Validation of forest machine operator competence

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Why validate competence?

• Easier and better recruitment
• Increased pride and jobsatisfaction
• Improve educations
• Increased competence
• Increased productivity
• What competence is needed to be considered employable as a forwarder operator?
• How can you test a forwarder operators competences with help of a simulator?
Method from Swedish military education

1. Describe the work process
2. Describe the work tasks
3. Describe the competences needed for those tasks
4. Define capability
5. Operationalize the competences
6. Design the tests for those competences
7. Test the test
8. Iterate on 5-7
1. Describe the work process

For example:

- Prepare the landing site
- Driving while empty
- Loading
- Driving when loaded
- Unloading
- Register forwarded volumes
2. Describe the work tasks

- Plan and prepare the main road
- Reinforce or build bridges where needed
- Reduce the obstacles
- Plan the order of loaded assortments
- Plan the number of assortments per load
- Identify problem areas for later on
- Drive the machine
3. Competences for driving while empty

To be able to:

• plan and prepare the main road
• plan the order to forward different assortments
• plan which assortments to load together
• identify problem areas (soft, dangerous, etc.)
• adjust the speed of the forwarder to the terrain
• Choose the shortest distance with good bearing capacity
4. Capability

- A capable operator is "an operator that has gained 5 months of experience after finishing forestry training school"."
5. Operationalize the competences

- Average speed of maximum X km/h
- Speed is adjusted before obstacles
- No driving in "no-go zones"
- Bridges are used (when present)
6. Design tests for those competences
7. Test the test with the users!
Results

• Our test can identify the skill level of operators in a good way
The test can identify problem areas for each operator:

- Driving empty
- Loading
- Unloading
- Driving in terrain
- Build the pile
- Load quality
Learnings

• To be able to model and measure individual competence you need a clear description of the competences needed for all tasks in the job.
• Simulators are great tools to verify forestry machine operators competence.
Questions?

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Simulatorparks

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