

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

Grants-in-Aid for Scientific Research (KAKENHI) aim to develop all the academic research from basics to applications remarkably throughout all research fields. In assignment review, each reviewer is required to judge appropriately and fairly whether or not to contribute greatly to this purpose with regard to the research projects submitted.

“Challenging Research (Pioneering/Exploratory)” supports research plan aiming at radically transforming the existing research framework and/or changing the research direction and has a potential of rapid development based on innovative ideas. ((Exploratory) covers research projects that have a strong exploratory nature, or are in their beginning stages). It has a distinctly different character from the research categories such as “Scientific Research” and “Early-Career Scientists”.

“Challenging Research” is targeted for research projects with a potential of radically transforming the existing research framework and/or changing the research direction such as “discovery and pursuit of new principles”, “revision of research concepts and framework” and “radically transforming ideas and/or introduction of innovative methodologies, etc. that bring breakthroughs in research”, so please conduct review that emphasizes the significance of the research as a “Challenging Research”.

In addition, from the viewpoint of confirming the feasibility of such “Challenging Research”, please confirm the applicant's research ability to conduct the research such as checking the past research history, the content of the research activities. However, if there is a description about the research achievements, please avoid judging only by their amount.

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 for a limited period of time apart from the Review Section table, especially for areas that are considered to be in high academic need. Also, for the review of (Pioneering), the Comprehensive Review method will be implemented, in which all reviewers will conduct document review on all research projects and the same group of reviewers will discuss each project from a broad perspective at a panel review. For the review of (Exploratory), the Two-Stage Document Review method will be implemented instead of a panel review, in which the same group of reviewers will conduct document review in two stages to determine the adoption of research projects.

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 1–5.

In the document review for (Pioneering), each research project will first be assigned an absolute score on a scale of 1–3 for the rating elements to determine the validity project as a 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 1–4 will be assigned.

In the panel review, discussions are conducted taking into consideration the raw points etc. of the overall score in the document review appropriately, and the adoption of research projects and the allocation of research expenditures are decided. At this time, we allocate the amount of proposed budget at utmost respect so that applicants can fully work on “Challenging Research”.

In the first stage document review for (Exploratory), each research project will first be assigned an absolute score on a scale of 1–3 for the rating elements to determine the validity as a Challenging Research, and an absolute score on a scale of 1–4 for the rating elements to assess the content of the research plan, then a relative overall score on a scale of 1–4 will be assigned.

Note that in the absolute evaluation carried out for each rating element, if a score of “2—Somewhat insufficient” or “1—Insufficient” is assigned, we decide why it was judged as “Somewhat insufficient” or “Insufficient” for either item of the rating element. The items selected will be disclosed to unsuccessful applicants who requested in advance the disclosure of the results of the first stage review.

In the second stage of the review, the same reviewer assigns newly a score on the applicable research project for the second stage review based on the result of the first stage document review. At that time, please check the review comments by reviewers (the first stage) etc. of all the reviewers who are reviewing the same research project, and assign a score based on their own insight.

The adoption of research projects and the allocation of research expenditures will be decided based on that score. At this time, we allocate the amount of proposed budget at utmost respect so that applicants can fully work on “Challenging Research”.

In the review, the research projects with high overall score do not necessarily have to be highly acclaimed research projects for all the individual elements.

Reviewers are asked to provide appropriate evaluation by making objective judgments on the content of the research projects so as to unearth significant research projects that are truly challenging.

Also, please do not review the research projects participated by researchers who have interests.

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

i Assessment Criteria

[Rating Elements]

A. Rating Elements to Determine the Validity as Challenging Research

- Is it the research project with a potential that radically transforming the existing research framework and/or changing the research direction?
- Can we expect the future potential for wider academic, scientific and technological, industrial and cultural impact and contribution to society in a broader sense by conducting this research project?
- Is it clear that the background and process leading to conception, and is it reasonable the research initiative obtained by it? Also, is it a highly challenging issue setting?

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

(1) Validity of Research Objective and Research Plan

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

(2) Appropriateness of Ability to Conduct Research

- From the hitherto research activities and results, can you judge that applicant has a high ability to conduct the research plan?
- Are preparation conditions of the research environment such as the research facilities, equipment, research materials, etc. as a prerequisite for conducting the research plan appropriate?

[Overall Score, Etc.]

