

Submission requirements for *Registered Reports*

Brief overview. Registered Reports are a form of empirical article in which a substantial part of the manuscript (including the methods and proposed analyses) is peer-reviewed and then pre-registered, once approved, prior to the research being conducted. This format is designed to reduce bias and other questionable research practices, particularly in deductive science, while also allowing researchers the flexibility to conduct subsequent unregistered (exploratory) analyses and to report serendipitous findings. As well as being appropriate for hypothesis-driven research, the format can also be suitable for other approaches, such as meta-analysis, observation, case study, or ethnography, where (at least some of the) methods and analysis procedures are known in advance of data collection.

The cornerstone of the Registered Reports format is that part of the manuscript will be assessed prior to data collection, with the highest quality submissions given in principle acceptance in advance. Initial submissions will include a description of the following aspects of the proposed study:

- key research question(s) and background literature,
- hypotheses (for hypothesis-driven research),
- experimental procedures (where appropriate),
- full data elicitation materials,
- coding procedures, analysis plans, a statistical power analysis (where appropriate),
- pilot data (where applicable).

In addition, authors should plan the study with the aim of eventually making the materials, methods and procedures, raw data, coding, and analysis procedures available via a publicly accessible and sustained file-sharing service such as [IRIS](#) and/or the [OSF](#). Note that making data publicly available usually requires researchers to seek IRB (ethical review) approval specifically for this purpose and to make participants aware that their (usually anonymized) data will be made public. These procedures are in line with *Language Learning's* policy to encourage open science practices and methodological transparency, and to promote and facilitate replicable research.

Review procedures. The review process is illustrated in the flow-chart below. Initial submissions will be evaluated by the Editors for scientific significance and rigor (Triage). Those that meet the necessary criteria will then be sent for in-depth peer review (Stage 1). Following review, the submission will then either be rejected, returned to authors for revision (minor or major), or accepted in principle for publication.

Once the Stage 1 manuscript is accepted, authors will then be asked to publicly register this and all accompanying materials in order to obtain a time-stamp of registration (e.g., on the [OSF](#)). At the point of registration, authors give access to their pre-registration to the Editor and Associate Editor(s) handling the submission, by sending them the url of the registration. This pre-registration can be embargoed so that it does not become publicly available until no later than acceptance of the Stage 2 manuscript.

If authors wish to carry out an *open*, multi-site study (such as a replication), they can make their pre-registered materials and procedures publicly available (for example via [IRIS](#) and/or the [OSF](#)) to seek potential multi-site collaborators. Authors would indicate an intended multi-site replication within the Stage 1 submission.

When the pre-registration is confirmed by the Editors, formal In Principle Acceptance (IPA) is given.

Authors who agree to IPA are then committed to publishing the completed study in *Language Learning* (pending Stage 2 review process). Following IPA, all documentation from the initial submission will be stored privately with *Language Learning* on Scholar One, in the corresponding author's account associated with the submission, while they proceed to conduct the study. The documentation held on the public registration (e.g., on OSF) and by *Language Learning* must be identical to each other.

Authors should strictly adhere during data collection to the peer-reviewed and approved procedures as documented in the pre-registration.

If deviations to the approved procedures occur, authors must contact the Editors and describe these in detail. The Editors are likely to consult with the Stage 1 reviewers and possibly one or more new reviewer(s). Where deemed necessary, authors can be offered the opportunity to withdraw the manuscript from the Registered Report route and pursue the normal publication route. In this case, the completed study could be submitted for consideration by *Language Learning* following its regular review procedures, which might include one or more rounds of peer review.

