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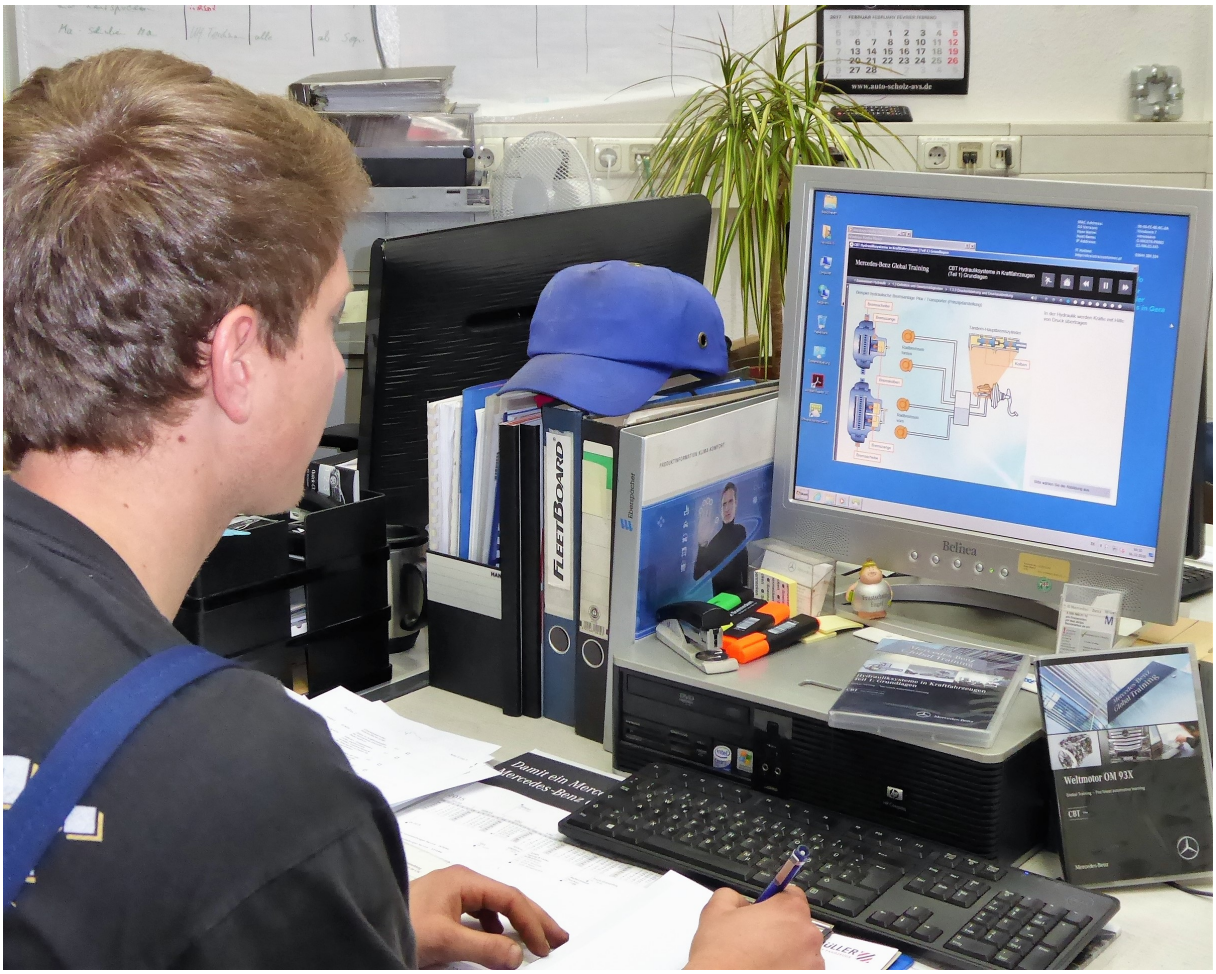

ERASMUS+

Analyse of learners' self-evaluation tools in work based learning

Work-based learning in the vehicle industry. KA2_2015-1-SE01-KA202-012241
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Analyse of learners' self-evaluation tools in work based learning in Germany, Scotland and Sweden

by

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Introduction

In the report you find information that gives an insight into how learners in Germany, Scotland and Sweden participate in the assessment of work based learning in the motor vehicle business e.g. the portfolio based assessment in Scotland, the self-test in Germany and the logbooks in Sweden. Based on results from the studies the recommendations focus on self-evaluation tools useful for companies by outlining the understandings the training companies had made recently. It can be particularly valuable in helping learners develop self-reflection, review and judgment and ultimately, learners learn how to be responsible for their own learning. By using the self-evaluation the learners can reflect on their own behaviour and their position of knowledge according to given criteria. They are aware and able to validate certain standards and conduct their learning. On the basis of the self-evaluation the learners can predict the necessities for the individual learning processes and the effects on their actions.