[Preliminary Screening]

For each research project, 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. Provide an overall score on a scale of 1–5 according to the scoring distribution shown separately, with 5 being the highest priority rank for research projects most eligible to proceed to the document review.

In the case of research projects that are “interested”, please write down the reason in the “Reason for Interests” column.

Scoring Classification	Scoring Distribution
5	10%
4	10%
3	10%
2	10%
1	60%
Cannot evaluate because it has interests	—

* Of the research projects with the scoring classification “5”, if there are research projects that you want to remain in the document review in particular, one of the projects can be selected as the “Priority review

project”. Regarding the research project, we can proceed with the document review regardless of the score given by other reviewers.

[Document Review]

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

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

If you rated a project as “1—Not valid” as a Challenging Research, enter the reason in the “reason leading to the judgment” column.

Next, make a comprehensive evaluation of the research by 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. Provide an overall score on a scale of 1–4 according to the scoring distribution shown in the right column in the table below. (For applications to a Generative Research Fields Review Division, consider also whether the project fits the Division in question upon giving the overall score.)

In the case of research projects that are “interested”, please write down the reason in the “Reason for Interests” column.

In addition, the column “The Status of Application and Acquisition of Research Grants” column and “Issues Relevant to Human Right Protection and Legal Compliance” column in the research proposal document is not taken into consideration in the overall score attached in the document review. Please attach overall score based on the other each column etc. In the “Status of application and acceptance of research grant” column and “Issues Relevant to Human Right Protection and Legal Compliance” column, please check “iii Points to be Noted” for handling in review.

Scoring Classification	Assessment Criteria	Scoring Distribution
S	Should be adopted as top priority	Adjust according to the number of projects to be adopted
A	Should be actively adopted	
B	It may be adopted	
C	Those not entering S ~ B	
—	Cannot evaluate because it has interests	—

[Fill in the review comments by reviewers]

In the Challenging Research (Pioneering), the document review and panel review are held by the same reviewer. The review comments by reviewers on document review and name list of review committee will be given as review materials in order to deepen the discussion at the panel review.

For this reason, in the “Review comments by reviewers” column of document review, please be sure to fill in the review comments by reviewers, focus on the pros and cons as Challenging Research of the research projects. It is not necessary to attach review comments by reviewers in preliminary screening.

ii Other Evaluation Items

Validity of Research Expenditures

From the viewpoint of effective and efficient distribution of the grants, please take the following points into consideration about the validity and necessity of research expenditure in document review, and rate according to the following rating category. (The rating category other than “(blank)” when judging that it clearly falls under the description content of the assessment criteria.)

Also, we will allocate the amount of proposed budget at utmost respect.

In addition, when evaluating “△” or “×”, please fill in the “reason leading to the judgment” column concretely the basis for the judgment.

- Is the content of research expenditure reasonable and is expected to be used effectively?
- Is there anything that is truly necessary for carry out the research plan, such as purchasing expenditures of equipment?
- Will it be expected to be used effectively in carrying out the research plan if any expenditures of purchase for equipment, travel expenses, personnel cost / honoraria are calculated in excess of 90%?

Rating Category	Assessment Criteria
(Blank)	If the average sufficiency rate is satisfied, the research can be carried out
△	Judging from the contents of the research plan, it is desirable to lower the sufficiency rate
×	There is a problem with the content of research expenditure

iii Points to be Noted

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

The status of application and acquisition of other research projects should be referenced in the panel review in judging “whether or not the applicant can sufficiently carry out the research project without unreasonable duplication and/or excessive concentration in the grant allocation.” For this reason, do not use this information in determining the overall score to be assigned in the review.

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

If a research project is subject to human rights protection and legal compliance for the execution of the research plan, it will be carried out after necessary procedures and measures are taken in accordance with the relevant laws and regulations, for example, obtaining necessary approvals from the ethics committee and other authorities inside and outside the research institution. For this reason, it is not necessary to consider this information as an evaluation item for the review.