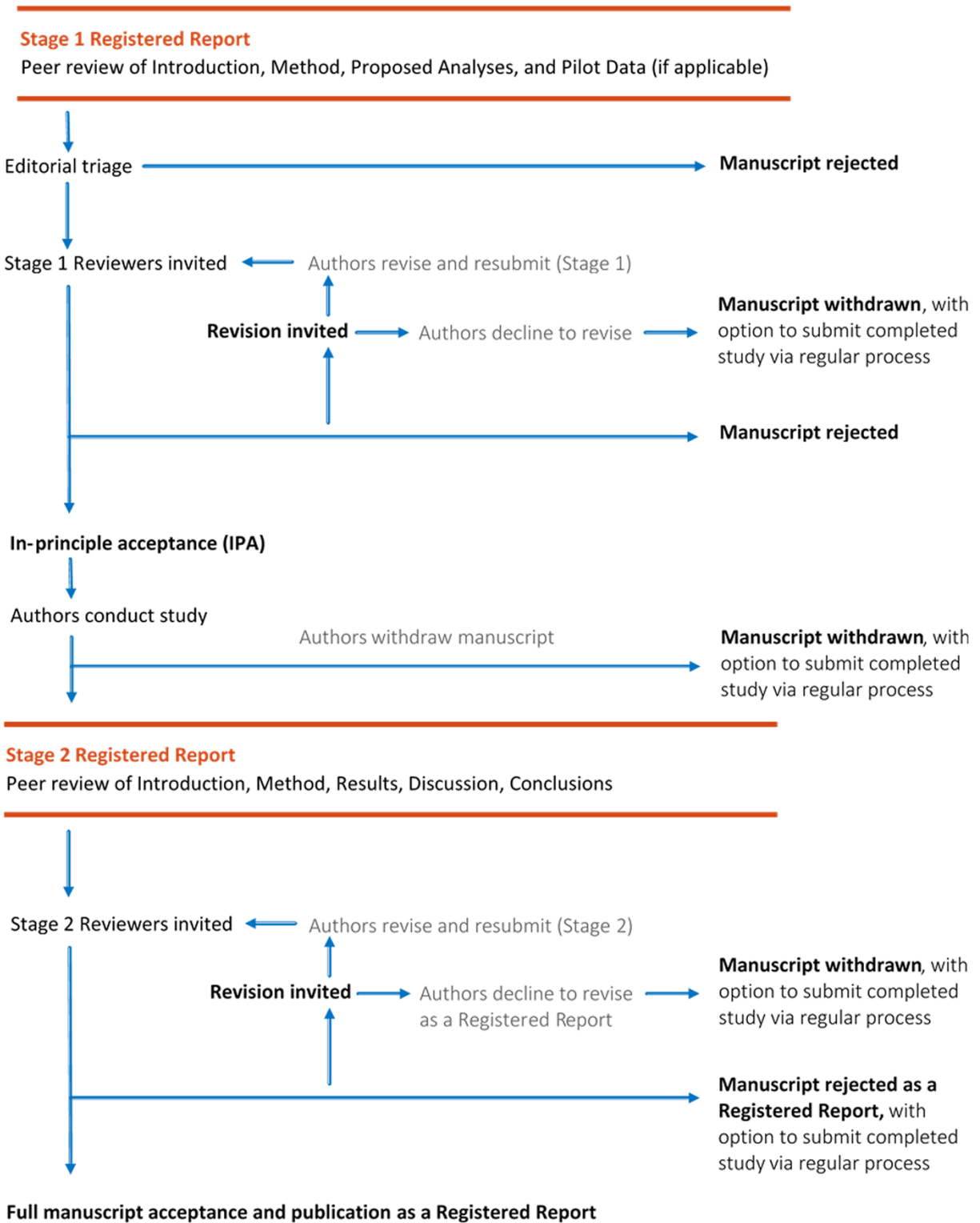
When the study is complete, authors should submit their finalized manuscript for re-review (Stage 2). The manuscript will be sent to some of the original reviewer(s) and possibly one or (under unusual circumstances) more new reviewer(s). Stage 2 review will include checks for fidelity to registered protocol (such as data and analysis checks) and an evaluation of the interpretation of the findings. Evidence of the date of data collection will also be required, such as time-stamped data collection (e.g., via upload to a data storage facility) or submission of the raw data (e.g., transcriptions of audio files, audio recordings) to *Language Learning* as soon as possible after they have been collected and prepared. Where appropriate, it may be necessary to keep a research log documenting, for example,

the process and dates of data collection, as the reviewers may require this as evidence of adherence to protocol. Any such requirement would have been stipulated during Stage 1 review.

