

Ministry of Education

SCIENCE OF LEARNING GRANT

Administrative Guidelines and Policies

(With effect from 10 Sep 2021)

1. Introduction

- 1.1. The Ministry of Education (MOE) Science of Learning (SoL) grant supports science-based research (which includes but is not limited to neuroscience, cognitive science and technology that augment human intelligence) that could explicate the principles, processes and mechanisms of learning and skills acquisition in order to generate implementable and scalable interventions that improve education and skills development, and hence advance Singapore's human potential.
- 1.2. There are two types of SoL grant, to support cutting-edge research, develop effective interventions/programmes, to build a vibrant multi-disciplinary SoL research community and strengthen the research-policy-practice nexus.
- (a) Type A – Use-Inspired Basic and Applied Research, for knowledge creation that can potentially lead to applications in teaching, learning and skills development

Sub-Type	Budget
A1 – for Research programmes. Team-based efforts, with sub-projects.	Up to \$5M (including 30% indirect research cost (IRC)) per award, over up to 5 years
A2 – for Investigator-led projects	Up to \$2M (including 30% IRC) per award, over 3-5 years

- (b) Type B – Development and Translation to develop implementable and scalable applications for teaching, learning and skills development and assess their efficacy and effectiveness

Type	Budget
B1 – for Programmes. Team-based efforts, with sub-projects.	\$4-5M (including overheads ¹ / 30% IRC) per award, over 4-5 years.

- 1.3. Funded projects will be required to share the data with government agencies. The datasets can then be used by public agencies, non-government entities and researchers to (a) further spur and expand research efforts into this area, (b) generate useful and applied interventions or products to develop human potential through public, academic and even potentially commercial sector collaborations, and (c) improve public policies and programmes.

2. Application and Approval of Project Grant

- 2.1. Lead Principal Investigators (Lead PI) must hold a primary/joint appointment² in the Singapore-based Autonomous Universities (AUs)³, Polytechnics, Institute of Technical Education or A*STAR research institutes in order to be eligible for SoL funding.
- 2.2. Researchers with primary/joint appointments⁴ in these as well as other publicly funded institutions, e.g. hospitals and Campus of Research Excellence and Technological Enterprise entities (CREATE) can participate in the call as co-PIs.
- 2.3. Researchers in the private sector and other entities can only participate as collaborators.
- 2.4. SoL funding can only be spent on research conducted in Singapore. Unless expressly allowed by MOE, the funds or any part thereof shall not be channelled to fund research and

¹ For Type B grants only, should PIs project that overhead expenses would be more than 30% of qualifying direct costs, the Office of Research should reach out to MOE by 30 Sep 2021.

² There should be a minimum time commitment of 9 months, per calendar year, in these institutions.

³ The AUs are: Nanyang Technological University, National University of Singapore, Singapore Institute of Technology, Singapore Management University, Singapore University of Social Sciences and Singapore University of Technology & Design.

⁴ There should be a minimum time commitment of 9 months, per calendar year, at eligible institutions.

development activities overseas. Expenditure on overseas fieldwork must be specifically provided for in the research proposal and approved as part of the grant.

- 2.5. Similar versions or part(s) of the current SoL proposal should not be submitted to other agencies for funding.
- 2.6. PIs must declare if they have submitted similar proposals before, and highlight any substantial changes⁵. If they do not do so, their proposals may not be viewed favourably.
- 2.7. Prior to submission, all proposals have to be verified by the Offices of Research (ORE) and endorsed by the Director of Research (DOR). PIs should not communicate with MOE directly. OREs shall inform the PIs of the terms set out in this guideline and ensure compliance by the applicants.
- 2.8. MOE will support the IRC at a flat rate of 30% of the total qualifying direct costs⁶ of each approved SoL project.
- 2.9. Appeals for unsuccessful applications will not be considered.
- 2.10. Please refer to the general “Guidelines on the Management of Competitive R&D Grants” in Enclosure 1, which apply to the management of SoL grants.
- 2.11. Approved SoL grants will be subject to the general “Terms and Conditions of a Competitive Grant” stipulated in Enclosure 2.
- 2.12. The SoL funds, including IRC, is provided on a reimbursement basis. The Institution should therefore pay for the expenditure incurred for approved projects first, and subsequently claim for reimbursement from MOE.
- 2.13. Institutions are required to **ensure that there are adequate internal financial controls and processes as well as adequate cost control measures to ensure that resources are utilised prudently, and cost inefficiencies are minimised.**

⁵ Examples of substantial changes could include: (i) using a similar methodological approach for a substantially different question, and (ii) using a very different methodological approach to address a similar issue.

⁶ This refers to the sum of the budgets in the following votes: Expenditure on Manpower (EOM), Equipment, Overseas Travel and Other Operating Expenses (OOE).