In addition, when thinking that it is necessary to point out to the research institution beforehand such as insufficient points for prescribed procedures / countermeasures etc. in carrying out the research, please

fill in concretely the “reason leading to the judgment” column on the basis leading to that idea. When adopted, we will notify the institution to which the applicant belongs to carry out predetermined procedures / countermeasures etc., and even if it is not adopted, we will inform you that there were insufficient points for prescribed procedures / countermeasures etc. in the disclosure of the review result. In addition, it is unnecessary to fill in the “reason leading to the judgment” column if “this does not apply” or “there are no particular problems (including cases where it 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

- Is it the research project with a potential that radically transforming the existing research framework and/or changing the research direction? If the research proposal are highly exploratory and/or are in their budding stages, does it have the potential for “Challenging Research”?
- Can we expect the future potential for wider academic, scientific and technological, industrial and cultural impact and contribution to society in a broader sense by conducting this research project?
- Is it clear that the background and process leading to conception, and is it reasonable the research initiative obtained by it? Also, is it a challenging issue setting?

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

(1) Validity of Research Objective and Research Plan

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

(2) Appropriateness of Ability to Conduct Research

- From the hitherto research activities and results, can you judge that applicant has an ability to conduct the research plan?

[Entering of Scores and Review Comments]

[Evaluation of Preliminary Screening]

For each research project, 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. Provide an overall score on a scale of 1–5 according to the scoring distribution shown separately, with 5 being the highest priority rank for research projects most eligible for document review. (For applications to a Generative Research Fields Review Division, consider also whether the project fits the Division in question upon giving the overall score.)

In the case of research projects that are “interested”, please write down the reason in the “Reason for Interests” column.

Scoring Classification	Scoring Distribution
5	10%
4	10%
3	10%
2	10%
1	60%
Cannot evaluate because it has interests	—

* Of the research projects with the scoring classification “5”, if there are research projects that you want to remain in the document review in particular, one of the projects can be selected as the “Priority review project”. Regarding the research project, we can proceed with the document review regardless of the score

given by other reviewers.

[Evaluation of the First Stage Review]

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

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

If you rated a project as “1—Not valid” as a Challenging Research, enter the reason in the “reason leading to the judgment” column.

Next, assign an absolute evaluation on a scale of 1–4 for each of the rating elements in 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	Somewhat insufficient
1	Insufficient

Lastly, make a comprehensive evaluation of the research by taking into consideration the evaluation for each of the rating elements. Provide a relative overall score on a scale of 1–4 according to 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 projects. For applications to a Generative Research Fields Review Division, consider also whether the project fits the Division in question upon giving the overall score.)

In the case of research projects that are “interested”, please write down the reason in the “Reason for Interests” column.

In addition, “The Status of Application and Acquisition of Research Grants” column and “Issues Relevant to Human Right Protection and Legal Compliance” column in the research proposal document is not taken into consideration in the overall score attached in the review. Please attach overall score based on the other each column etc. In the “Status of application and acceptance of research grant” column and “Issues Relevant to Human Right Protection and Legal Compliance” column, please check “iii Points to be Noted” for handling in review.

Scoring Classification	Indication on Scoring Distribution
4	10%
3	20%
2	40%
1	30%
Cannot evaluate because it has interests	—

Note: When evaluating, attach a score with the following as a guide.

“4: Very good”, “3: Good”, “2: Usual”, “1: Inferior”

[Review comments by reviewers in the first stage review]

In the first stage of review, please fill in the review comments by reviewers focusing on the pros and cons of the research project the “Review comments by reviewers” column of all research projects. Please note that it is unnecessary to attach a review comments by reviewers at the second stage of review.

This review comments by reviewers will be presented to other reviewers in order to deepen their understanding of research projects when attaching a new overall score at the second stage review.

[Applications Eligible for the Second Stage Review]

Research projects that meet the following screening criteria in the first stage review shall be eligible for the second stage review:

- Applications that were ranked close to the planned adoption threshold as a result of the first stage review;
- Of the applications that were ranked high as a result of the first stage review, projects 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 applications that were ranked high as a result of the first stage review, projects that were assigned an overall score of “1” by any of the reviewers;
- Of the applications that were ranked low as a result of the first stage review, projects that were assigned an overall score of “1” by one reviewer only, and whose mean scores, calculated by excluding said score, come close to the planned adoption threshold.

[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). When judging the validity as a Challenging Research in the second stage document review for (Exploratory), refer to the discussion on the “challenging” aspect in the panel review for (Pioneering).

