

# Validating University Graduate Attribute Scale

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## Abstract

With a premise of promoting desired success of graduates, the educational mission of universities is often to ensure the graduates' adequate development in intellectual, ethical, and interpersonal competences that are increasingly termed University Graduate Attributes (UGA) in higher education. This study aimed to validate a UGA scale (UGAS) for a university prominent in science-technology-engineering-mathematics in Taiwan. The UGAS was translated from the university mission into a number of competences by first-tier college administration. These competences were then transformed into 14 item-measures by an expert-panel: Discipline-specific competence (3 items), generic competence (5), and socio-interpersonal competence (6). In an online graduate-exit survey over 3 months, the UGAS alongside college-education satisfaction item-measures were administered to undergraduates ( $N = 1,142$ ; female = 410) and post-graduates ( $N = 1,219$ ; female = 357; doctoral graduates = 124, master's graduates = 1,095). Construct validity of UGAS was supported by single-group confirmatory factor analysis (CFA) on the 3-factor structure, and by two-group CFA showing strict measurement invariance in error-variances equality. The criterion-related validity of the UGAS was supported by positive correlations with college-education satisfaction of both groups ( $r = .521$  for undergraduates;  $r = .533$  for post-graduates), and with academic performance of the undergraduates ( $r = .065$ ). The UGAS is found effective in profiling the competences of university graduates, suggesting possible implications. First, it may be used as

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Manuscript received: 2014.3.5; Revised: 2014.5.3; Accepted: 2014.5.3

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educational goals for college educators and administration. They may explicitly plan, promote, and evaluate these desired learning outcomes by developing their formal and informal curricular activities, and by allocating open and educational resources and facilities to all university students, and to the public. Second, the UGAS may offer qualification indicators for graduates and employers who may thus find the best match for their intended jobs with greater ease. Third, it may provide achievement indicators for accrediting agencies and the public, since these indicators may support educational efficacy and thus serve well the purposes of quality-assurance and institutional improvement.

**Keywords:** University Graduate Attribute Scale; Desired Learning Outcome; Quality Assurance; Institutional Improvement