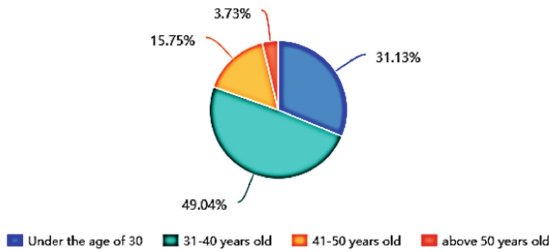


Fig. 1. Age of respondents

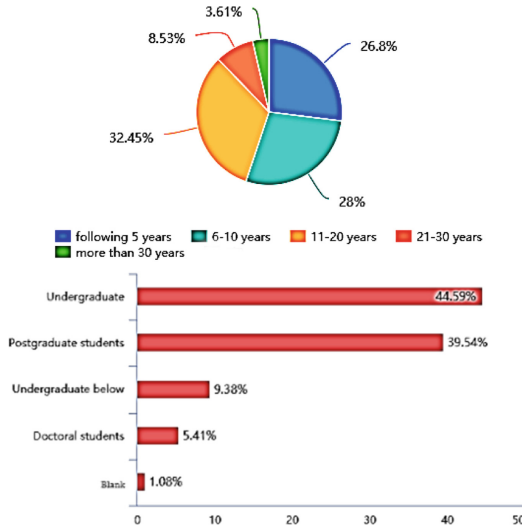


Fig. 2. Length of service and education of respondents

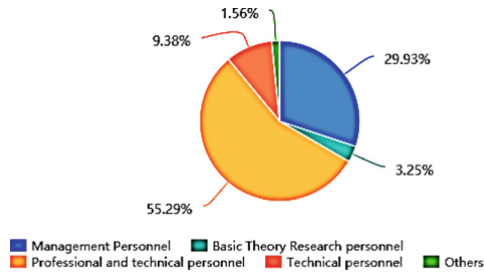


Fig. 3. Types of respondents

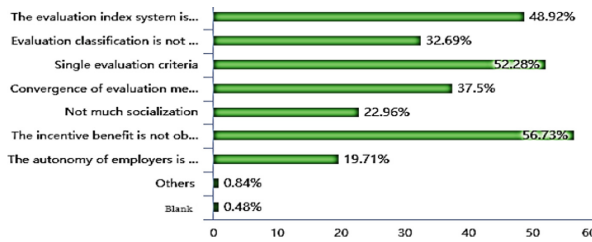


Fig. 4. Respondents' satisfaction with the current evaluation mechanism

3. Nearly 70% of respondents are from front-line scientific and technological research positions. The distribution of professional titles of interviewees basically conforms to normal distribution, and the number of senior, intermediate and primary professional titles of interviewees are close to 1:1:1. (Fig. 3).

4. Only less than 5% of the interviewees are not satisfied with the current talent evaluation mechanism, but many of them also have a consensus on the problems of “imperfect evaluation index system”, “single evaluation standard” and “not obvious incentive benefit”. (Fig. 4).

5. Nearly two-thirds of the respondents believe that “establishing the recognition standard of talent classification”, “perfecting the mechanism of talent classification evaluation” and “establishing the evaluation index body for talent classification” are the key points of establishing talent classification evaluation; More than two-thirds of the respondents believe that talent evaluation should be classified from the aspects of “occupational attributes”, “job characteristics” and “industry fields”; more than half of the respondents thought “representative achievement evaluation”, “development evaluation”, “peer evaluation” and other methods are more suitable for talent classification evaluation. (Fig. 5).

