TRANSCEND: TRANSdisciplinary Convergence in Educational Neuroscience Doctoral Training Program #2152202

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Coordinator: *Celine Li B.A.*

GOAL To provide unique convergent research training in Ed Neuro, focused on neurodiversity, team science, and co-creation with the community/stakeholders.

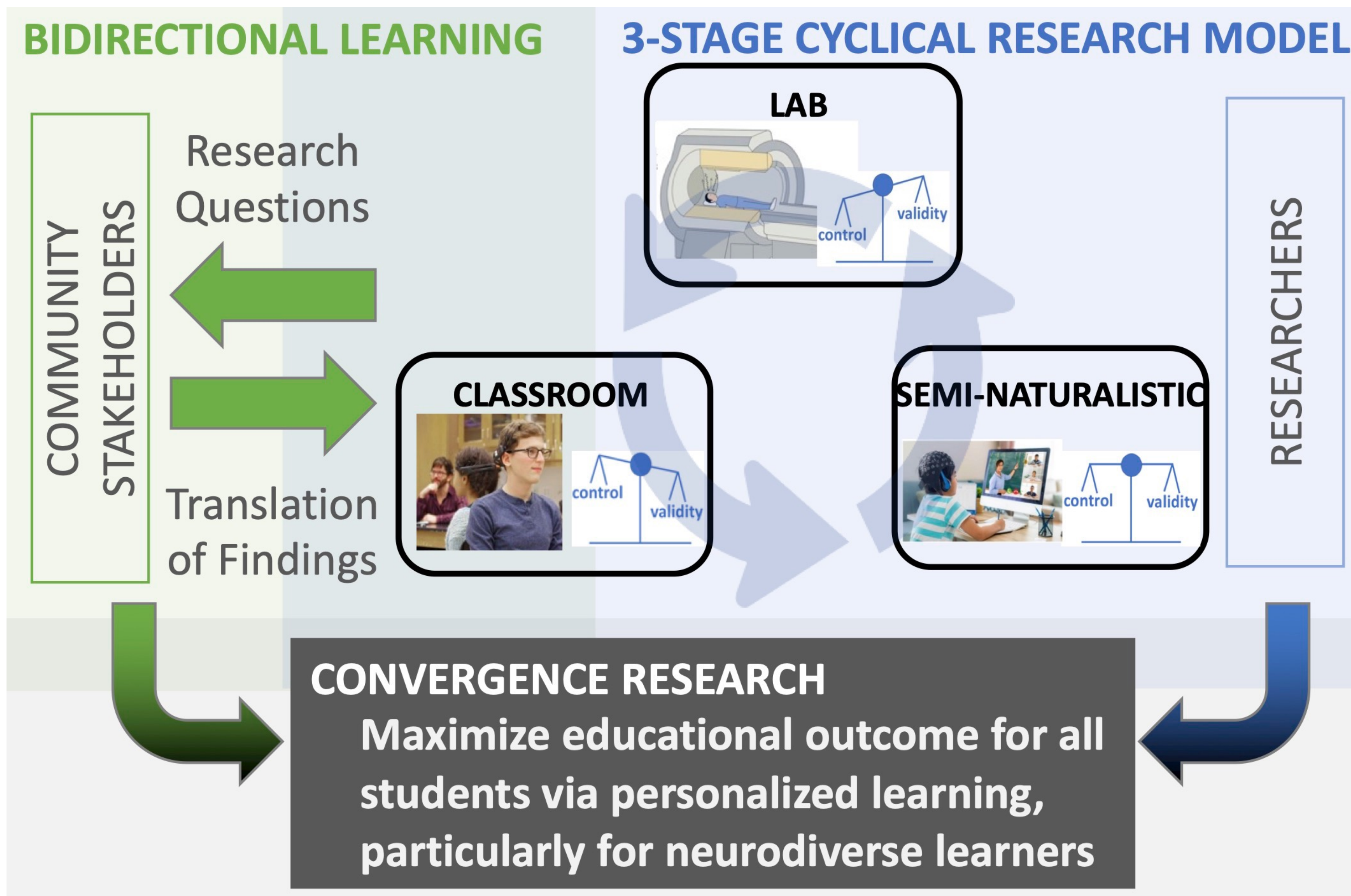**DISCIPLINES** Neuroscience/Psychology, Education, Math, Computer Science & Engineering.

