

Challenging Research (Pioneering/Exploratory) Assessment Criteria for Document Review

Grants-in-Aid for Scientific Research (KAKENHI) aim to dramatically develop all academic research, from basics to applications, throughout all research fields. In the review for allotment of research funds, each reviewer is required to make appropriate and fair judgment as to whether the submitted research proposals could contribute greatly to this end.

Challenging Research (Pioneering/Exploratory) is intended to support research plans that aim at radically transforming the existing research framework and/or changing the research direction and have the potentials of rapid development based on innovative ideas. (The *Exploratory* category encompasses research plans that are of highly exploratory nature, or are in the budding stage.) This category has a distinctly different character from those of other research categories such as Scientific Research or Early-Career Scientists.

Challenging Research targets research projects that have the potential to radically transform the existing research framework and/or change the research direction—for example, potentials to discover and pursue new principles, reexamine academic concepts and frameworks, or make significant changes in the mindset or implement innovative methodologies, etc. that may bring breakthroughs in research. Accordingly, reviewers are to conduct the reviews with focus on the significance of the research as a “challenging research.”

In addition, from the viewpoint of confirming the feasibility of such “Challenging Research,” examine the applicant's ability to carry out the research by checking his/her research track records, content of research activities, etc. However, if the proposal contains a description on the research achievements, do not make your judgment based on the amount of information.

In the review of Challenging Research, the Medium-sized Section will be applied as the review section. In addition, a Generative Research Fields Review Division may be established as necessary apart from the Review Section table for a limited period of time, especially for areas that are considered to be in high academic need. Also, for the review of *Pioneering*, The review method will be a Comprehensive Review in which all reviewers will first conduct document review on all research proposals, then the same reviewers will conduct discussions from a broad perspective on each research proposal in the panel review. For the review of *Exploratory*, the Two-Stage Document Review method will be implemented instead of a panel review, where the same group of reviewers will conduct document review in two stages to determine the adoption of research proposals.

Note that if there is a large number of applications, a Preliminary Screening will be conducted in order to narrow down to the number of projects appropriate for all reviewers to conduct document review, and each application will be assigned a relative overall score on a scale of 1 to 5.

In the document review for *Pioneering*, each research proposal will first be assigned an absolute score on a scale of 1 to 3 based on the rating elements to determine the validity of the proposal as challenging research. Next, taking into consideration the rating elements to assess the content of the research plan, a relative overall score on a scale of 1 to 4 will be assigned.

In the panel review, reviewers will conduct discussions, taking into consideration, as appropriate, the raw scores, etc. of the overall scores of the document review, and determine the adoption of research proposals and allocation of research funds. The proposed budgets will be respected to the maximum

extent possible in order to allow applicants to commit themselves to challenging research.

In the first stage document review for *Exploratory*, each research proposal will first be assigned an absolute score on a scale of 1 to 3 based on the rating elements to determine the validity of the proposal as challenging research, and an absolute score on a scale of 1 to 4 based on the rating elements to assess the content of the research plan. Then, a relative overall score on a scale of 1 to 4 will be assigned.

Note that, in the absolute evaluation for each rating element, if you assign a score of “2—Marginal” or “1—Poor,” you will be asked to select which item of the rating element was considered “Marginal” or “Poor,” and to give the reason for such judgment. The items selected here will be disclosed to unsuccessful applicants who have made prior request for disclosure of the results of the first stage review.

In the second stage review, the same group of reviewers will assess the research proposals that qualified for the second stage review based on the results of the first stage document review, and assign new scores for the second stage. Here, you should check the review comments (for the first stage) etc. made by all the reviewers assessing the same research proposal, and assign a score based on your own insight.

The adoption of research proposals and allocation of research funds will be determined based on these scores, etc. The proposed budgets will be respected to the maximum extent possible in order to allow applicants to commit themselves to challenging research.

In conducting the review, you do not necessarily have to give high overall scores to research proposals that marked high scores in all of the individual elements.

Reviewers should make objective judgments on the content of the research proposals and provide appropriate evaluation so as to unearth valuable research projects that are truly challenging.

Note that you must not conduct reviews of research proposals submitted by any research team consisting of researchers whom you have vested interests.