If the above criteria are satisfied, the manuscript will be published regardless of the actual results.

On acceptance, authors will be expected to make available their materials, methods and procedures, and raw data, coding, and analysis procedures (if not already publicly registered) in a publicly accessible and sustained file-sharing service, such as [IRIS](#) and/or the [OSF](#). As with all manuscripts submitted to *Language Learning*, authors will be recognized for their Open Science practices (for data, materials, and pre-registration as described in our [Author Guidelines](#)).

The review process for Registered Reports (adapted from <https://cos.io/rr>):



Detailed requirements: Stage 1

Initial manuscript submission and review. As with regular submissions, the editors will select the most scientifically promising manuscripts that match the aims, scope, and style requirements of the journal for in-depth peer review. Stage 1 submissions should include the manuscript and a brief cover letter (details below). Authors are welcome to submit pre-submission enquires for advice on the likely suitability of a study as a Registered Report.

The cover letter should include:

- A brief scientific case for consideration. Authors are encouraged to refer to the likely replication value of the research. High-value replication studies, including multi-site replication studies, are welcome, in addition to novel studies.
- A statement confirming that all necessary support (e.g., where applicable, funding, facilities) and approvals (e.g., ethics) will be in place in a reasonable time-period for the proposed research. Note that manuscripts will be generally considered only for studies that are able to commence within three months of in principle acceptance (IPA). However, authors with alternative plans are strongly encouraged to contact the journal office for advice.
- An anticipated timeline for completing the study.
- Confirmation that all materials are included in the submission (e.g., data elicitation materials, stimuli, coding and analysis protocols).
- A statement confirming that the authors agree to share their data with reviewers if the manuscript moves to Stage 2 review.
- Any plans for keeping a research log and, if so, confirmation that this would be shared with reviewers if the manuscript moves to Stage 2 review.
- A statement confirming that if the authors later withdraw their paper after IPA (e.g., due to deviations from their approved protocol during data collection or analysis), they agree to *Language Learning* having first rights to publication of the completed study via the normal publication route.
- Any intention to carry out a multi-site replication should be noted so that the reviewers can take this into account at the Stage 1 review.

As with the normal submission route, authors can at this stage indicate their desire to be eligible for [Open Science badges](#).

Stage 1 manuscript preparation guidelines. Initial Stage 1 submissions should include the following sections:

Introduction

- A review of the relevant literature that motivates the research question, a full description of the study's aims, and any hypotheses. Please note that following IPA, the Introduction section cannot be altered (see below).

Methods

- Prospective methods or analysis plans should be written as a proposal to be conducted in the future.
- Full description of proposed sample characteristics, including criteria for data inclusion and exclusion (e.g., outlier extraction and any data replacement). Procedures for defining exclusion criteria due to technical errors or other reasons must be specified.
- A description of experimental procedures in sufficient detail to allow another researcher to repeat the methodology, without requiring further information.
- Actual materials (e.g., data elicitation instruments and stimuli such as text, image, audio or video, questionnaires, language tests) and data scoring or coding protocols. If, under very rare circumstances, this is unfeasible (e.g., due to high cost or time required), *Language Learning* may consider submission of very detailed plans for creating the materials. However, it is emphasized that full materials and data coding/scoring protocols, allow the fullest and most useful review at Stage 1, and so reduce the risk of reviewers rejecting a manuscript at Stage 2 for non-adherence to the proposed protocol.
- Proposed analysis plans, including data processing, cleaning and coding and descriptions of all planned analyses (e.g., correction for multiple comparisons, sample size differences, and inclusion of covariates). Where analysis decisions are contingent on the outcome of prior analyses (such as checks for normality of distribution or homogeneity of variance, or correct responses to post-trial questions in priming or self-paced reading research), these contingencies must be specified (e.g., if data is non-normally distributed, data transformations x or y may be performed and/or analyses x and y will be carried out). We remind authors to provide effect sizes, including for meaningful paired comparisons, in line with *Language Learning* policy. Only pre-planned analyses can be reported in the Main

Results section of Stage 2 submissions. However, unplanned exploratory analyses will be admissible in a separate section of the Results (see below).