TRAINEES 50 students (25 funded, 25 unfunded).

INNOVATIVE TRAINING Proseminar, Internships, Annual showcase. Focus is on: open science framework/ reproducibility, team science, project management, leadership, teaching/mentoring, SciComm, outreach, and STEM careers with partners.
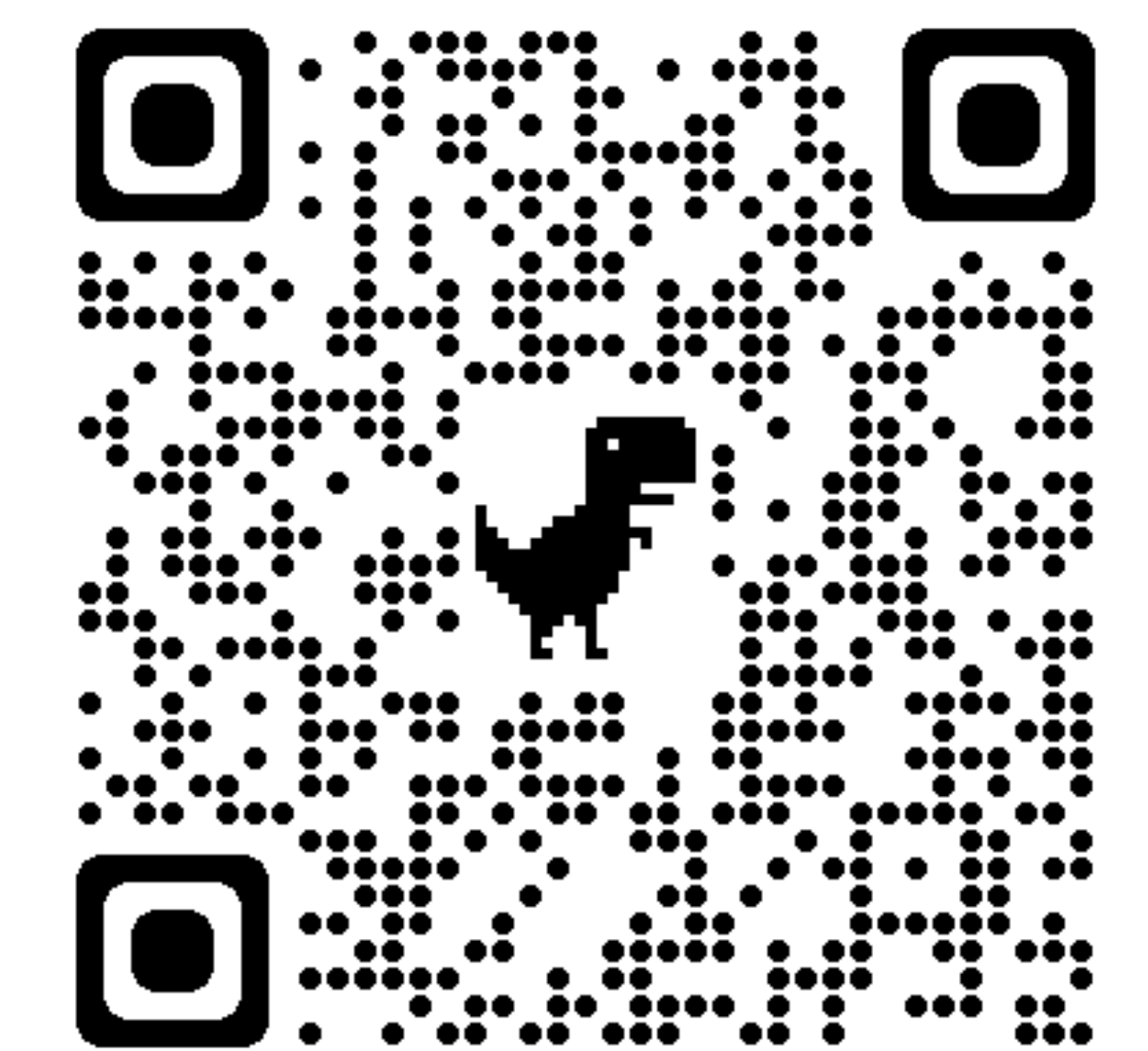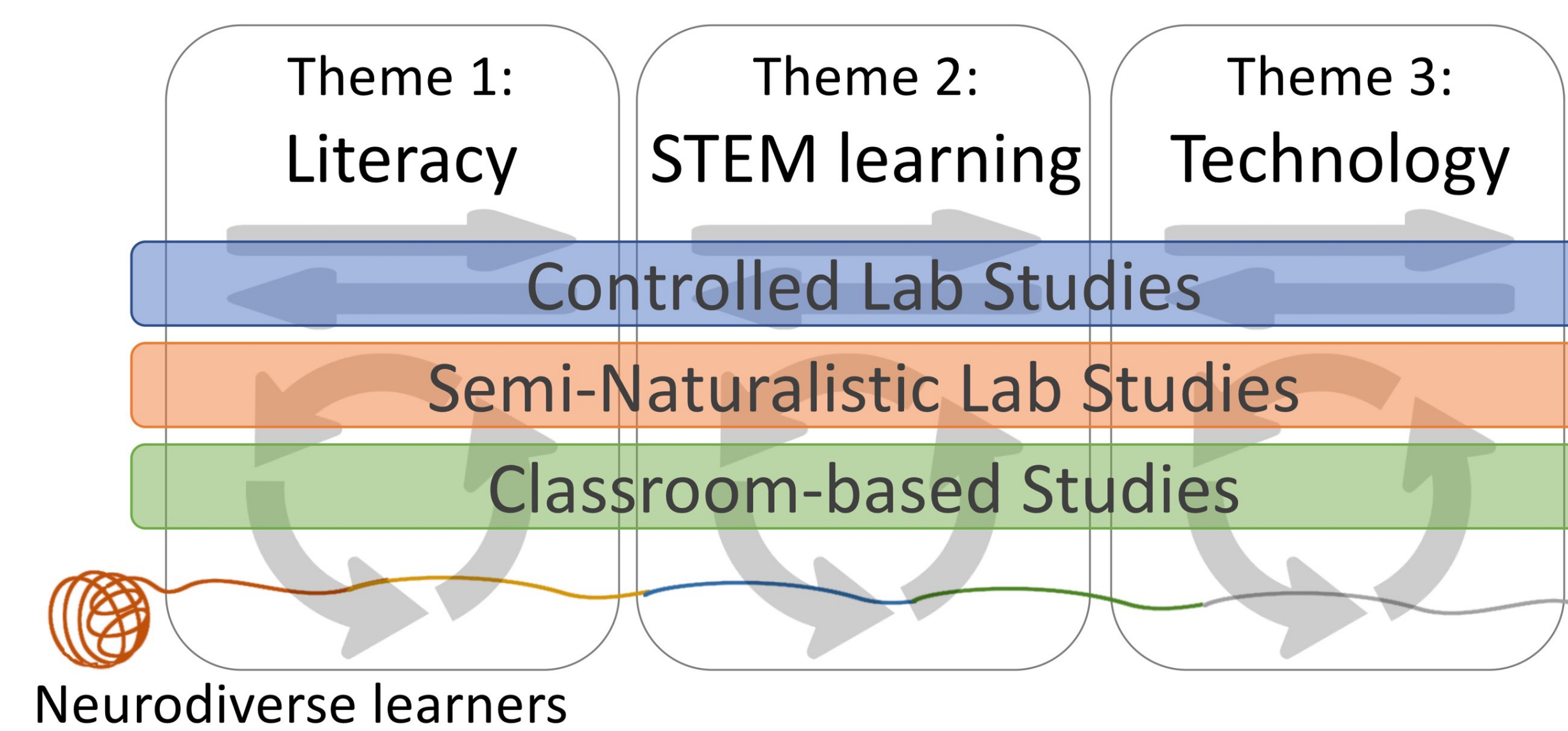
PARTNERS INCLUDES partners (2 organizations), Industry partners (8), NPOs (11); Government agencies (1); K-12 districts/schools (10); Professional societies (3).

