

A Framework for Improving the Sharing of Teaching Practices among Computer Science Instructors

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ABSTRACT

In this poster we present a novel conceptual framework for enhancing the sharing of best teaching practices among academics. The proposed framework is constructed based upon the understanding and mapping of the [1] knowledge creation theory.

CCS CONCEPTS

• **Human-centered computing** → **Collaborative and social computing systems and tools.**

KEYWORDS

Knowledge Management System, Teaching Practices

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1 INTRODUCTION

Computer Science instructors are involved in many responsibilities and tasks that prevent them from finding enough time for sharing their accumulated teaching-related knowledge with other instructors. Additionally, many years of valuable teaching experience could be lost due to academic retirement without being recorded in a proper knowledge management system. Consequently, novice teachers are facing a critical challenge in teaching and delivering subject knowledge that relates to algorithms, programming and the development of computational thinking skills. It would be more valuable if know-how knowledge were recorded, organized, and shared in a way that encourages new teachers to reuse it. Despite the availability of different educational resource repositories, such as learning management systems, these tools have been developed to facilitate the transmission of course-related content to learners but do not enable instructors to share their know-how teaching practices. In our view, know-how knowledge is considered as a valuable asset for achieving competitive advantage for educational institutions [2]. Therefore, the authors have developed the teaching practices management framework (TPMF), as shown in Figure 1,

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which aims to provide a collaborative environment for instructors to manage both know-what and know-how teaching practices by establishing a virtual community to enhance social interactions among its members. The proposed framework has been developed to address the following features:

- **Structured Knowledge:** Teaching practices have to be stored in a central repository and represented in a structured format to be easily read, retrieved and shared by instructors.
- **Motivation:** The framework implements an extrinsic motivator for scoring teaching practices through implicit feedback (e.g., downloads, views, and bookmarks) or explicit feedback (e.g., ratings). Earning reputation points and feedback can encourage an individual to share knowledge when they recognize this acknowledgement by others.

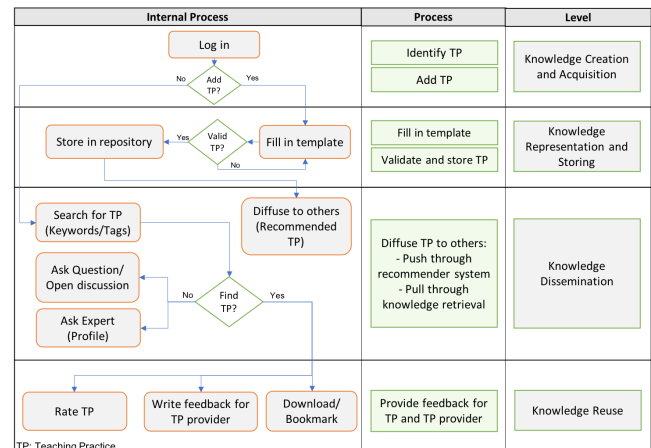


Figure 1: Teaching Practices Management Framework (TPMF).

2 FUTURE WORK

A teaching practices management system will be developed based on the TPMF; then an experiment will be conducted with the help of 40 computer science instructors to ensure that the proposed features would allow them to manage their teaching practices efficiently and effectively.

REFERENCES

- [1] Ikujiro Nonaka. 2008. *The knowledge-creating company*. Harvard Business Review Press.
- [2] Michael Polanyi. 2009. *The tacit dimension*. University of Chicago Press.