- Where appropriate and feasible, a statistical power analysis should be provided. For this, estimated effect sizes should be justified with reference to the literature. In cases where the basis for a power analysis is not obvious, authors are encouraged to provide a range of assumptions on which a power analysis could be based, and, since publication bias can overinflate estimates of effect size, the power analysis must then be based on the *lowest* available or meaningful estimate of the effect size. Full descriptions must be provided of appropriate control/comparison group and quality checks that ensure that the results obtained are able to test the stated hypotheses. Such checks might include the absence of floor or ceiling effects in data distributions, positive controls (e.g., test-only groups, first language or monolingual comparison groups), or other quality checks that are orthogonal to the experimental hypotheses.
- Timeline for completion of the study and proposed resubmission date if Stage 1 review is successful. Extensions to this deadline can be negotiated with the action editor.
- For submission in which the authors intend to lead a multi-site replication, any special considerations (e.g., alternative proficiency tests to establish equivalence, responsibilities for providing scripts in alternative software formats).

Please note, the Methods must be adhered to exactly in the subsequent study, as the Stage 2 manuscript can be rejected for not adhering to the proposed methods.

Pilot Data

- Optional. Can be included to establish proof of concept, effect size estimations, reliability of instrumentation or feasibility of proposed methods. Any pilot experiments can be published with the final version of the manuscript and will be clearly distinguished from data obtained for the pre-registered study.

Registrations of Secondary Analyses of Existing Datasets

- The journal welcomes submissions proposing secondary analyses of existing data sets, provided authors can supply sufficient evidence (e.g., a letter from an independent gatekeeper) to confirm that the data have not been amended by the authors prior to the proposal of the secondary analysis.

Stage 1 submissions that are judged by the editorial board to be of sufficient quality and scientific importance will be sent for in-depth peer review. In considering papers at the registration stage, reviewers will be asked to assess:

1. The importance of the research question(s).
2. The logic, rationale, and plausibility of the proposed research questions/hypotheses.
3. The soundness and feasibility of the proposed methods and analysis plans.
 - a. The methods should include appropriate control/comparison groups and quality checks that ensure that the results obtained are able to test the stated hypotheses.
 - b. The analysis plans should include alternate analyses to be pursued if the data do not meet the assumptions of the proposed statistical analyses and statistical power analyses where appropriate (e.g., based on previous research, meta-analyses, or clearly justified assumptions).
4. The clarity and degree of methodological detail, specifically, whether they are sufficient to replicate the proposed experimental procedures and analysis plans without needing further information.

The Review Process

Following review, manuscripts are accepted with in principle acceptance (IPA), offered the opportunity to revise (with minor or major revisions), or rejected outright. The Stage 1 review process can take more than one iteration, just like the standard review process (though it is notably smoother and faster *after* data collection). Before acceptance, the reviewers and Editors need to be confident that the Stage 1 manuscript and materials would not require alteration for Stage 2 submission or eventual publication.

On Acceptance: Pre-Registering the Accepted Stage 1 Manuscript

Once the Editor has accepted the Stage 1 manuscript and materials, authors must publicly register this manuscript and these materials via a publicly accessible and sustained file-sharing service, such as the [OSF](#). This will provide authors with a time-stamped registration. Everything that is uploaded to the site must be identical to the Stage 1 manuscript and materials that were accepted. The pre-registration can be embargoed until no later than acceptance of the Stage 2 manuscript.

As soon as possible after registering the manuscript and materials, the authors must give access to this pre-registration to the Editor and Associate Editor(s) handling the submission, and alert them to the link so that the Stage 1 manuscript can receive formal IPA. We recommend that authors pre-register their study using the [dedicated Stage 1 RR registration portal](#) on the OSF. Authors must create a url link, via which the Editors (and reviewers at Stage 2) will view the pre-registration. Authors must ensure that the registration itself and all documents are anonymized in line with the anonymization approach they chose on submission to Scholar One (normally, fully anonymized). For clear instructions on how to do this, see [Create a view only link for a registration](#). This describes the simple steps for hiding author names on the pre-registration and for obtaining the necessary 'view only' link.

