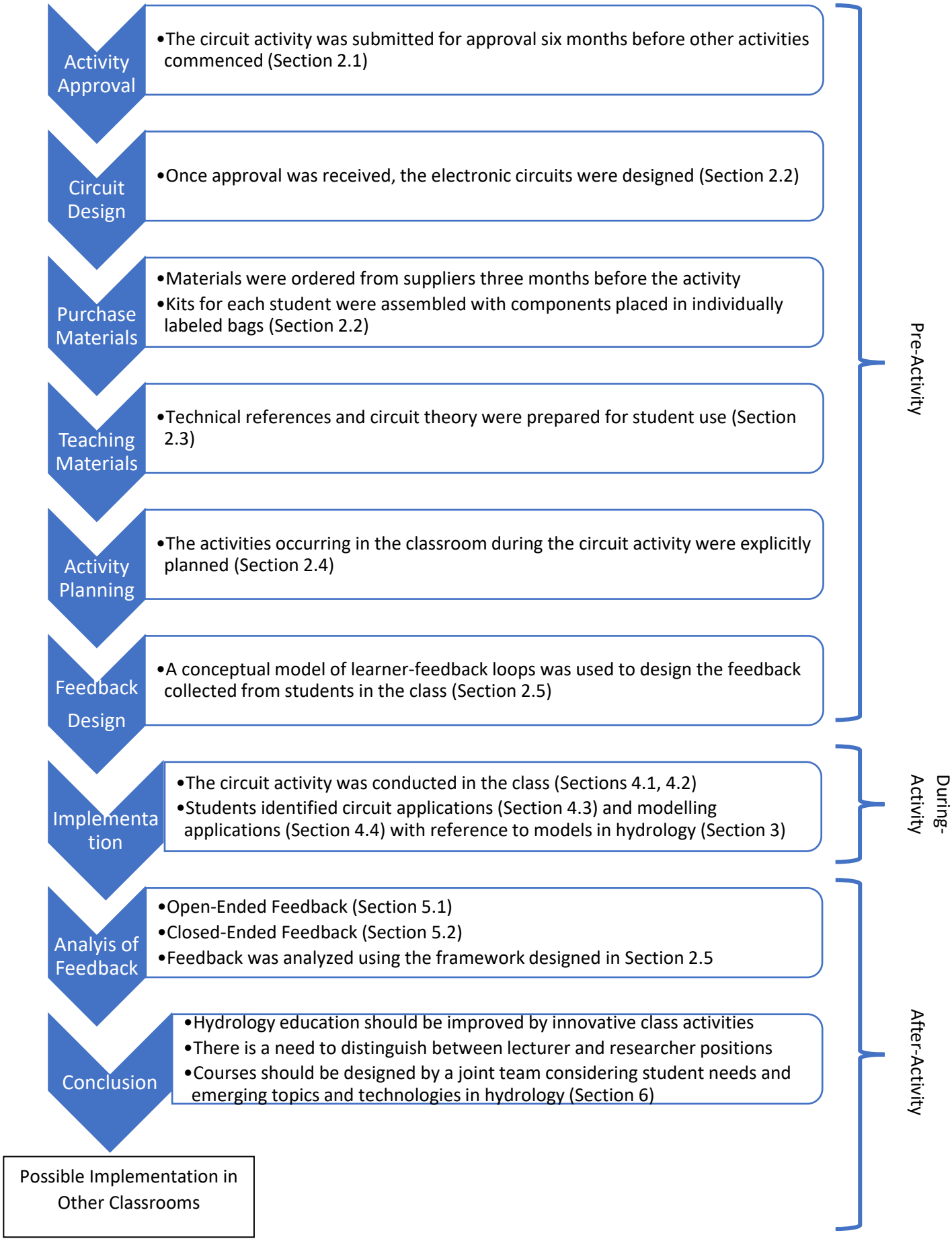
Activity Approval
•The circuit activity was submitted for approval six months before other activities commenced (Section 2.1)
Circuit Design
•Once approval was received, the electronic circuits were designed (Section 2.2)
Purchase Materials
•Materials were ordered from suppliers three months before the activity
•Kits for each student were assembled with components placed in individually labeled bags (Section 2.2)
Teaching Materials
•Technical references and circuit theory were prepared for student use (Section 2.3)
Activity Planning
•The activities occurring in the classroom during the circuit activity were explicitly planned (Section 2.4)
Feedback Design
•A conceptual model of learner-feedback loops was used to design the feedback collected from students in the class (Section 2.5)
Pre-Activity
Implementation
•The circuit activity was conducted in the class (Sections 4.1, 4.2)
•Students identified circuit applications (Section 4.3) and modelling applications (Section 4.4) with reference to models in hydrology (Section 3)
During-Activity
Analyis of Feedback
•Open-Ended Feedback (Section 5.1)
•Closed-Ended Feedback (Section 5.2)
•Feedback was analyzed using the framework designed in Section 2.5
Conclusion
•Hydrology education should be improved by innovative class activities
•There is a need to distinguish between lecturer and researcher positions
•Courses should be designed by a joint team considering student needs and emerging topics and technologies in hydrology (Section 6)
After-Activity
Possible Implementation in Other Classrooms