BROADER IMPACT A world with an education system that helps each student reach their full potential without entrenched achievement gap disparities that disproportionately affect youth from underrepresented groups.

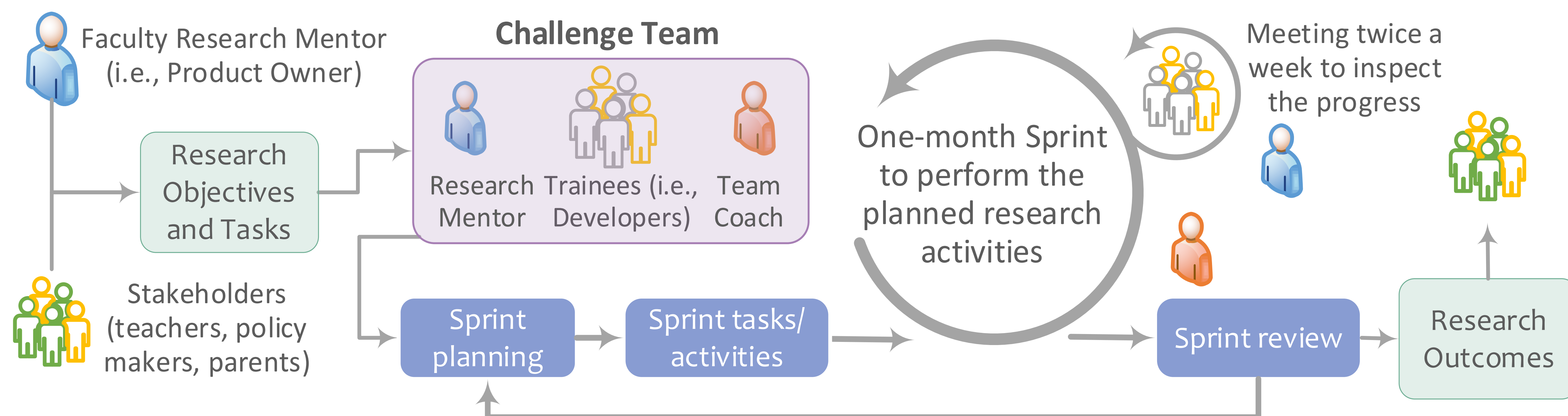**SUSTAINABILITY PLAN** Graduate certificate in EdNeuro.

BIDIRECTIONAL LEARNING

3-STAGE CYCLICAL RESEARCH MODEL

COMMUNITY STAKEHOLDERS — Research Questions / Translation of Findings — RESEARCHERS

LAB · CLASSROOM · SEMI-NATURALISTIC (control / validity)

CONVERGENCE RESEARCH Maximize educational outcome for all students via personalized learning, particularly for neurodiverse learners

Sample Research Activities

Theme 1: Literacy | Theme 2: STEM learning | Theme 3: Technology

Controlled Lab Studies
Semi-Naturalistic Lab Studies
Classroom-based Studies

Neurodiverse learners

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PBL-based Team Science Approach [Agile Scrum Framework]

Faculty Research Mentor (i.e., Product Owner)

Challenge Team
Research Mentor | Trainees (i.e., Developers) | Team Coach

Stakeholders (teachers, policy makers, parents)

Research Objectives and Tasks

Sprint planning → Sprint tasks/ activities → One-month Sprint to perform the planned research activities → Sprint review → Research Outcomes

Meeting twice a week to inspect the progress

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