3. Training & Education Programmes

- 3.1. Wherever necessary, MOE may request PIs and/or the research team to participate in education-related programmes and professional development workshops, such as:
- (a) Presenting their research work in MOE schools and institutions of higher learning;
 - (b) Organising teacher enrichment programmes; or
 - (c) Supporting MOE’s initiatives in creating a research culture in schools and institutions of higher learning.

4. Grant Variation

- 4.1. PIs should submit all grant variation requests through the Host Institutions’ OREs, using the appropriate forms:

No.	Type of Variation	Form
1	Amendments to Projects	RGF1
2	Fund Virement	RGF2

- 4.2. PIs should refer to “Guidance for Processing Variation Requests” ([Annex A](#)) in their preparation of the variation requests to ensure that all supporting documents have been duly completed.
- 4.3. For requests that require MOE’s approval, OREs should first evaluate the requests based on the considerations, norms and checks listed in [Annex A](#) and make recommendations for MOE’s consideration.
- 4.4. For all variation requests, MOE’s decision is final and appeals will not be considered. **Retrospective variation requests will not be allowed, unless there is compelling justification for submission of a late variation request.**

5. Compliance of Administrative Guidelines

- 5.1. In the event of non-compliance of the administrative guidelines, MOE reserves the right to:
- (a) withhold or withdraw the funding;

- (b) disqualify the PI from subsequent SoL competitive funding; and/or
- (c) carry out any action as MOE deems appropriate.

6. Miscellaneous

- 6.1. MOE reserves the right to change, including without limitation, modify, delete or replace the information and materials set out in this document unilaterally. MOE shall notify the Host Institutions in writing, enclosing the revised terms and conditions, accordingly.
- 6.2. As and when directed by MOE, the Institutions will allow an auditor appointed by MOE to carry out an audit of its financial and related processes/procedures pertaining to the utilisation of SoL grants.

**Guidance for Processing Variation Requests
(Effective from 1 January 2022)**

S/N	Type of Request	Key considerations	Norms	Supporting Document required	Types of checks by ORE
1.	Virements	The critical role of the proposed items to project outcome and the reason it was not budgeted in original proposal.	Fund virement is to support the project only, not for support of “follow-on” research ⁷ .	RGF2	RGF2 is duly completed and endorsed. All supporting document attached. Check is done on whether requested item is in the approved budget and whether requested item is fundable.
		Cost-savings principle	It is possible for PI to use cost-savings within approved project cost to purchase essential new items not previously budgeted. However, purchase must be based on needs; availability of savings is not a reason for new purchase.	Latest statement of account	Fund availability
				Relevant quotations	Reasonableness of quotes by cross-referencing similar purchase or independent checks Whether proposed purchase items are already available in institutions, or can be more cost-effectively leased.
		Stage of project	Compelling justifications to be provided for virement requests if project is ending in a year or less.		The PI has no outstanding annual/final reports for any MOE grants. (PIs with over-due reports are not allowed to submit variation requests.)
1 a)	Virements into Expenditure on Manpower (EOM)	If new headcount is requested, PI has to explain the staff’s job scope		Job scope of additional EOM	ORE needs to assess the reasonableness of request, e.g. the job scope is not too small for the headcount. If the need is short-term, ORE needs to assess if part-time manpower is more appropriate
1 b)	Virements into EOM for Visiting Professor /Visitors ⁸	Relevance and contribution to project outcome	The need for VP/visitors must be driven by project need (e.g. not because institutions requires VP to give public lecture or other non-project activities.)	Curriculum Vitae/bio of prospective candidate	ORE needs to assess the role and expertise of the visitor.
		Track record		Job scope/deliverables of VP	ORE needs to assess reasonableness of request, e.g. the job scope is commensurate with the duration requested. Particularly, ORE needs to assess if the work can be done via email/tele-video conferencing.
		Duration of stay	The job scope and deliverables of VP must be clear for assessment of the duration required of his/her service		
		Salary	Pay for VP must be reasonable and aligned with institution’s norms		
1 c)	Virement into Equipment/OOE for New Items	Cost and useful life of equipment Depreciation of equipment of significant value should be charged to the project for the project duration only. This encourages prudent purchase and fair sharing of costs by those who will stand to benefit from the equipment even after the project has ended.	Depreciation of equipment costing >\$20k and which has useful life >5 years can be charged to the project for the project duration if the purchase is made within 1 year from the project’s completion date.	For equipment costing >\$20k and whose useful life is >5 years: • Letter of commitment to co-fund equipment	For equipment costing >\$20k and which has useful life >5 years, letter of commitment to co-fund equipment must be furnished from co-funders, who can be department, institutions or other agencies. Considerations that the PI should address in the variation request: expected utilisation of equipment; availability of same equipment in the department or institutions.
2 a)	Departure ⁹ of PI/Co-PI; Change of PI/Co-PI	Suitability of proposed PI/Co-PI	Ability of the new PI/Co-PI to capture the benefits and achieve the	Information on outgoing PI/Co-PI: last day of work, name of institution	Application should reach MOE 3 months in advance before PI/Co-PI leaves (for contract expiry/termination cases; sabbatical or other extended leave) and as soon as practicable for

⁷ An exception is for PIs whose requests for 6-month extensions to explore additional scope are approved.

