TechMate – A Research-Driven Toolkit to Enhance Gender Balance in Computing Education

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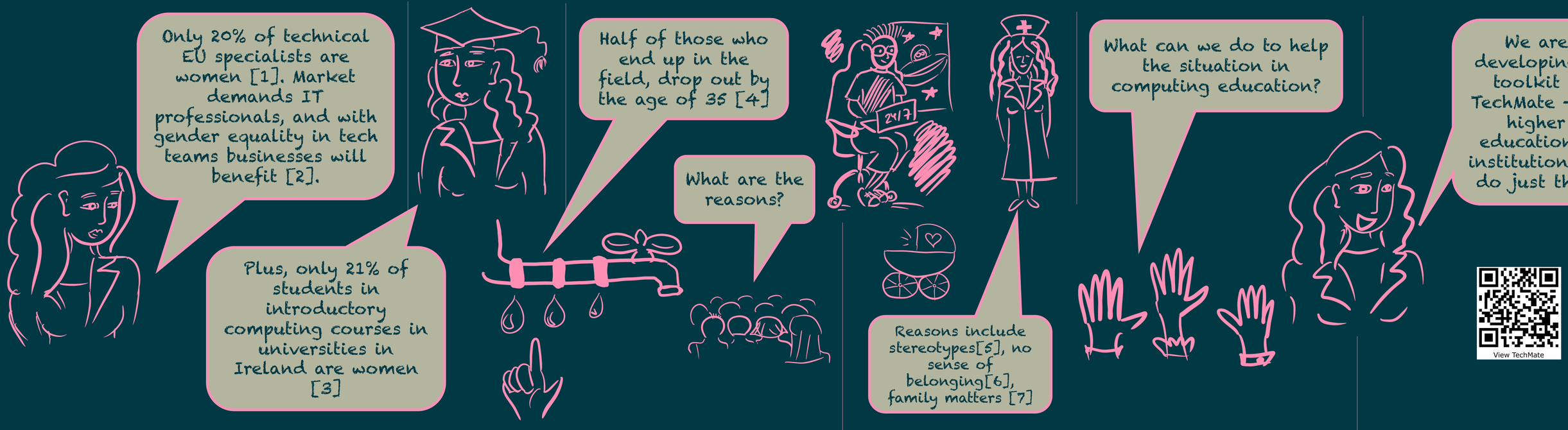


TECHMATE

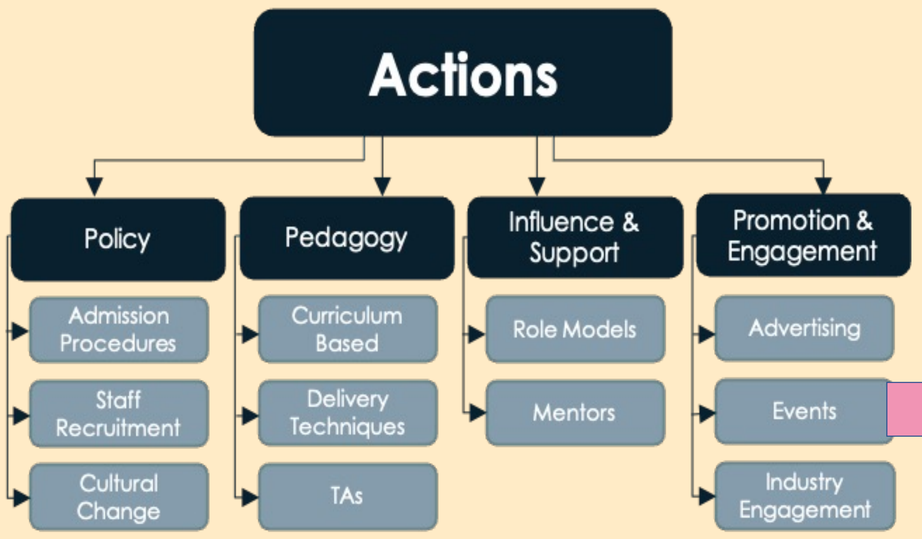
A toolkit with practical initiatives and guidance on how to enhance gender balance in computing education.

The initiatives are research-driven and are ready for immediate use. Resources are linked to support suggestions.