I Assessment Criteria, Etc. for Challenging Research (*Pioneering*)

i Assessment Criteria

[Rating Elements]

A. Rating Elements to Determine the Validity as a Challenging Research

- Does the research proposal have the potential to radically transform the existing research framework and/or change the research direction?
- By conducting the proposed research project, can we expect to see positive impacts on or contribution to society in a broad sense, for example in broader academic fields, science and technology, industry, culture, or other areas in the future?
- Does the research proposal clearly show the background and history leading to conception? Is the research concept derived in such a way reasonable? Also, is the research highly challenging?

B. Rating Elements to Assess the Content of the Research Plan

(1) Validity of Research Objective and Research Plan

- Is the research objective clear and is the research plan appropriate in order to achieve the research objective?

(2) Appropriateness of Ability to Conduct Research

- Judging from the research activities conducted to date and the results of such activities, can you see the applicant as having high ability to carry out the research plan?
- Has the applicant appropriately prepared a research environment, including research facilities, equipment, and research materials, which is a prerequisite to carrying out the research plan?

[Overall Score, etc.]

[Preliminary Screening]

For each research proposal, make a comprehensive judgment based on the rating elements set forth in A. Rating Elements to Determine the Validity as a Challenging Research and items (1) and (2) in B. Rating Elements to Assess the Content of the Research Plan as outlined above. Then assign a relative overall score on a scale of 1 to 5 (with 5 being the highest priority rank for research proposals most eligible to proceed to the document review) according to the scoring distribution shown below.

If you have “vested interests” in a research proposal, enter the reason in the “Reason for Vested Interests” column.

Scoring Classification	Scoring Distribution
5	10%
4	10%
3	10%
2	10%
1	60%
Cannot evaluate this proposal due to vested interests	-

* Of the research proposals that you assign a scoring classification of 5, if you find a particular research proposal that you feel should proceed to the document review, you may select one proposal as a “Priority review proposal.” Such a research proposal will be eligible for document review regardless of the scores given by other reviewers.

[Document Review]

To determine the adoption of each research proposal, assign an absolute evaluation on a scale of 1 to 3 for A. Rating Elements to Determine the Validity as a Challenging Research as outlined above.

Scoring Classification	Scoring Criteria
3	Valid
2	Mostly valid
1	Not valid

If you rated a proposal as “1—Not valid” as a challenging research, please state the reason in the “Reason leading to the judgment” column.

Next, make a comprehensive evaluation of the research proposals by also taking into consideration the rating elements in items (1) and (2) in B. Rating Elements to Assess the Content of the Research Plan as outlined above. Then assign an overall score on a scale of 1 to 4 in accordance with the scoring distribution shown separately as indicated in the right column in the table below. (For applications to the Generative Research Fields Review Division, consider also whether the proposals fit the Division in question when assigning the overall scores.)

Note that if you have “vested interests” in a research proposal, enter the reason in the “Reason for Vested Interests” column.

Also note that “The Status of Application and Acquisition of Research Grants” and “Issues Relevant to Human Rights Protection and Legal Compliance” columns in the research proposal document are not to be considered for the overall score given in the document review. As such, you should assign the overall score based on each of the other columns, etc. Please check the section iii. Points to be Noted on how to handle “The Status of Application and Acquisition of Research Grants” and “Issues Relevant to Human Rights Protection and Legal Compliance” columns in the review process.

Scoring Classification	Assessment Criteria	Scoring Distribution
S	Should be adopted with highest priority	To be adjusted based on the number of adoptable research proposals
A	Should be adopted with priority	
B	Worth considering for adoption	
C	None of the above (S through B)	
-	Cannot evaluate this proposal due to vested interests	-

[Entering the Review Comments]

Although document review and panel review will be conducted by the same reviewers for Challenging Research (*Pioneering*), the review comments given in document review will be presented along with the name of the reviewer, etc. as review materials in order to deepen the discussions at the panel review.

For this reason, in the “Review Comments” column for document review, you must enter your review comments for every research proposal focusing on the strengths and weaknesses as challenging research of each research proposal. You do not need to provide review comments in the preliminary screening.

ii Other Evaluation Items

Validity of Research Expenditure

In an aim to distribute KAKENHI grant effectively and efficiently, in document review, consider the following points in terms of the validity and necessity of research expenditure and assign a rating according to the following rating categories. (Rating categories other than (Blank) should be assigned only if you can determine that the proposed research expenditure clearly falls under the content of each such assessment criteria.)