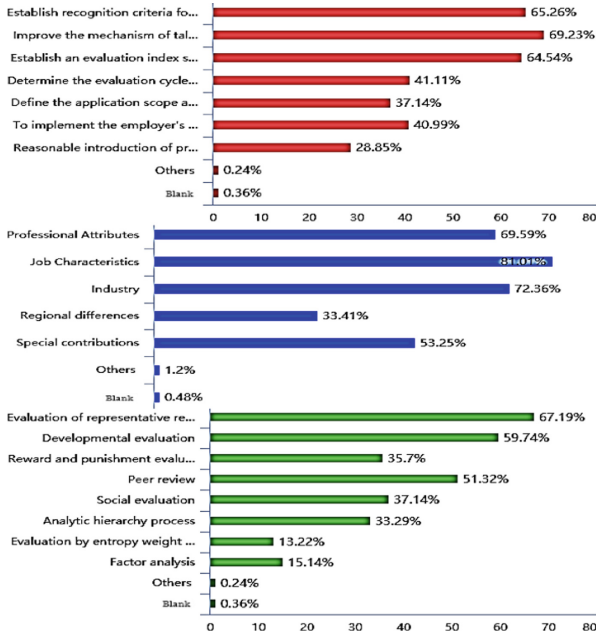


Fig. 5. Respondents' expectation of talent classification and evaluation

6. Nearly two-thirds of the interviewees hold a cautious attitude towards the introduction of third-party institutions for socialized talent evaluation, and more than 40% of the interviewees believe that at the present stage, the participation of third-party institutions in talent evaluation should first be “encouraged to participate in the evaluation of existing third-party institutions, and the government should undertake the supervision of the evaluation process and results”. More than 70% of the respondents believe that the introduction of third-party institutions for socialized talent evaluation should be implemented by existing industry authorities as “process supervision”. (Fig. 6).

7. Nearly 70% of respondents believe that a “one-vote veto” evaluation mechanism should be established for key indicators in talent classification and evaluation, and more than 80% of respondents believe that a “one-vote veto” mechanism should be established for “professional ethics”. (Fig. 7).

8. Most interviewees believe that talent classification evaluation should focus on “moral character” and “ability”, with one-third of interviewees choosing “annual evaluation” as the cycle of talent classification evaluation. (Fig. 8).

9. More than two thirds of the respondents believe that the classification and evaluation of talents should focus on “how to ensure the objective and accurate data collection”, “who can implement the objective and fair”, and “how to assign the weight of evaluation indicators for different types of talents”. (Fig. 9).

