LEARNING AND INSTRUCTION
The Journal of the European Association for Research on Learning and Instruction (EARLI)

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DESCRIPTION

Learning and Instruction is an international, multi-disciplinary, peer-refereed journal. The journal provides a platform for the publication of the most advanced scientific research in the areas of learning, instruction, teaching and development. It welcomes original empirical investigations. The papers may represent a variety of theoretical perspectives and methodological approaches. They may refer to any age level, from infants to adults, and to a diversity of learning and instructional settings, from laboratory experiments to field studies, and from large-scale quantitative studies to qualitative case studies. The major criteria in the evaluation process concern the significance of the contribution to its area of scholarship, and the quality of the methodology. Studies may contribute to the general areas of learning and instruction or to specific domains or disciplines or school subjects.

AUDIENCE

Educational psychologists, developmental psychologists, cognitive psychologists, educational researchers.
ABSTRACTING AND INDEXING

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PsycINFO
Australian Educational Index
ERIC
UnCover
Social SciSearch
Arts & Humanities Search
British Education Index
Contents Pages in Education
Educational Management Abstracts
ERA (Educational Research Abstracts Online)
Education Technology Abstracts
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GUIDE FOR AUTHORS

INTRODUCTION

What Learning and Instruction seeks to publish

Learning and Instruction is an international, multi-disciplinary, peer-refereed journal. The journal provides a platform for the publication of the most advanced em research in the areas of learning, instruction, teaching and development. Studies may address any age level, from infants to adults, may investigate general processes of learning and instruction or specific areas of study, and may conduct instigations across a variety of settings, from laboratory experiments to field studies. We accept manuscripts adopting a variety of methods, including laboratory experiments, field studies, analyses of large-scale surveys, and case studies It welcomes original empirical investigations. Learning and Instruction welcomes papers that represent a variety of theoretical perspectives on learning and instruction and diverse methodological approaches. The major criteria in the evaluation process concern the significance of the contribution to an area of learning and instruction, and the quality of the methodology.

What Learning and Instruction does not publish

Pure method studies (e.g., instrument validation), literature reviews, and meta-analyses are more suitable for other specialized journals. Descriptions of learning environments (e.g., curriculum plans) are more suitable for practitioner journals. Studies that report on learner or teacher characteristics like attitudes or skills, without considering learning or instructional processes, are more suitable to journals in educational psychology or journals that focus on teachers or teacher education. Studies which rely exclusively on self-report questionnaires are typically not accepted. We may make exceptions to some of these guidelines for special issues.

Sound quantitative, qualitative, or mixed method approaches

Empirical research designs need to state the extent to which the studies are representative of a particular population. The authors need to address, if relevant, the hierarchical structure of the data (e.g., time-points nested in students, students nested in classes, classes nested in schools). Supplementary materials, such as data quality controls, alternative models, and explicit formulas used in statistical analyses and modelling are encouraged.

Experimental designs should report information about effect sizes found in previous studies in the field as a basis for a priori power calculations (or simulations) for the authors' particular design. Statements of implementation and treatment fidelity need to be explicit. Authors should demonstrate that findings are not due to extreme cases or outliers.

Studies that use qualitative methods should clearly describe the methodological approach to ensure that standards for methodological quality are met. Procedures such as inter-observer reliability, triangulation, accountability checks, and audit trails should be transparently reported and well-grounded in the/prior literature.

Studies that use a mixed method approach should meet the requirements for quantitative and qualitative methodologies as well.

Registered reports

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• Journal policies detailed in this guide have been reviewed
• Referee suggestions and contact details provided, based on journal requirements

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**Reporting guidance**

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Sex generally refers to a set of biological attributes that are associated with physical and physiological features (e.g., chromosomal genotype, hormonal levels, internal and external anatomy). A binary sex categorization (male/female) is usually designated at birth ("sex assigned at birth"), most often based solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms "sex" and "gender" can be ambiguous—thus it is important for authors to define the manner in which they are used. In addition to this definition guidance and the SAGER guidelines, the resources on this page offer further insight around sex and gender in research studies.

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**Desk reject procedure, criteria and recommendations**

When submitting your manuscript to Learning and Instruction, you may wish to consider our review procedure first. This document focuses on the journal's desk reject procedures. We also recommend reading the Guide for authors.