Note that JSPS plans to respect the proposed budgets to the maximum extent possible in allocating the grants for Challenging Research.

Note that if you are assigning Δ or \times , please describe the specific reasons for such judgment in the “Reason leading to the judgment” column.

- Is the content of research expenditure reasonable and can we expect that the research expenditure will be used effectively?
- Are items genuinely necessary for the implementation of the research plan properly budgeted, such as costs for purchasing equipment?
- If any of the expenditure categories (equipment costs, travel expenses, or personnel cost/honoraria) exceeds 90% of the total expenditure, can we expect that the research expenditure will be used effectively for the implementation of the research plan?

Rating Category	Assessment Criteria
(Blank)	This research can be implemented with an average sufficiency rate
Δ	Judging from the content of the research plan, it is desirable to decrease the sufficiency rate
\times	The content of research expenditure is questionable

iii Points to be Noted

(1) Handling of “The Status of Application and Acquisition of Research Grants” column

The status of applications of other research proposals and acquisition of other research grants are to be referenced in the panel review to judge “whether or not the research project can be fully implemented without unreasonable duplication and/or excessive concentration in the grant allocation.” Therefore, do not consider this information in the overall scores to be assigned in the review.

(2) Handling of “Issues Relevant to Human Rights Protection and Legal Compliance” column

Research proposals that require the protection of human rights and legal compliances in implementing the research plan must be conducted after following necessary procedures and taking necessary measures such as obtaining the approval of the ethics committee, etc. inside and outside the research institution based on relevant laws and regulations. For this reason, you do not need to consider them as evaluation items for the review.

If you find it necessary to inform the research institution in advance, for example, of any inadequacy in the prescribed procedures or measures, etc. in implementing the research, please describe the specific reasons for such judgment in the “Reason leading to the judgment” column. If the research proposal is adopted, JSPS

will notify the applicant's affiliated research institution to carry out such prescribed procedures or measures, etc. Even if the research proposal is not adopted, JSPS will disclose in the review results that there was inadequacy in the prescribed procedures or measures, etc.

Note also that the "Reason leading to the judgment" column may be left blank in case "This item is not applicable" or if you find "No particular problem (including cases that cannot be judged)."

II Assessment Criteria, Etc. for Challenging Research (*Exploratory*)

i Assessment Criteria

[Rating Elements]

A. Rating Elements to Determine the Validity as a Challenging Research

- Does the research proposal have the potential to radically transform the existing research framework and/or change the research direction? If the research plan is of highly exploratory nature and/or is in its budding stage, does it have the potential to be a challenging research?
- Through the implementation of the research proposal, can we expect to see positive impacts on or contribution to society in a broad sense, for example in broader academic fields, science & technology, industry, culture, or other areas in the future?
- Does the research proposal clearly show the background and history leading to conception? Is the research concept derived in such a way reasonable? Also, is the research challenging?

B. Rating Elements to Assess the Content of the Research Plan

(1) Validity of Research Objective and Research Plan

- Is the research objective clear and is the research plan appropriate in order to achieve the research objective?

(2) Appropriateness of Ability to Conduct Research

- Judging from the research activities conducted to date and the results of such activities, can you see the applicant as having ability to carry out the research plan?

[Overall Scores and Review Comments]

[Evaluation of Preliminary Screening]

For each research proposal, make a comprehensive judgment based on the rating elements set forth in A. Rating Elements to Determine the Validity as a Challenging Research and items (1) and (2) in B. Rating Elements to Assess the Content of the Research Plan as outlined above. Then assign a relative overall score on a scale of 1 to 5 (with 5 being the highest priority rank for research proposals most eligible to proceed to the document review) according to the scoring distribution shown below. (For applications to the Generative Research Fields Review Division, consider also whether the proposals fit the Division in question when assigning the overall scores.)

Note that if you have “vested interests” in a research proposal, enter the reason in the “Reason for Vested Interests” column.

Scoring Classification	Scoring Distribution
5	10%
4	10%
3	10%
2	10%
1	60%
Cannot evaluate this proposal due to vested interests	-

* Of the research proposals that you assign a scoring classification of 5, if you find a particular research proposal that you feel should proceed to the document review, you may select one proposal as a “Priority review

proposal.” Such a research proposal will be eligible for document review regardless of the scores given by other reviewers.

