Governance Framework for STEAM Learning Ecologies

A structured yet flexible governance model is essential to ensure the long-term sustainability, effectiveness, and adaptability of STEAM Learning Ecologies. This framework consists of seven core components, each with guiding principles and real-world case study examples.

1. Multi-Stakeholder Collaboration & Roles

Objective: Establish a clear governance structure integrating all stakeholders.

Key Components:

- **Steering Committee:** Representatives from schools, museums, research institutions, industry partners, and community organisations.
- **Working Groups:** Thematic groups (e.g., curriculum integration, funding, digital infrastructure) to support implementation.
- **Stakeholder Agreements:** Memorandums of Understanding (MoUs) to formalize roles and expectations, decisions on join other partnerships (Erasmus+, Horizon, private funding, etc.)

Implementation Steps:

1. Identify core stakeholders and form an initial steering group.
2. Develop stakeholder engagement strategies and MoUs.
3. Establish a schedule for periodic governance reviews.

2. Co-Creation & Participatory Decision-Making

Objective: Enable stakeholders—including students and educators—to shape the development of learning ecologies.

Key Components:

- **Community Advisory Boards:** Regular consultations with educators, students, parents, and local stakeholders.
- **Co-Creation Workshops:** Collaborative sessions to ensure relevance and inclusivity according to the SLE's methodology (see D2.2, sections 2.2.3 and 2.3.2)
- **Feedback Mechanisms:** The SLEs project has extensively employed the Participatory Scenario Development approach (see D3.1). However, other types of evaluating ideas, such as surveys, focus groups may be employed.

Implementation Steps:

1. Establish advisory boards and organize stakeholder meetings.
2. Conduct co-creation workshops with educators, learners and other actors.
3. Implement an iterative feedback and adaptation cycle.

3. Operational Structure & Resource Allocation

Objective: Define how learning ecologies function and manage resources.

Key Components:

- **Coordination Hub:** The entity overseeing logistics.
- **Resource Pooling:** Shared access to physical spaces, funding, expertise, and digital tools.
- **Funding Models:** EC-funded projects, public-private partnerships, grants, sponsorships, and municipal support.

Implementation Steps:

1. Define the operational model and appoint a coordination hub (the school or any other major actor in the SLE).
2. Create a resource-sharing system among stakeholders.
3. Identify sustainable funding opportunities.

4. Quality Assurance & Impact Evaluation

Objective: Establish assessment frameworks to measure impact.

Key Components:

- **Key Performance Indicators (KPIs):** Engagement levels, learning outcomes, participation rates.
- **Mixed-Methods Evaluation:** Participatory Scenario Development, surveys, interviews, learning analytics (See D4.1).
- **Adaptive Learning Framework:** Mechanisms to integrate feedback for continuous improvement.

Implementation Steps:

1. Develop KPIs and evaluation methodologies.
2. Conduct pilot assessments and analyse data.
3. Adjust learning ecologies based on findings.

5. Policy Integration & Institutional Anchoring

Objective: Embed STEAM Learning Ecologies within educational frameworks.

Key Components:

- **Curriculum Alignment:** Ensuring activities complement formal education standards.
- **Policy Engagement:** Collaboration with educational authorities.
- **Institutional Endorsements:** Recognising learning ecologies through certifications.

Implementation Steps:

1. Map learning ecologies to existing curriculum frameworks.

2. Engage policymakers and educational bodies.

3. Secure institutional recognition and accreditation.

6. Digital & Knowledge Management

Objective: Create a sustainable system for knowledge-sharing and collaboration.

Key Components:

- **Online Platforms:** Centralised digital repositories for learning resources.

- **Open-Source Resources:** Freely available materials for widespread adoption.

- **Data Interoperability:** Ensuring compatibility with existing education technology.

Implementation Steps:

1. Develop or adapt an online knowledge-sharing platform.

2. Provide training for educators and stakeholders.

3. Establish guidelines for data sharing and interoperability.

7. Sustainability & Scalability

Objective: Ensure long-term viability and expansion potential.

Key Components:

- **Diverse Funding Streams:** EC funding, national funding, private sponsorships, membership fees.

- **Scalability Models:** Templates for replicating ecologies in new settings.

- **Institutional Embedding:** Encouraging integration into existing systems and other educational and academic strategies.

Implementation Steps:

1. Identify potential long-term funding partners.

2. Develop guidelines for replicating learning ecologies.

3. Establish partnerships with universities and local governments for integration.

Moving forward, the next phase will focus on piloting the governance framework in select locations, allowing for real-world testing and refinement of the model. Insights gained from implementation will inform necessary adjustments to enhance its effectiveness and scalability. In parallel, targeted advocacy strategies will be developed to support wider adoption and policy integration, ensuring long-term impact and sustainability.