

Embedding Dispositions in Peer Assessment for Software Teams: More than just a “Product” Focus

Anonymous Author(s)

ABSTRACT

Both the Computing Curricula 2020 (CC2020) and emerging Computer Science Curricula 2023 (CS2023) guidelines indicate a shift towards competency-based education, where learners apply their knowledge, dispositions and skills in tasks as part of their studies. This approach aims to further enhance graduates’ work-readiness and tackle global issues of unemployment and underemployment among computing graduates. Peer assessment is increasingly used in team software engineering and capstone projects to ensure fair recognition of individual contributions. As competency-based learning becomes more prevalent, peer assessment needs to not only consider project outcomes, but also aspects of knowledge, dispositions and skills. This poster presents preliminary work on how one UK university’s computer science undergraduate degree employs the Team-Q metric to address this challenge.

CCS CONCEPTS

• **Social and professional topics** → **Computing education.**

KEYWORDS

Peer assessment, dispositions, teams, competency-based learning

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The current CC2020¹ and emerging CS2023² guidelines recommend adopting a competency-based education for computing-related degrees. Recent ITICSE Working Groups have explored competency, including one in 2022 that highlighted the global challenges presented by computing graduate employment and underemployment, together with how a focus on competency could help address this shortfall [5]. Software development team projects as capstones, or in similar forms, remain common curricula inclusions to develop software engineering technical and professional competencies. Peer assessment remains a frequently used mechanism to fairly reward

individual learners’ contributions to collective activities [3, 4]. Selecting an appropriate approach for peer assessment is critical to ensure all aspects of team working competencies are addressed and to minimise the potential for any biases. Team-Q presents one such peer assessment metric [1]; it measures a learner’s performance in a team by each learner indicating how each of their team peers either *Never* (Score 1), *Sometimes* (Score 1), *Usually* (Score 2), *Regularly* (Score 3), or *Always* (Score 4) demonstrate a set of behaviours. There are 15 behaviours split into five different general areas: *Contributes to team project* (3 behaviours); *Facilitates contributions of others* (3 behaviours); *Planning and management* (3 behaviours); *Foster a team climate* (2 behaviours); and *Manages potential conflict* (3 behaviours). A competency focus is thereby developed and embedded.

The preliminary work explores how the Team-Q metric has been employed in the foundation, first and final year of an undergraduate CS degree programme at one UK university. A case study approach was adopted [7], and template analysis used to better understand the context, the approach adopted, and the outcomes achieved. This single institutional case study serves to illustrate how Team-Q is a good practice model that may be worth considering for broader adoption for peer assessment as part of CS degree programmes, especially as we continue to reflect on the impact of COVID-19 on learning, teaching and assessment in computer science [2, 6].

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¹<https://www.acm.org/education/curricula-recommendations>

²<https://csed.acm.org/>

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