[Evaluation of the First Stage Review]

To determine the adoption of each research proposal, assign an absolute evaluation on a scale of 1 to 3 for A. Rating Elements to Determine the Validity as a Challenging Research as outlined above.

Scoring Classification	Scoring Criteria
3	Valid
2	Mostly valid
1	Not valid

If you rated a proposal as “1—Not valid” as a challenging research, please state the reason in the “Reason leading to the judgment” column.

Also assign an absolute evaluation on a scale of 1 to 4 for each of the items (1) and (2) in B. Rating Elements to Assess the Content of the Research Plan.

Scoring Classification	Assessment Criteria
4	Excellent
3	Good
2	Marginal
1	Poor

Lastly, make a comprehensive judgment by taking into consideration the evaluation for each of the rating elements. Then assign a relative overall score on a scale of 1 to 4 in accordance with the scoring distribution shown in the right column in the table below. (This may not be the case if you are asked to review a small number of research proposals. For applications to the Generative Research Fields Review Division, consider also whether the proposals fit the Division in question when assigning the overall scores.)

Note that if you have “vested interests” in a research proposal, enter the reason in the “Reason for Vested Interests” column.

Also note that “The Status of Application and Acquisition of Research Grants” and “Issues Relevant to Human Rights Protection and Legal Compliance” columns in the research proposal document are not to be considered for the overall score given in the review. As such, you should assign the overall score based on each of the other columns, etc. Please check the section iii. Points to be Noted on how to handle “The Status of Application and Acquisition of Research Grants” and “Issues Relevant to Human Rights Protection and Legal Compliance” columns in the review process.

Scoring Classification	Rough Indication of Scoring Distribution
4	10%
3	20%
2	40%
1	30%
Cannot evaluate this proposal due to vested interests	-

Note: In making your assessment, use the following rough indication to assign the score.

4—Outstanding; 3—Excellent; 2—Satisfactory; 1—Marginal

[Review Comments in the First Stage Review]

In the first stage review, you must give your review comments in the “Review Comments” column for every research proposal, focusing on the strengths and weaknesses as challenging research of each research proposal. Note that you will not be required to provide review comments in the second stage review.

The review comments will be disclosed to other reviewers to help each reviewer gain better understanding on the research proposals when assigning new overall scores in the second stage review.

[Research Proposals Eligible for the Second Stage Review]

Research proposals that meet the following criteria as a result of the first stage review shall be eligible for the second stage review:

- Research proposals that were ranked close to the planned adoption threshold as a result of the first stage document review;
- Of the research proposals that were highly ranked as a result of the first stage document review, proposals that were assigned a score of “1” by any of the reviewers for A. Rating Elements to Determine the Validity as a Challenging Research;
- Of the research proposals that were highly ranked as a result of the first stage document review, proposals that were assigned an overall score of “1” by any of the reviewers;
- Of the research proposals that were lowly ranked as a result of the first stage document review, proposals that were assigned an overall score of “1” by one reviewer only, and will be ranked close to the planned adoption threshold if the mean scores are calculated by excluding that particular score.

[Judgement of Validity as a Challenging Research in the Second Stage Review]

The period of the second stage document review for *Exploratory* will be approximately two weeks following the closing of the panel review for *Pioneering*. You should refer to any discussion on “challenging” held in the panel review for *Pioneering* when judging the validity of the proposals as challenging research in the second stage document review for *Exploratory*.

[Overall Scores in the Second Stage Review]

To determine the adoption of each research proposal that qualified for the second stage review based on the results of the first stage document review, make a comprehensive judgment, taking into consideration the rating elements set forth in A. Rating Elements to Determine the Validity as a Challenging Research and items (1) and (2) in B. Rating Elements to Assess the Content of the Research Plan as outlined above. Check also the review comments, etc. provided by all reviewers who are reviewing the same research proposal. Assign an overall score on a scale of 1 to 4 in accordance with the scoring distribution shown separately as indicated in the right column in the table below. (For applications to the Generative Research Fields Review Division, consider also whether the proposals fit the Division in question when assigning the overall scores.)