If authors wish to embargo their pre-registration until the point of acceptance of the Stage 2 submission, we recommend allowing a generous amount of time to carry out and write-up the Stage 2 manuscript and adding about three months. The embargo must be lifted and the pre-registration de-anonymised at the point of acceptance of the Stage 2 manuscript.

If the authors in their Stage 1 submission have stated that they wish to carry out an *open*, multi-site study (such as a multi-site replication), they would immediately register their materials and procedures publicly (not embargoed), in order to openly seek multi-site collaborators. The intention to carry out an open, multi-site study would have been made clear in their Stage 1 submission, as the level of detail of their materials and protocols will inform the evaluation of the study's capacity to be run at multiple sites.

In Principle Acceptance

Once the link to the pre-registration has been checked by the Editors for parity with the accepted Stage 1 manuscript and materials, the Editor will issue In Principle Acceptance (IPA). This indicates that the article will be published pending successful completion of the study according to the pre-registered methods and analytic procedures, as well as a defensible and evidence-based interpretation of the results.

Following IPA, all materials (manuscript, protocols, stimuli, etc.) will be held in reserve by *Language Learning* while the authors proceed to conduct the study. All Stage 1 documents will be available for Stage 2 reviewers through both (1) the review interface (Scholar One) and (2) the url link to the pre-registration that was provided for the IPA. Reviewers will be able to check for parity between the accepted Stage 1 manuscript and materials, the pre-registration, and the submitted Stage 2 manuscript.

In all cases, authors should adhere exactly to the peer-reviewed and approved Stage 1 procedures.

Authors are reminded that any deviation from the stated experimental procedures, regardless of how minor it may seem to the authors, could lead to rejection of the manuscript at Stage 2.

In cases where the pre-registered protocol is altered after IPA due to unforeseen circumstances (e.g., change of equipment or unanticipated technical error), the authors must consult the editorial board immediately for advice, and **prior** to the completion of data collection. Minor changes to the protocol may be permitted according to editorial discretion. In such cases, IPA would be preserved and the deviation reported in the Stage 2 submission. If the authors wish to alter the experimental procedures more substantially following IPA but still wish to publish their article as a Registered Report then the manuscript must be withdrawn and resubmitted as a new Stage 1 submission. Alternatively, authors can withdraw their manuscript from the Registered Report route, with evidenced reasons for why they cannot continue, such as the precise diversions from the registered protocol, and can opt for submitting the final product as part of the regular publication route.

Detailed requirements: Stage 2

Stage 2 manuscript preparation guidelines. Once the study is complete, authors prepare and resubmit their manuscript for full review, with the following additions:

- A cover letter in which authors collectively certify that all non-pilot data was collected after the date of IPA.
- If stipulated at Stage 1 review, a basic research log.
- Raw data must be submitted for review. Raw data must be accompanied by guidance notes, where required, to assist other scientists in replicating the analysis plan. Data files should be time stamped, showing that data was collected *after* IPA (this could simply have been through submission of the data to *Language Learning* once they were collected, or via upload of the data to a site such as OSF flagging these were collected *after* IPA).
- Other than pre-registered and approved pilot data, no data that were acquired *prior* to the date of IPA is admissible in the Stage 2 submission.
- On acceptance of the article, *Language Learning* will ask authors to hold the data in the journal's supplementary materials online and/or on an open repository such as [IRIS](#) and/or the [OSF](#).

- If exploratory (unregistered) coding or analyses were carried out, authors should also upload any relevant coding and analysis protocols.
- Any supplementary figures, tables, or other text (such as supplementary methods) can be included as standard supplementary information that accompanies the paper.