The company can use learners' self-evaluation to more successfully meet business goals or that the learning intervention provides a good return on the investment made by them.

Summary

The analysis of results from Germany, Scotland and Sweden in this report shows that it is not possible to carry out self-evaluation for formal assessment in a multi-country common way. In Scotland there are regulations to use the standards provided by Institute of the Motor Industry (IMI) and The Scottish Qualification Authority (SQA). The dual system in Germany and the Swedish vocational education and training model have nationally controlled assessment of learning outcomes as well.

Based on findings and results we will focus on self-evaluation tools useful for companies for outlining the experiences the training companies had made recently, for example half an hour at the end of every training session.

Our next task will be to design and provide self-evaluation questions from which the company mentors can learn and get inspiration in how to provide self-evaluation for the learners and to be integrated in reflective logs if needed or to use for improvements of work-based learning methods.

1 Benefits of self-evaluation for learners in work based learning

Germany

Self-evaluation is a didactic tool that is used by learners mostly in training companies and inter-company training centres in the dual system of vocational training. Most of the learners know the tool from former vocational guidance courses. They have experience in using self-evaluation and deduced learning orders.

By using the self-evaluation the learners can reflect their own behaviour and their state of knowledge according to given criteria. They are aware and able to validate certain standards and undertake their learning. On the basis of the self-evaluation the learners can predict the necessities for the individual learning processes and the effects on their doing.

Regular and conscious use of the self-evaluation tool helps the learners to assess and estimate their own strengths and weaknesses in vocational training context. The learners can affiliate new motivation and that helps to reach the final aim of the training.

Very often the self-evaluation tool is used in combination with a learner's evaluation by the trainer or another commissioned person. So the learner can compare their own reflection with the requirements.

The learner plays an active role in structuring and organising the vocational training process. The self-evaluation tool encourages this process.

The dual vocational training system has got three mandatory success-monitorings. These are the training reports made by the learner, the on-going examination after two years, and the annual vocational school certificate. Furthermore there are tests and exams in the training company.

Scotland

1 Background

Work-based learning (WBL) regardless of industry or work sector is used to refer to any form of learning or accumulation of knowledge which takes place in the working environment. WBL covers a wide range of workplace activities which includes: formal training, competency testing, experiential learning, placements, secondments and informal learning. A large amount of WBL is either company or industry specific,

carried out within the industry or company, financed by employers variably with certification or verification procedures to accompany the process.

1.1 Self-evaluation

Self-evaluation is a process intended to determine quantitatively and qualitatively how much has been achieved by learners with a view to forwardly improving the achievement standards. Self-evaluation is an assessment method which allows students to assess their own performance. It can be extremely valuable in helping learners develop self-reflection, critique and judgment and ultimately, students learn how to be responsible for their own learning. Self-assessments are more often used as part of a formative assessment process, rather than a summative one.[1] There is no single approach to self-evaluation, as organisations can vary significantly in the level of their complexity, sophistication and overall enthusiasm for self-evaluation and indeed training of any kind**.** Self-evaluation can only be considered as a useful activity when all stakeholders, interested parties, and end users, respect and contribute to the process, being cognisant of the findings.

Education Scotland suggest that self-evaluation should be an integral part of the improvement planning process through a cycle of self-evaluation by helping to identify areas for development and offer of a generic cycle of self-evaluation as a generic model upon which organizations and individuals could usefully develop themselves and their scheme.[2]

1.2 Self-evaluation inside the motor vehicle industry

Currently organisations requiring motor vehicle apprenticeship training can vary widely from international dealerships and manufacturers[3] to small enterprises. Training can be carried out under various styles, of apprenticeship schemes. These schemes can be expensive, lengthy and not fully reflect the increasing complexity of the modern light vehicle, bus or coach.[4, 5]

[1] http://ar.cetl.hku.hk/self_peer.htm
[2] http://www.educationscotland.gov.uk/professionallearning/clpl/selfevaluation.asp
[3] http://semta.org.uk/sas-learners-mercedes-amg
[4] James Harvey, First Bus, Meeting 19thAugust 2016
[5] www.people1st.co.uk/getattachment/Apprenticeship-services/Assessment-plans/201604-Assessment-Plan-bus-and-coach-engineering-technician-Final-draft.pdf.aspx