Also note that “The Status of Application and Acquisition of Research Grants” and “Issues Relevant to Human Rights Protection and Legal Compliance” columns in the research proposal document are not to be considered for the overall score given in the review. As such, you should assign the overall score based on each of the other columns, etc. Please check the section iii. Points to be Noted on how to handle “The Status of Application and Acquisition of Research Grants” and “Issues Relevant to Human Rights Protection and Legal Compliance” columns in the review process.

Scoring Classification	Assessment Criteria	Rough Indication of Scoring Distribution
A	Among the research proposals qualified for the second stage review, this proposal should be adopted with highest priority	To be adjusted according to the number of proposals to be adopted
B	Among the research proposals qualified for the second stage review, this proposal should be adopted with priority	
C	Among the research proposals qualified for the second stage review, this proposal is worth considering for adoption	
D	None of the above (A through C)	
-	Cannot evaluate this proposal due to vested interests	-

ii Other Evaluation Items

Validity of Research Expenditures

In order to ensure effective and efficient allocation of KAKENHI funding, please consider the criteria listed below with respect to the validity and necessity of research expenditure. If you find a flaw in the content of the research expenditure and think that the sufficiency rate should be reduced, assign a “x” to the research proposal. JSPS plans to respect the proposed budgets to the maximum extent possible in allocating the grants for Challenging Research. However, the sufficiency rates will be reduced for research proposals that receive “x” marks from more than one reviewer.

- Is the content of research expenditure reasonable and can we expect that the research expenditure will be used effectively?
- Are items genuinely necessary for the implementation of the research plan properly budgeted, such as costs for purchasing equipment?
- If any of the expenditure categories (equipment costs, travel expenses, or personnel cost/honoraria) exceeds 90% of the total expenditure, can we expect that the research expenditure will be used effectively for the implementation of the research plan?

iii Points to be Noted

(1) Handling of “The Status of Application and Acquisition of Research Grants” column

The status of application and acquisition of other research projects is used as a reference to determine “whether this research proposal can be carried out sufficiently without creating unreasonable duplication and/or excessive concentration in the allocation of research funds.” Therefore, do not consider this information in the overall scores to be assigned in the review.

In making judgments on unreasonable duplication, etc. in the grant allocation, you should follow the procedures outlined below.

[First Stage Review]

In the first stage review, if you find that a research proposal obviously “falls under unreasonable duplication and/or excessive concentration in the grant allocation and cannot be carried out sufficiently,” please state the reason in the “Reason leading to the judgment” column.

Note that this column may be left blank in case “This item is not applicable” or if you find “No particular problem (including cases where you cannot make a judgment).”

[Second Stage Review]

In the second stage review, you will be asked to examine research proposals that, of the research proposals qualified for the second stage review or ranked higher, were found by more than one reviewer in the first stage review to “fall under unreasonable duplication and/or excessive concentration in the grant allocation and cannot be carried out sufficiently” and commented on the reason in the “Reason leading to the judgment” column. Please determine once again “whether the research proposal can be carried out sufficiently without creating unreasonable duplication and/or excessive concentration in the grant allocation.” Based on the results, check the “I find no particular problem (including cases where you cannot make a judgment)” column if you determine that the research proposal can be carried out sufficiently without creating unreasonable duplication and/or excessive concentration in the grant allocation, or if you cannot make a judgment. If you see an apparent problem, assign a “x” mark.

Note that any research proposal that is assigned “x” by all reviewers will not be adopted regardless of evaluation of its academic value.

(2) Handling of “Issues Relevant to Human Rights Protection and Legal Compliance” column

Research proposals that require the protection of human rights and legal compliances in implementing the research plan must be conducted after following necessary procedures and taking necessary measures such as obtaining the approval of the ethics committee, etc. inside and outside the research institution based on relevant laws and regulations. For this reason, you do not need to consider them as evaluation items for the review.

If you find it necessary to inform the research institution in advance, for example, of any inadequacy in the prescribed procedures or measures, etc. in implementing the research, please describe the specific reasons for such judgment in the “Reason leading to the judgment” column. If the research proposal is adopted, JSPS will notify the applicant’s affiliated research institution to carry out such prescribed procedures or measures, etc. Even if the research proposal is not adopted, JSPS will disclose in the review results that there was inadequacy in the prescribed procedures or measures, etc.

Note also that the “Reason leading to the judgment” column may be left blank in case “This item is not applicable” or if you find “No particular problem (including cases that cannot be judged).”