

Research on improving engineering practice ability of engineering teachers under the background of "New engineering"

WANG Wei*, LIU Xiuming, JING Miaolei

School of Textile Science and Engineering, Tiangong University, Tianjin, China

Email address

weiwang@tiangong.edu.cn (WANG Wei), liuxiuming@tiangong.edu.cn (LIU Xiuming), jingmiaolei@tiangong.edu.cn (JING Miaolei)

Abstract: In order to cultivate new engineering talents to meet the needs of enterprises, the Ministry of Education proposes the construction of "New engineering" to improve the quality of engineering talents training. But in practice the development level of teachers' engineering practice ability still lags behind the requirements of "New engineering" construction on teachers' ability, which has become an important factor hindering the improvement of engineering talent training quality. Based on the analysis of the connotation and extension of the concept of teachers' engineering practical ability, combined with the requirements of new engineering construction on teachers' engineering practical ability, this paper sorted out the problems and attribution of teachers' feeble engineering practical ability, and put forward the training strategy of teachers' engineering practical ability under the background of "New engineering". The institutional framework of engineering faculty construction oriented by engineering practice ability is preliminarily constructed, which provides a reference for exploring the path of faculty construction matching with "New engineering".

Keywords: new engineering; engineering practice ability; university teachers

“新工科”背景下工科教师工程实践能力提升探究

王维*, 刘秀明, 荆妙蕾

纺织科学与工程学院, 天津工业大学, 天津, 中国

邮 箱

weiwang@tiangong.edu.cn (王维), liuxiuming@tiangong.edu.cn (刘秀明), jingmiaolei@tiangong.edu.cn (荆妙蕾)

摘 要: 为培养满足企业需求的新型工程人才, 教育部提出“新工科”建设, 提高工程人才培养质量。但实际中, 教师工程实践能力的发展水平仍旧落后于“新工科”建设对教师能力的要求, 成为阻碍工程人才培养质量提升的重要因素。本文通过对教师工程实践能力概念内涵与外延的剖析, 结合“新工科”建设对教师工程实践能力的要求, 梳理造成教师工程实践能力弱的问题与原因, 提出基于“新工科”建设背景下教师工程实践能力的培养策略。初步构建了以工程实践能力为导向的高校工科师资队伍建设的制度框架, 为探索与“新工科”相匹配的师资队伍建设路径提供了参考。

关键词: 新工科; 工程实践能力; 高校教师

1 引言

在“工业 4.0”与“中国制造 2025”时代背景下, 工程人才在国际竞争中的地位日渐凸显, 工程教育已经成为国家竞争力的重要来源, 产业变革的新形势对高等工程教育的发展提出了新要求。“新工科”作为新时代下

工程教育范式变革的主题词开启了工程教育新路径的探索。“北京指南”提出要强化教师的工程背景, 并对工科教师的产业经历提出要求, 创设条件^[1]。工科教师作为工程科技人才培养过程中的关键主体和核心力量, 其能力的高低决定着工程科技人才培养的质量。

高校一直以来都缺乏一套科学合理的工科教师评价体系, 对符合工科教师特点的团队创新绩效、产学研