

# The Employability Theorem

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## Abstract

In this document, the Employability Theorem is demonstrated from a set of fairly tautological axioms, which are presupposed in quantitative career choice and career development methods.

*Keywords:* Employability theorem; Career choice; Career development; Vocational choice; Occupational Information Network; O\*NET.

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## 1. Proof Plan

1. basic presuppositions
2. basic lemmas
3. complex tasks
4. occupations are but tasks
5. occupations' tasks are complex
6. occupations' tasks are holistic (operation)
  - 6.1. more difficult tasks presuppose the easier tasks have been accomplished
  - 6.2. i.e.  $l \in [0, 1]$  is a “progress bar” of an occupation's operation
  - 6.3. strongly holistic: each task  $l \geq \bar{l}$  requires all the previous  $l \in [0, \bar{l}]$ ,  $\bar{l} \in [0, 1]$  difficulty levels to be accomplished. in addition, if all  $l \in [0, 1]$  levels are not all accomplished, the whole effort is vain and the operation is not completed (i.e. round down  $\bar{U}_q$  when calculating operational output). furthermore, each and every  $l \in [0, 1]$  difficulty level cannot be outsourced (i.e. only a perfectly qualified worker can output a unit of the occupation's operation).
  - 6.4. moderately holistic: each task  $l \geq \bar{l}$  requires all the previous  $l \in [0, \bar{l}]$ ,  $\bar{l} \in [0, 1]$  difficulty levels to be accomplished. in addition, if all  $l \in [0, 1]$  levels are not all accomplished, the whole effort is vain and the operation is not completed (i.e. round down  $\bar{U}_q$  when calculating

operational output). however, each and every  $l \in [0, 1]$  difficulty level can be outsourced (i.e. workers can output partial units of the occupation's operation, which contribute to the operation's completion).

6.5. weakly holistic: each task  $l \geq \bar{l}$  requires all the previous  $l \in [0, \bar{l}]$ ,  $\bar{l} \in [0, 1]$  difficulty levels to be accomplished. however, if not all  $l \in [0, 1]$  levels are accomplished, the whole effort is not vain and the operation is partially completed (i.e. do not round  $\mathcal{U}_q$  when calculating operational output). furthermore, each and every  $l \in [0, 1]$  difficulty level can be outsourced (i.e. workers can output partial units of the occupation's operation, which contribute to the operation's completion).

7. assume weak occupational complexity axiom (the other versions are too strict)