[Overall Score in the Second Stage Review]

To determine the adoption of each research project that qualified for the second stage review based on the results of the first stage document review, 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. Check also the review comments, etc. provided by all reviewers who reviewed the same research project. Provide an overall score on a scale of 1–4 according to the scoring distribution shown in the right column in the table below. (For applications to a Generative Research Fields Review Division, consider also whether the project fits the Division in question upon giving the overall score.)

In addition, “The Status of Application and Acquisition of Research Grants” column and “Issues Relevant to Human Right Protection and Legal Compliance” column in the research proposal document is not taken into consideration in the overall score attached in the review. Please attach overall score based on the other each column etc. In the “Status of application and acceptance of research grant” column and “Issues Relevant to Human Right Protection and Legal Compliance” column, please check “iii Points to be Noted” for handling in review.

Scoring Classification	Assessment Criteria	Indication on Scoring Distribution
A	Among the research projects of the second stage of the review, should be adopted as top priority	Adjust according to the number of projects to be adopted

B	Among the research projects of the second stage of the review, should be positively adopted	
C	Among the research subjects of the second stage of the review, it may be adopted	
D	Those not entering A to C	
—	Cannot evaluate because it has interests	—

ii Other Evaluation Items

Validity of Research Expenditures

From the viewpoint of effective and efficient allocation of the grants, consider the following points regarding the validity and necessity of research expenditures and mark the application with an “x” if there is a problem in the content of research expenditures and it is desirable to reduce the sufficiency rate. We try to respect the proposed budgets to the maximum extent in allocating the grants for Challenging Research. However, the sufficiency rate will be reduced for research projects that received “x” marks from more than one reviewer.

- Is the content of research expenditure reasonable and is expected to be used effectively?
- Is there anything that is truly necessary for carry out the research plan, such as purchasing expenditures of equipment?
- Will it be expected to be used effectively in carrying out the research plan if any expenditures of purchase for equipment, travel expenses, personnel cost / honoraria are calculated in excess of 90%?

iii Points to be Noted

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

The status of application and acquisition of other research projects is the reference in order to determine “whether research subjects can sufficiently carry out without unreasonable duplication and/or excessive concentration in the grant allocation or not”. Therefore, do not use this information in determining the overall score to be assigned in the review.

Furthermore, please make judgment in accordance with the following procedure in the judgment of unreasonable duplication etc. of research grants.

[First stage of Review]

In the first stage of the review, if there are research subjects that have clearly judged as “cannot sufficiently carry out with unreasonable duplication and/or excessive concentration in the grant allocation”, please fill the reason in the “reason leading to the judgment” column.

In addition, it is unnecessary to fill in if “this does not apply” or “there are no particular problems (including cases where it cannot be evaluated)”.

[Second stage of Review]

In the second stage of review, among the research projects are higher than the research projects to be reviewed at the second stage, regarding the research projects in which there are multiple reviewers who judged as “cannot sufficiently carry out with unreasonable duplication and/or excessive concentration in the grant allocation” and filled out the reason in the “reason leading to the judgment” column in the first stage of review, we will confirm again “whether research subjects can sufficiently carry out without unreasonable duplication and/or excessive concentration in the grant allocation or not”. Upon confirmation, if it is judged as sufficiently carry out without unreasonable duplication and/or excessive concentration in the grant allocation or cannot be judged, please attach “there are no particular problems (including cases where it cannot be judged)”. If there is clear problem, please attach “x”.

Furthermore, regardless of the evaluation of the academic value, the research projects to which all the reviewers attached “x” became un-adopted.

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

If a research project is subject to human rights protection and legal compliance for the execution of the research plan, it will be carried out after necessary procedures and measures are taken in accordance with the relevant laws and regulations, for example, obtaining necessary approvals from the ethics committee and other authorities inside and outside the research institution. For this reason, it is not necessary to consider this information as an evaluation item for the review.

In addition, when thinking that it is necessary to point out to the research institution beforehand such as insufficient points for prescribed procedures / countermeasures etc. in carrying out the research, please fill in concretely the “reason leading to the judgment” column on the basis leading to that idea. When adopted, we will notify the institution to which the applicant belongs to carry out predetermined procedures / countermeasures etc., and even if it is not adopted, we will inform you that there were insufficient points for prescribed procedures / countermeasures etc. in the disclosure of the review result. In addition, it is unnecessary to fill in the “reason leading to the judgment” column if “this does not apply” or “there are no particular problems (including cases where it cannot be judged)”.