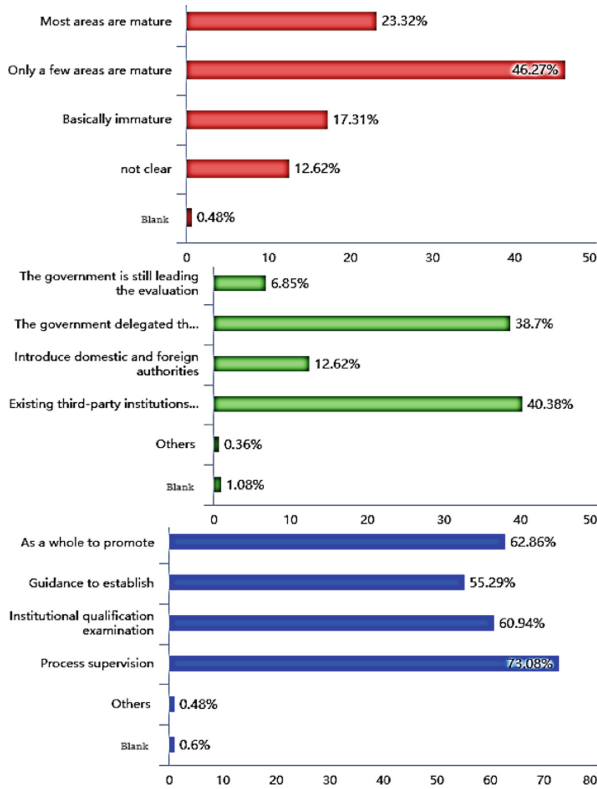


Fig. 6. Respondents' attitudes towards third-party evaluations

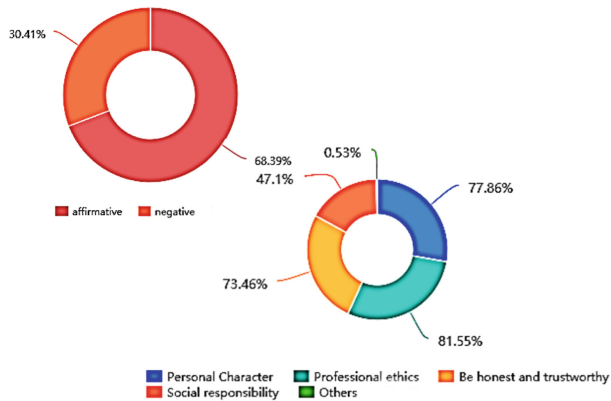


Fig. 7. Respondents' attitudes towards one-vote veto

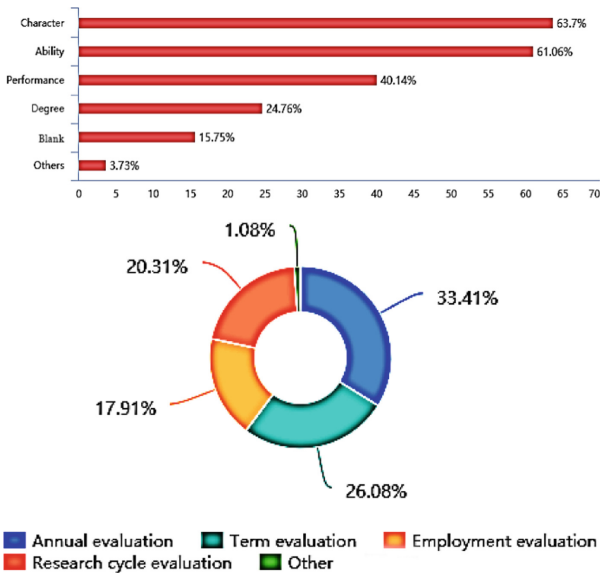


Fig. 8. Respondents' expectations of evaluation focus and cycle

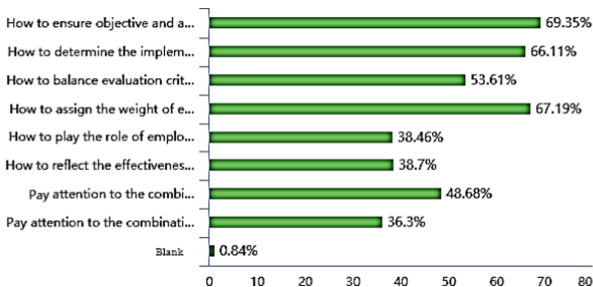


Fig. 9. Respondents' opinions about focus on classification evaluation

10. The motivating role of evaluation is a concern of most interviewees. Nearly 70% of the respondents believe that to promote the scientific and reasonable conduct of talent classification and evaluation, material rewards should be combined with spiritual honor; More than 80% of the respondents believe that the value and significance of talent classification evaluation is to “strictly implement the incentive effect of talent classification evaluation and stimulate talent vitality”; The top two problems in the encouragement and guarantee of scientific and technological talents are respectively “incentive system is not enough to stimulate the enthusiasm of most personnel” (73.2%) and “treatment and scientific research work management input does not match” (66.83%). (Fig. 10).

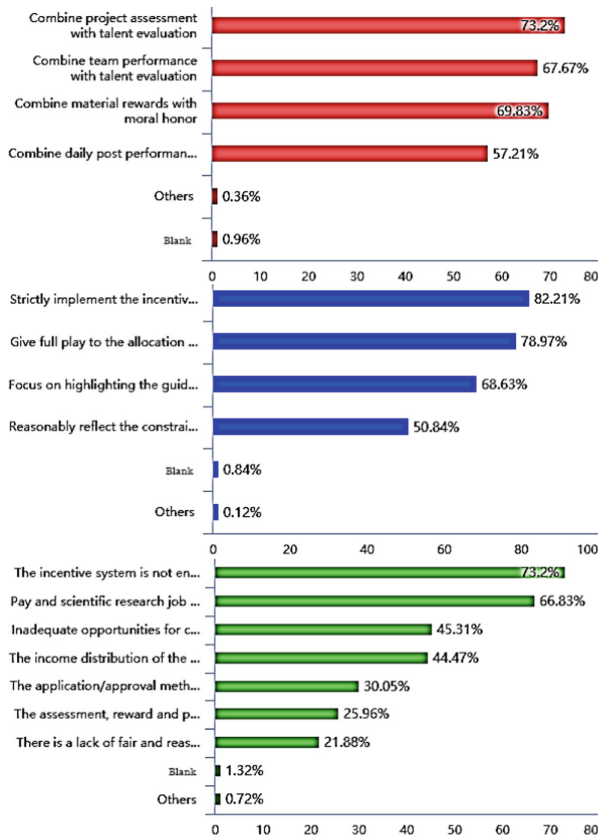


Fig. 10. Respondents’ expectation on the establishment of talent classification and evaluation mechanism