The editorial team of L&I applies the system of desk review to filter out papers that will not be processed in the review system. We regularly receive papers that are not aligned with the aims and scope of Learning and Instruction or which lack essential information in one or more sections of the paper. In such cases, the paper will be desk rejected, as we know from experience that the paper will probably be rejected by our reviewers. We choose to do so to protect our reviewers; it is frustrating for them to have to review a paper which obviously does not comply with L&I's basic criteria. Furthermore, waiting for the outcome of such a review is also detrimental for authors, who must wait for three months to hear that the paper is rejected, while this might have been made clear from the very beginning.

Therefore, we want to clarify the journal's criteria for a desk reject. If you receive a desk reject for your paper, this means that it will be sent back to you without further comments from reviewers, and will not be reviewed. The desk reject letter will inform you about the main reasons for a desk reject.

In the text below, we describe what the essential ('required') and recommended components of your paper are, that is, what you may consider including in your paper so that reviewers can focus on the quality of the content instead of having to list missing components.

**Precaution**

The unique contributions of a newly submitted manuscript and any overlap with prior publications based on the same project and/or data must be clearly stated. Avoid the suspicion of piecemeal publication: if the paper reports a selection of the data from a larger project, then we expect authors to state this clearly in the letter to the editor, and to declare whether other publications are available
or are planned based on this project and data, or whether manuscripts have been submitted for consideration to other journals, which are based on partially overlapping sets of variables. Failure to mention this in the cover letter might lead to an immediate desk rejection.

Furthermore, we advise checking for overlap with the content of any prior publications before submitting the paper. A plagiarism check is part of the desk review procedure.

**Aims and scope**

Learning and Instruction deals with theoretical and empirical studies in the field of educational studies. All research methodologies are welcomed, but review papers and meta-analyses will be referred to our sister journal Educational Research Review for review. We tend to desk reject studies that:

1. focus on instrument construction and validation and research methodology,
2. investigate a local, practical issue without embedding it in a theoretical or more global perspective focus on research methodology, unless the focus is clearly on learning and instruction rely only on self-reports/questionnaires.
3. focus on research methodology, unless the focus is clearly on learning and instruction
4. rely only on self-reported data via questionnaires.

**Literature review**

Required: A literature review covers all relevant concepts/constructs included in the research questions of your paper, relates these concepts to the relevant extant literature, and indicates how the present study builds upon the current knowledge base.

Recommended:

1. Add effect sizes in the literature. Do not write: 'These studies reported significant results'; instead add effect sizes per study when available. Provide sufficient details for studies included in the literature review.
2. Provide a graphical representation of the theoretical model (relations between variables) on which your study is based.

**Participants**

Required: A rationale for recruitment and selection of participants. Provide an argument for the sufficiency of the sample size. In case of relatively small samples, the argument may be based on an a priori power calculation for the research design to be used.

**Ethics**

Required:
Description of ethical procedures and proof of ethical clearance.

**Coding**

Required:
1. Coding reliabilities for all categories that are included in the research questions and results, in quantitative as well as in qualitative studies. Beware that double coding, independently, is almost always necessary and that reliabilities must be reported, for each concept/construct/variable included in the results section.
2. In quantitative studies, include reliabilities (internal consistency) or confirmatory factor analyses for dependent variables. As soon as compound scores are created, consistency must be reported.
3. In qualitative studies, clear description of the procedure of data reduction and coding should be provided.

**Fidelity**

Required:
Data on fidelity of implementation must be provided for all conditions, including the control condition.

**Research design**

Recommended: In general, a classic experimental design without a control group or pretest is likely to be vulnerable. In such cases, explain the alternatives for control and contrast that you implemented.

**Statistics**
Required:
1. When data are nested, multilevel data analyses are expected to be default. Otherwise, an explanation of why the alternative you use would be valid will be expected.
2. The interdependencies of dependent variables that are presented in the results section should be reported, for instance in tables with correlations in an appendix.

Results
Recommended:
Visual support in case of models/relations between variables, especially in cases of mediation or moderation

Appendices
Recommended:
Anticipate on reviewers need for clarification. Add descriptions of instruments (constructs, example items), examples of learning materials, learner products in appendices-supplementary materials.