Introduction and Methods

- Apart from minor stylistic revisions, **the Introduction cannot be altered from the approved Stage 1 submission, and the stated aims and any hypotheses cannot be amended.** At Stage 2, any description of the rationale or proposed methodology that was written in the future within the Stage 1 manuscript should be changed to past tense. Any textual changes to the Introduction, Literature Review, or Methods (e.g., correction of typographic errors) must be marked in the Stage 2 submission. Any relevant literature that appeared following the date of IPA should be covered in the Discussion.

Results & Discussion

- The outcome of all registered analyses must be reported in the manuscript, except in rare instances where a registered and approved analysis is subsequently shown, and justified to the reviewers, to be logically flawed or unfounded. In such cases, the authors, reviewers, and editor must agree that a collective error of judgment was made and that the analysis is inappropriate. In such cases, the analysis would still be mentioned in the Methods but omitted with overt justification from the Results.
- It is reasonable that authors may wish to include additional analyses that were not included in the registered submission. For instance, a new coding or analytic approach might become available between IPA and Stage 2 review, or a particularly interesting and unexpected finding may emerge. Such analyses are admissible but must be clearly justified in the text and reported in a separate section of the Results titled *Exploratory Analyses*. Authors should be careful not to base their conclusions entirely on the outcome of unregistered exploratory analyses.
- In line with *Language Learning* policy, authors reporting null hypothesis significance tests are required to report exact p values and effect sizes (with 95% confidence intervals where possible) for all inferential analyses, regardless of whether they are deemed statistically significant or not.

The resubmission will most likely be considered by (some of) the same reviewers as in Stage 1, but could also be assessed by one or (under unusual circumstances) more new reviewer(s). In considering papers at Stage 2, reviewers will be asked to decide:

1. Whether the introduction, rationale, and stated hypotheses are the same as the approved Stage 1 submission (required).
2. Whether the authors adhered precisely to the registered methods and analyses.
3. Whether the data are able to test the authors' proposed hypotheses by satisfying the approved plans for control/comparison group and quality check outcomes that were specified in Stage 1.
4. Whether any unregistered analyses which were added by the authors are justified, methodologically sound, and informative.
5. Whether the authors' interpretation of the results is sound, with conclusions that are justified by the data.

Reviewers are informed that editorial decisions will not be based on the perceived importance, novelty, or conclusiveness of the results. Thus, while reviewers are free to enter such comments on the record, they will not influence editorial decisions. Reviewers at Stage 2 may suggest that authors carry out and report additional unregistered analyses on their data. However, authors are **not** obliged to do so unless such analyses are necessary to satisfy one or more of the Stage 2 review criteria.

On acceptance, any embargo that had been placed on the Stage 1 manuscript and materials that were pre-registered on the public site (e.g., OSF) must be lifted (if they are not already openly available). On acceptance, authors will also be asked to make their data available on a publicly accessible and sustained website, such as [IRIS](#) and/or the [OSF](#).

Manuscript withdrawal. It is possible that authors with IPA may wish to withdraw their manuscript following or during data collection. This can be done by providing reasons for why they cannot continue. Possible reasons could include major technical error or an inability to complete the study due to other unforeseen circumstances. Partial withdrawals are not possible (e.g., authors cannot publish part of a registered study by selectively withdrawing one of the planned experiments or outcome measures). Such cases must lead to withdrawal of the entire article. Studies that are not completed by the agreed Stage 2 submission deadline (which can be extended in negotiation with the editorial office) will be considered withdrawn. Upon withdrawal from the Registered Report route, authors can opt for submitting the final product as part of the regular publication route. *Language Learning* retains first publication rights.

Incremental Registrations. Authors may add experiments to approved submissions. In such cases, the approved Stage 2 manuscript will be accepted for publication, and authors can propose additional experiments for Stage 1 consideration. Where these experiments extend the approved submission (as opposed to being part of new submissions), the editorial team will seek to fast-track the review process. This option may be particularly appropriate where an initial experiment reveals a major serendipitous finding that warrants follow-up within the same paper. In cases where an incremented submission is rejected (at either Stage 1 or 2), authors will retain the option of publishing the most recently approved version of the manuscript. For further advice on specific scenarios for incremental registration, authors are invited to contact the editorial office.

Adapted from resources openly available at <https://cos.io/rr/>

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