3 Analysis of Questionnaire Survey

3.1 It is the Basic Consensus of Scientific and Technological Workers to Classify and Evaluate Talents to Have Both Political Integrity and Ability and to Get Rid of the “Five Only”

To study the construction of the classification and evaluation system of scientific and technological talents is to reflect the characteristics and characteristics of scientific and technological talents scientifically, reasonably, objectively and fairly through the classification and evaluation of talents, to highlight moral character, ability and performance orientation [1]. To overcome the tendency of only papers, only professional titles, only academic degrees, only awards, to be able to do not evaluate the ability of the only academic performance, not the only ability to read the paper, not the only award for the quality of the award. Through the statistics of the results of the competency matrix in the questionnaire, we found that most interviewees have a strong consensus on the elimination of the “five only” and the classification evaluation of highlighting moral character and ability [2].

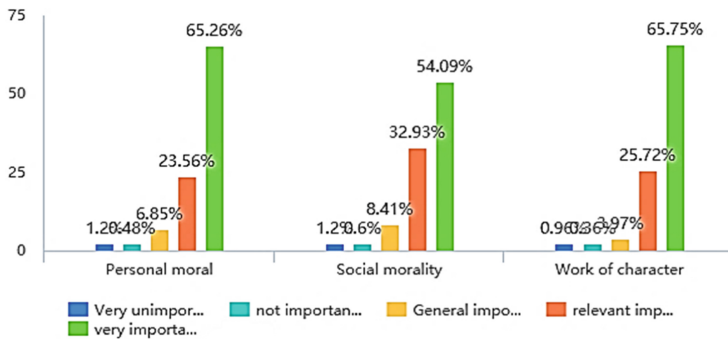


Fig. 11. Status of moral character in classification evaluation

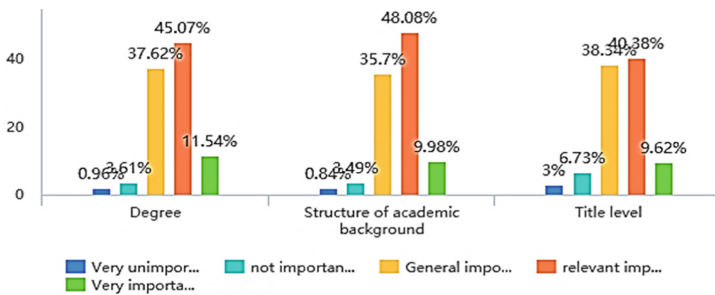


Fig. 12. Status of academic degree in classification evaluation

In the questions related to moral character, the majority of respondents think personal and professional ethics (work morality) are “very important” or “relatively important” to the construction of talent classification and evaluation system, and nearly two-thirds of respondents think personal and professional ethics are “very important”. It can be seen that in the construction of talent classification and evaluation system, it is a consensus to put moral character in the first place as a leading indicator. (Fig. 11).

In the questions related to academic degree, only about 10% of the respondents think academic degree, academic affiliation structure and professional title level are “very important” to the construction of talent evaluation system, but 45% and 48% of the respondents think academic degree and academic affiliation structure are “relatively important” to the construction of talent evaluation system. This indicates that the overwhelming majority of respondents believe that academic degree and other factors should not be the core indicators in the construction of the talent classification and evaluation system, but the knowledge level and the structure of academic background should be taken into account. (Fig. 12).

In ability quality related issues, the vast majority of respondents thought learning ability and professional ability of talent classification evaluation system to build “very important” or “more important”, think that the number of “very important” are the two abilities more than half of the respondents, at the same time, 46% of respondents thought innovation ability is also “very important”. Therefore, it is necessary to promote the