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Unacceptable: "As we have indicated (Brown, 2005), . . ."
Unacceptable: "In a previous study (Brown, 2005), we have indicated that . . ."

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EXAMPLES


ABSTRACT 1
This study examines students' strategic processing when participants were asked to comprehend and integrate information presented via two texts or two videos. Evidence was found for strategies being both consistent (e.g., connecting content with prior knowledge) and distinct (e.g., vocabulary) across modalities of information presentation. No differences in comprehension and integration performance were identified across conditions, a variety of strategies (e.g., directing attention, connecting with prior knowledge) were associated with measures of both comprehension and integration. As this is among the first studies to compare strategies supporting video versus text integration, directions for future research are discussed.

STRUCTURED ABSTRACT 1

Background: Students are increasingly expected to learn from videos, in and outside of the classroom, in addition to learning from texts. This requires examining the types of comprehension strategies students use to process videos and the extent to which these are consistent with the strategies they use when processing texts.

Aims: This study compares the strategies that students use when learning from texts and videos and the extent to which these were associated with comprehension and integration performance.

Sample: Participants were 78 undergraduate students.

Methods: Participants were randomly assigned to view two videos or to read two texts about endangered species. These were equivalent in content and differed only in the modality through which information was relayed. Students were asked to annotate each video or text they processed and to complete measures of comprehension and integration.

Results: Students were found to report both similar and different strategies when processing texts vis-a-vis videos. For instance, students more commonly reported regulating their attention when watching videos, rather than when reading texts. Conversely, students reported more frequently rereading than rewatching. No differences across text and video conditions were found in comprehension and integration performance. Students' reports of identifying important information were found to predict comprehension performance; students' reports of directing attention and activating prior knowledge predicted integration performance.

Conclusions: This study offers support for Loughlin et al.'s (2015) Trans-Symbolic Comprehension Framework, suggesting that when learning from texts and videos, students engage in both trans-symbolic and symbol-specific processes.

STRUCTURED ABSTRACTS


ABSTRACT 2

Students perform poorly on multiple text reading-writing (MTRW) tasks. To address this issue, we examine students' strategy engagement during response composition by analyzing five types of data. These include: (a) log data of text access, (b) the notes that students composed during processing, (c) students' modified think-aloud reports, (d) screen-capture videos of writing behaviors, and (e) the written products generated. We report on insights gained by coordinating and juxtaposing these various sources of data on students' writing. Results showed that while students accessed and took notes on the majority of the texts provided, information from texts was rarely connected, neither in students' notes nor in the written responses composed. Moreover, students' effortful engagement in multiple text use, captured via log data, was associated with task performance. Finally, a number of variables, corresponding to students' strategy reports during processing, were found to be significant predictors of writing performance.

STRUCTURED ABSTRACT 2

Background: Multiple text reading-writing (MTRW) tasks are common academic assignments that help students develop synthetic understandings of complex issues, by drawing on multiple sources of information. Yet students have been found to struggle with MTRW tasks.

Aims: In this study, we aim to document the strategies that students use during MTRW task completion and to associate these with writing performance.

Sample: Participants were 32 undergraduate students.
Methods: Five data sources were gathered and integrated to capture the nature of students’ multiple text reading and writing. These were: (a) log data of students’ text access, (b) students’ notes composed during processing, (c) students’ modified think-aloud reports, (d) screen-capture video of students’ writing behaviors, and (e) the written responses that students composed.

Results: A number of patterns in students’ strategy use during reading and writing were identified. Examining strategy use among students composing high-quality responses determined that these students spent more time reading, evidenced a greater degree of information transformation in their notes, and used more product composition (e.g., planning, revision) strategies when writing. Conversely, students composing lower quality responses spent comparatively less time on reading, had more minimal information transformation in their notes, and engaged limited information use strategies during writing.

Conclusions: Examining students’ strategy use throughout MTRW task completion points to the importance of jointly examining reading and writing phases. For instance, students were found to engage in information use and product composition strategies in roughly equal proportion during writing. Additionally, we demonstrate the value of drawing on diverse data sources in understanding students’ MTRW reading and writing.

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Learning and Instruction, volume 22, issue 1, 47-61

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- To achieve conceptual change at mental model level, instruction should be at a holistic level.
- One way to do this is through analogical comparison of flawed self model and correct expert model.
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