

Abstract

Context - Transfer of software engineering research into industrial practice is a challenge; academic articles are not the best enabler for industrial adoption of research. Furthermore, synthesis of knowledge from multiple research studies is needed to provide evidence-based decision-support for industry. However, translation of research outcomes (for e.g., results of a systematic review) to provide recommendations for practitioners is seldom practiced.

Objective - The objective of this paper is to provide a knowledge translation framework in software engineering research, in particular to translate research evidence into practice by combining contextualized expert opinions with research evidence.

Method - We adopted the framework of knowledge translation from healthcare research and combined it with the Bayesian synthesis method for use in software engineering research and practice. We evaluated the outcome of the knowledge translation framework along with the effectiveness of the interventions undertaken as part of knowledge translation in two cases.

Results - The framework provided in this paper includes a detailed description of each step of the knowledge translation. In the evaluation of the knowledge translation framework we found that, in comparison to the prior opinions practitioners become more consensual after the integration of opinions and knowledge from research studies.

Conclusions - Knowledge translation using Bayesian synthesis provides a systematic approach towards contextualized, collaborative and consensus-driven application of research results. Dissemination of research results, transfer of research outcomes and sharing tacit knowledge has been done to some extent to provide explicit knowledge. However, there is limited research on how to translate research outcomes to make the research more contextualized and hence more easy, accessible and acceptable by industry. In conclusion, this paper contributes towards the application of knowledge translation in software engineering through its framework and a first evaluation of its use.