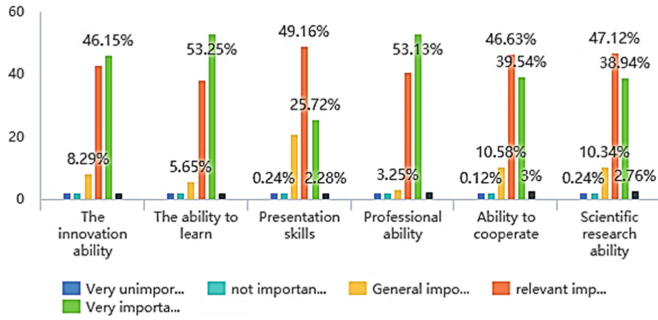


Fig. 13. Status of ability and quality in classification evaluation

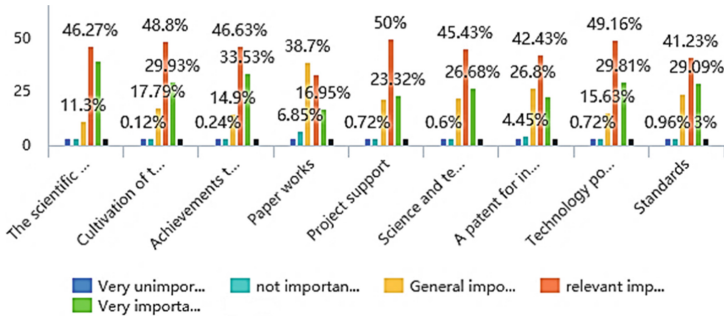


Fig. 14. Status of job performance in classification evaluations

learning ability, professional ability and innovation ability of scientific and technological talents through evaluation in the minds of the majority of scientific and technological workers. (Fig. 13).

In the questions related to work performance, more interviewees think that scientific research achievements (39.78%), achievement transformation (33.53%), talent cultivation (29.93%) and technology withdrawal (29.81%) are “very important” to the construction of talent classification evaluation system. Only 16.95% of the interviewees think that theses and works are “very important” to the construction of talent classification and evaluation system, and nearly 10% of the interviewees even explicitly say that theses and works are “not important” or “very not important”. This shows that the majority of scientific and technological workers have more pragmatic requirements for the classification and evaluation of talents, and they hope that the classification and evaluation of talents can better reflect the achievements and abilities of scientific and technological talents. (Fig. 14).

3.2 It is Important to Respect the Real Needs and Break the Classification of “One Size Fits All” and “One Pot of Stew”

By cross-analyzing the age and personnel types of the respondents, it is found that the distribution of managerial personnel and professional and technical personnel is strongly

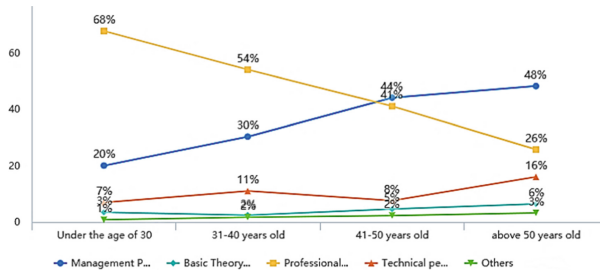


Fig. 15. Analysis of personnel types by different age groups

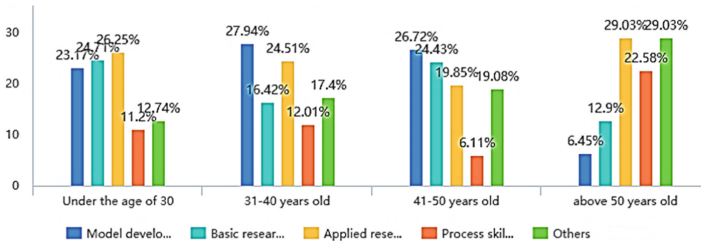


Fig. 16. Analysis of job type by different age groups

correlated with age. The older the age, the higher the proportion of managerial personnel, and the lower the proportion of professional and technical personnel. On the other hand, the younger the age, the lower the proportion of managerial workers, the higher the proportion of professional and technical workers. (Fig. 15).

At the same time, through further cross analysis of the age and job type of interviewees, it is found that with the increase of age, the proportion of talents working in type development and basic research positions will decline significantly. However, the proportion of talents working in applied research and technology operation positions will increase significantly, which is consistent with the practical need for knowledge and skills of job types and the time demand of experience accumulation of job types. (Fig. 16).

In the basic situation, we have analyzed that the number of senior, intermediate and junior professional titles among interviewees in this questionnaire survey is close to 1:1:1. However, through the comparative analysis of job types and professional titles of interviewees, we have found that there are significant differences in the distribution of professional titles among people working in different types of positions. The proportion of higher vocational talents working in model research and applied research positions is obviously higher than those working in basic research and technological skill operation positions. Moreover, more than a third of the talents working in the technical skill operation position do not even have any title. This shows that the talents working in type research and applied research positions are more likely to produce results, and are more likely to be awarded a higher professional title, which shows from another aspect that the current evaluation model of this kind of professional title is unreasonable in some aspects [3].

