Background material for working Group 2 – CNC Machine operation

The PLF on the definition and writing of learning outcomes will <u>focus</u> on three concrete vocational education and training qualifications: for <u>plumbing (heating and cooling)</u>, <u>CNC machine operation</u> and for <u>tourism and travel</u>. These qualifications represent the wide scope of knowledge, skills and competences covered by VET qualifications in Europe today. The annex to this paper contains four examples of learning outcomes used for the field of CNC Machine operation:

- Greek certificate supplement CNC Machine tool technician
- Irish specific purpose award CNC Machine setting and operation
- Norwegian CNC Machine operation
- Polish core curriculum CNC machine operator

While different in format (and partly) in purpose, these cases – in addition to the national cases presented in the working group itself - provide a basis for comparison and discussions. Participants in the working group will be able to and indeed encouraged to add to these four examples.

Annex 1: CNC Machine operator, Ireland
Annex 2: CNC Machine operator, Norway
Annex 3: CNC Machine tool operator, Poland
Annex 4: CNC Machine operator, Greece

CNC Machine Operator Ireland.pdf   Norway CNC Machine OPerator.rtf   Poland CNC machine tool operator 722307   Greece CNC Machine operator.pdf

Possible questions for the working group

The following 'menu' of questions should be used as a starting point for the working group. <u>The working group should decide on 2-4 questions to focus on, thus signalling what is considered to be key challenges in this area:</u>

1. Learning outcomes descriptions serve many purposes and address several groups of users; to what extent are they able to balance the needs of
   - Learners
   - Employers
   - Teachers
   - Assessors
   - Others?

2. Which are the strengths and weaknesses regarding the way the <u>horizontal dimension</u> of intended learning outcomes (knowledge, skills, competences, attitudes etc.) are described?
3. Which are the arguments for and against a standardised way of describing results of learning/ domains of learning outcomes (for example following the EQF KSC (knowledge, skills, competence) approach?
4. Which are the strengths and weaknesses of the way levels and the increasing complexity of learning outcomes is described (the vertical dimension)?
5. How do learning outcomes balance occupation specific and transversal knowledge, skills and competences?
6. How can learning outcomes balance the need for specificity (for example for assessment) with the need for flexibility and openness (for example being responsive to the needs of individual learners, employers and training providers? Who has participated in the definition and writing of learning outcomes?
7. How can definition and writing of learning outcomes be supported by research; for example through development of taxonomies and conceptual frameworks?