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## 產業導向技職校院學生精密製造技術指標建構與驗證之研究---

### 產業導向技職校院學生精密機械製造技術問題解決能力

#### 指標建構與驗證之研究

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#### 摘要

本研究旨在建構技職校院學生，為因應瞬息萬變的社會環境與符合產業需求，所應具備的問題解決能力內涵與重要程度，建立我國產業導向技職校院學生精密機械製造技術問題解決能力指標之共通準則並確認其模組課程目標與內涵。其次，發展技職校院學生精密機械製造技術問題解決能力模組教材及精密機械製造技術課程認知量表、精密機械製造技術力量表、精密機械製造技術課程學習態度量表、精密機械製造技術問題解決力量表等，最後探求其問題解決能力對未來職場的工作需求，並藉此提供技職校院培育學生問題解決能力之參考與建議以符合目前產業界所需。為達研究目的，本研究將使用文獻探討、文件分析、訪談法、德懷術、專家座談、實驗教學、觀察法等研究方法。本研究為期三年，第一年度的主要研究目的在於建構產業導向技職校院學生精密機械製造技術問題解決能力之能力指標及精密

機械製造技術問題解決能力模組課程目標與內涵。第二年度係根據第一年度確立之產業導向技職校院學生精密機械製造技術問題解決能力指標，發展產業導向技職校院學生精密機械製造技術問題解決能力模組教材及精密機械製造技術課程認知量表、精密機械製造技術能力量表、精密機械製造技術課程學習態度量表、精密機械製造技術問題解決能力量表。第三年度係根據第二年度所完成之精密機械製造技術問題解決能力模組課程學習教材進行模組教學，並根據前一年度發展之精密機械製造技術課程認知量表、精密機械製造技術能力量表、精密機械製造技術課程學習態度量表、精密機械製造技術問題解決能力量表，以及精密機械製造技術模組教材進行預試與修正，以建立完整的信度與效度，接著安排試驗性實驗教學，進而評估精密機械製造技術模組教材及評量工具的適切性。最後實施正式實驗教學以驗證產業導向技職校院學生精密機械製造技術問題解決能力指標之適切性。

# **A Study on the Construction and Verification of Problem Solving Skills of Industry Based Precision Manufacturing Technique Competence Indicators**

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## **Abstract**

The goal of the research is chiefly for constructing the students of the college of technology to face the social environment of fast change and fits in with the requirements of industry with possessing the ability purport of solving problem and important degree. It sets up the common criteria of solving problem index in precision mechanical manufacturing technology for the students in our country industry and conform to the objective and intention of the module courses. In the next, we develop the teaching materials of module, the courses of cognitive assessment, the capability assessment, the study attitude assessment, and the assessment of solving problem ability for students. Last, we probe into the future working requirement of solving problem ability, and provide the colleges with helping students foster the consultation and suggestion of solving problem to conform to work demand of future career. For reaching the goal, this research will adopt a literature review , documents analysis, interview methods, Delphi, experts discussion, experimental teaching, and observation method, etc.. This research is scheduled to last three years. The first year, the research goal consists in constructing the ability index and the target and intension of module courses for the students with industry orientation. The second year, we develop the module material of solving problem and cognitive assessment of the course , the technology ability assessment, the learning attitude assessment, and the solving problem ability assessment for the students in accordance with establishing ability index of solving problem in the first year. The next year, we will proceed the module teaching according to the accomplish of the materials in the prior year and proceed a pretest and modification with the results of the first year to buld up a integrated validity and reliability and then arrange a tentative experimental teaching to evaluate the suitability for module material and assessment tools. And last, we carry out the experimental teaching to verify the suitability of the ability of solving problem for the students