⁸ Visitors includes staff who have short-term appointments with the Institution and concurrently retain full-time positions overseas. This is regardless of the job title such staff may have (e.g. Research Fellow/Visiting Research Fellow) at the institution. Also includes speakers and participants of conferences/events organised as part of the project/programme.

⁹ This includes resignations, retirement, extended no-pay leave, extended sabbatical leave as well as other instances where the PI/Co-PI may be considered to no longer meet the eligibility criteria.

S/N	Type of Request	Key considerations	Norms	Supporting Document required	Types of checks by ORE
			intended objectives of the project	he will be joining, etc CV of proposed new PI/Co-PI/ Job scope of replacement PI/Co-PI/Letter of recommendation	resignation cases. ORE should consider working closely with HR and schools to ensure timeliness especially in submitting change of PI requests. ORE needs to determine whether the proposed PI /Co-PI is eligible based on the eligibility criteria and whether he/she is suitable and has the skills to continue and complete the research work If in doubt, request for Letter of recommendation from current employer of proposed PI/Co-PI.
		<p>Applicable to Departure of PI: MOE reserves the right to terminate the grant if:</p> <ul style="list-style-type: none"> • No suitable replacement is found; • Proposed PI is rejected; or • New PI cannot achieve the necessary outcomes. 		<p>Applicable to Departure of PI: Mitigation Plan: Department and new PI should jointly develop a mitigation plan to sustain/resuscitate the project, including:</p> <ul style="list-style-type: none"> • setting new milestones/KPIs • taking steps to ensure students' graduation is not disrupted • committing to put in all necessary resources and time <p>The plan should be signed off by both the head of department and the new PI.</p> <p>Should the PI plan to be away for more than 3 contiguous months in a year and/or cease active involvement in the project, the Host Institution should submit a mitigation plan to MOE at least 2 months in advance, to explain how the project will be kept on track. The institution may also wish to propose a covering PI. The mitigation plan must be endorsed by the department and DOR.</p>	<p>ORE needs to assess the feasibility of the mitigation plan.</p> <p>Where the PI leaves the institution less than 1 year after the start of the project, ORE should explain why the PI is doing so, despite declaring that he/she has no plans to leave the institution within the duration of the project when accepting the grant. Please note that change of PI requests arising from PI resignations will generally be viewed less favourably in the first year.</p>
2 b)	Project Extension	Impact on deliverables and usefulness of final research outcome in view of the delay	To ensure currency of research, extension will be capped at 6 months	Evidence of satisfactory progress (e.g. copies of publication arising from the research, abstracts of conferences attended etc)	For extension requests that are motivated by project delays, a cap of 3 months will be applied.
		Cost implications	Must be within approved budget.	Revised Project Implementation Schedule (Gantt Chart)	MOE may consider a no-cost extension of 6 months only if the PI is able to demonstrate excellent scientific progress. Such PIs can use this extension to explore follow-on research that is beyond the original scope of the project. As a general rule of thumb, the PI should have met the key project deliverables (i.e. publications and conferences) before submitting such requests. PI must submit a 1-page write-up on the additional research to be done during the extension.
2 c)	Change of scope	Change of scope to pursue different research objectives is not allowed; this should be submitted as a new proposal.		N.A.	N.A.
2 d)	Post-project Conference Travel	Timing and importance of conference.		Acceptance of conference presentation/paper.	The conference presentation/paper should be accepted before the project end-date. The conference is within 3 months from the project end-date. Variation request should be submitted to MOE within a month from the date the conference presentation/paper is accepted. ORE must confirm that the conference presentation arises from work supported by the grant. DOR/HOD should explain why it is important for the PI to participate in the conference.
2 e)	Change of Host Institution by the PI	Impact on the project		Variation request endorsed by DORs of both the original and new Host Institution.	ORE needs to assess the feasibility of the transition plan

S/N	Type of Request	Key considerations	Norms	Supporting Document required	Types of checks by ORE
				Transition plan, showing how the transfer will take place with minimal disruption.	
2 f)	Termination	Alternative options to termination	Other options should be explored to ensure that the best outcome is achieved with the investment already made.	Department report: Department should prepare a report that includes: <ul style="list-style-type: none"> • A review of what went wrong for the project • What are the alternatives to terminations and why they are not applicable in this case • Preventive measures to avoid future occurrence. <p>The report should be signed off by both the head of department and the director of research.</p>	ORE to assess the adequacy of the report and winding-down budget/plan.
		Orderly conclusion of project	A winding-down budget should be drawn up for MOE's consideration. This covers expenses necessary to effect an orderly conclusion, for a period not exceeding 3 months from the date of termination.		