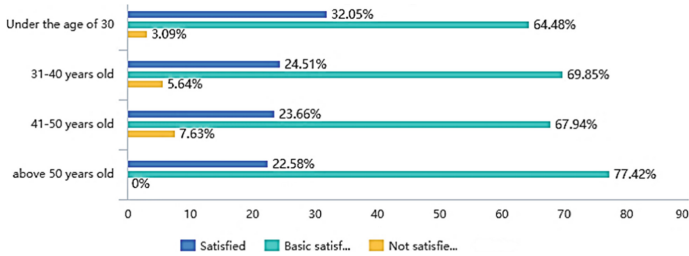


Fig. 17. Analysis of people's satisfaction with the current evaluation mechanism at different ages

The evaluation of scientific and technological talents is a dynamic and different concept. Talent age, type, position and characteristics are diverse, rather than “homogeneous” and “single”. Break the current “one size fits all” and “one pot” evaluation method, classify scientific and reasonable talents according to different occupational attributes, job requirements, different types and characteristics of different levels of scientific and technological talents. Thus, the effective evaluation of different types of innovative scientific and technological talents is the improvement and development of the existing evaluation mechanism of scientific and technological talents, which is worth paying attention to.

3.3 It is Worth Paying Attention to Mobilizing the Enthusiasm of Young and Middle-Aged Scientific and Technological Talents by Using Evaluation Incentive Lever

The respondents of this questionnaire survey are mainly young and middle-aged people under 50 years old (95.91%), among which more than 80% are young people under 40 years old. Through cross-analysis, it is found that all the interviewees who are not satisfied with the current evaluation mechanism are under 50 years old, and there is a certain upward trend with the increase of age. (Fig. 17).

Through further cross-analysis, this division has a significant difference in demand for talent incentives and safeguards for scientific and technological talent and people over 50 [4].

Their expectations for the value and meaning of classification are also more focused on the effective use of motivational action. (Fig. 18).

Young and middle-aged researchers under the age of 50 are the main body of scientific and technological talents in the field of science and technology, and the source of training and discovering the backbone of future scientific research. It is important for the development of science and technology to establish and perfect the incentive mechanism of competition, goal, treatment, spirit and negative incentive of evaluation conclusion, to give play to the incentive function of classified evaluation of talents, to mobilize the enthusiasm of young and middle-aged talents and to promote the healthy growth of young and middle-aged scientific and technological talents by making full use of evaluation lever.

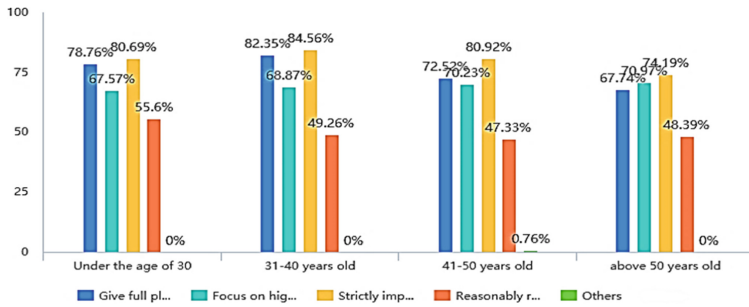


Fig. 18. Analysis of people’s the value and significance of classified evaluation mechanisms at different ages

4 Conclusion

Talent classification and evaluation is an important part of talent development system and mechanism, the premise of talent resources development, management and use, a systematic and scientific development form of talent evaluation, and a dynamic system of talent development and management based on the evaluation process. Through the analysis of this questionnaire, we believe that: it is the basic consensus of science and technology workers to establish a talent classification and evaluation mechanism, which includes both morality and ability, abolishing the “five only”, respecting realistic needs, using evaluation and incentive lever, and breaking the “one size fits all” and “one pot of stew”. Accelerating the establishment and improvement of the talent evaluation system in line with the law of talent development, and striving to build and form the competitive advantages of the system and mechanism to promote the development of scientific and technological talents are of great significance for establishing the correct orientation of personnel, encouraging and guiding the career development of talents, arousing the enthusiasm of talents for innovation and entrepreneurship, and speeding up the construction of a talent country [5].

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