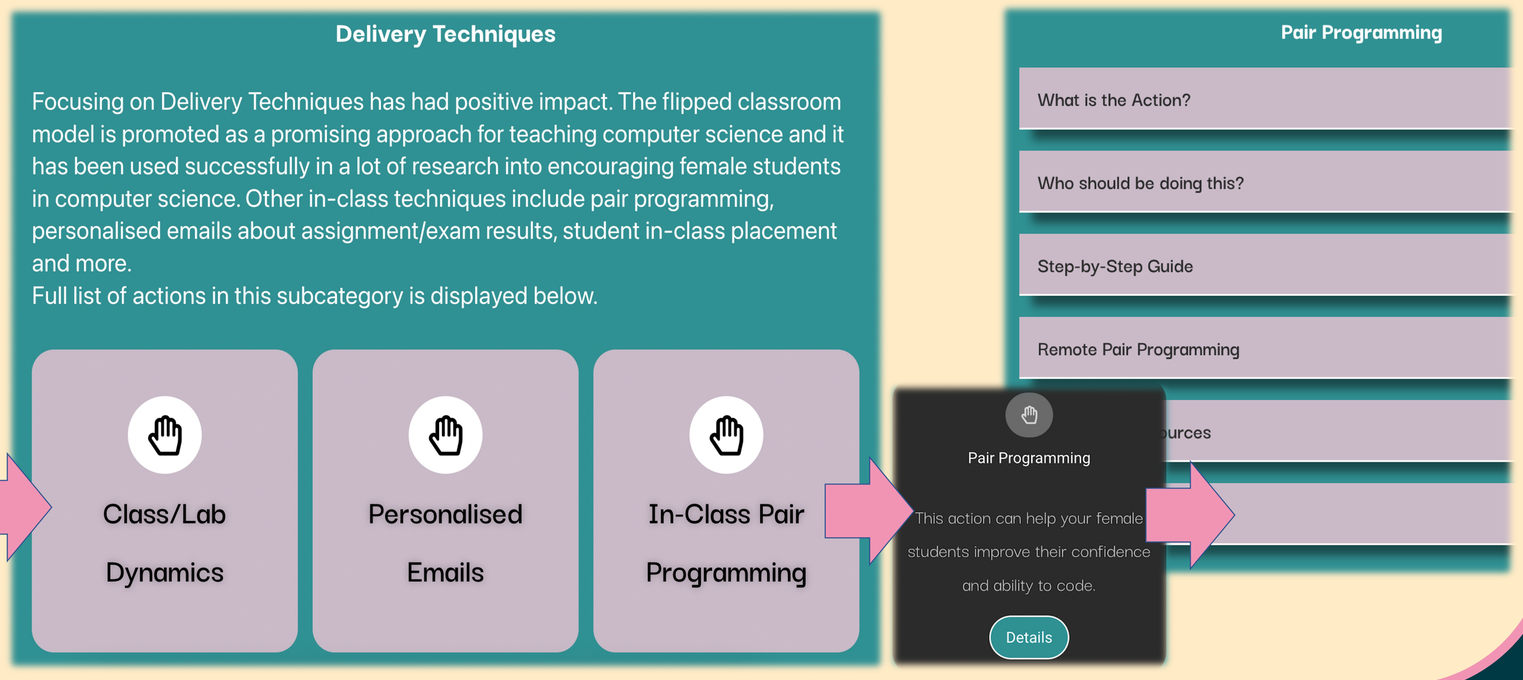
The toolkit also contains guidance on the evaluation of initiatives. Initiatives in TechMate are referred to as ACTIONS.

How The Toolkit Works

Actions are into four groups: Policy, Pedagogy, Influence & Support, Promotion & Engagement [8]. Each group has multiple subgroups of actions.



When you click into a subcategory, a description of this subcategory and a list of actions is displayed. Each of the action boxes gives a description of the action before instruction on how to implement.



Actions are presented in different ways based on what is involved to implement them.

Evaluation of Actions

- TechMate will include a proposed evaluation approach for each action.
- There is no single way to evaluate all types of actions.
- Longer term evaluation includes gathering and analysing statistical data over a certain period of time. Many policy-based actions show impact when using this approach, for example, when implementing quotas for women in computing courses [9].
- Feedback is a popular approach for shorter term evaluation. Actions such as events, or delivery techniques, or exposure to a role model can use feedback questionnaires. Positive feedback, however, may not lead to improved recruitment or retention.
- TechMate proposes to use the Perceived Stress Scale [10] as an instrument to evaluate actions that take place over an academic term, whether during delivery (e.g. class dynamics) or outside of class (e.g. mentoring programs).

Next Steps

- Add more actions to TechMate https://ascnet.ie/techmate/
- Include a search facility for actions
- Add recommendations on evaluation for each action
- Implement and evaluate some of the actions in TU Dublin using appropriate evaluation measures
- Disseminate our knowledge to other institutions
- Get feedback from other HEIs about TechMate

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