Support through self-evaluation for motor vehicle apprentices in their learning journey can vary significantly depending on the circumstances of their employer and the scheme that they are enrolled on.[6]
Currently in the Motor Vehicle (MV) industry self-evaluation is carried out by way of descriptive logs detailing what the task was and how the task was carried out. This is seen in qualifications offered by the SQA.[7]

In contrast, self-evaluation by engineering training providers of the services that they provided appears to be more prevalent than its use by learners for evaluation of their progress, with over four fifths of the apprentices interviewed asked their views on their training experience by the delivering subcontractor.
The online survey found that 87% of the apprentices responding said that their workplace assessor participated in progress reviews. A large number of the employers interviewed had no recollection of any formal attempt to gain their views on the quality of their apprentices' training but said they would tell the assessor if they were unhappy about any aspect. Around half of the employers felt they had been asked their views at some stage.[8]

1.3 Self-evaluation outside the motor vehicle industry

Teaching is the most prevalent sector to encourage self-evaluation not only by the learners that it services as an aspect of the learning process but also professionally as a way of improving their knowledge and delivery.[9] Many further education and higher education establishments encourage reflective self-evaluation and communal self-evaluation practices amongst the staff. This means that continuing professional development requirements can be met, good practices can be shared and the recommendations of regulatory bodies and funding bodies can be developed.[10]
Further use of self-evaluation in education and training is seen in independent learning providers as evidence by Ofsted in their report on QA Ltd.[11]
Self-evaluation by learners of their own competences is also used by the providers of apprenticeship training to high level engineering organisations involved in state and global security such as the Ministry of Defence (MoD) establishments; MoD Equipment & Support, MoD Technology and QinetiQ. In addition to this, partners to these MoD organizations providing high level weaponry and security systems such as BAE Systems, General Dynamics, MBDA, Raytheon, Rolls Royce and Thales also enlisted training providers that required learners to self-evaluate the training process and establish their own competences.[12]

[6] Stephen Ayton, Curriculum Manager Mechanical & Automotive Engineering, Fife College, E-mail 29-8-2016
[7] http://www.sqa.org.uk/sqa/35438.html
[8] www.gov.uk/government/uploads/system/uploads/attachment_data/file/417468/Ensuring_quality_in_apprenticeships.pdf
[9] http://ar.cetl.hku.hk/self_peer.htm
[10] www.educationscotland.gov.uk/Images/FifeCollegeFullReport240415_tcm4-856461.pdf
[11] http://apprenticeships.qa.com/media/1293/qa-ofsted-report.pdf
[12] www.semap.co.uk/index.html

1.4 Use of external self-evaluation tools outside the motor industry

The main tools used outside the MV sector appear to be reflective logs and competency based assessment matrix's.
In house courses and reflective logs appear to be the majority tool for professional services, with the onus on the individual to extend and improve their competency and knowledge as a matter of continued professional development and knowledge increase.
This methodology is also used by professional institutions to ensure that members follow a self-selected series of Continuing Professional Development (CPD), that they reflect on the learning, the knowledge that it has brought them and the effect on their professional ability that it has brought to them.

Competency based matrix's such as those used in high end engineering are robust tools, requiring that not only does the apprentice be evaluated by a validator, but are assess their own manager and they reflect on their own competence. This is carried out over a wide range of competences within one section of their expected knowledge base, but then it is applied holistically as a systems approach, to the overall apprentice ship area. Meaning that they gain a knowledge of all areas of engineering and management, related to their industry and not just a small section as might be the case in a more traditional apprenticeship.

Sweden

In Sweden learners' self-evaluation is seen as both a didactic approach and as a basis for formal assessment, whereby the learner by providing self-documentation of performed tasks, measures, processes and results mainly in writing, but also in pictures and video. The documentation gives the learner the opportunity to reflect on their actions and decisions taken during work time. This reflection can give them insight into their strengths and weaknesses and how they should develop their professional skills[13], but it requires the learner to be aware of the learning objectives. The Swedish Agency of Education also emphasizes in a comprehensive research review that self-evaluation enables learner's ownership of their own learning process[14]. However at present time the learners' assessment of the work-based learning only means that the learners:

- Practice documenting their own work in the workshop
- Produce a written basis for teachers or mentors for assessment of learning outcomes and documentation for grading
- Provide the teacher or mentor with the opportunity to give the learner feedback

[13] Bedömning i yrkesämnen – dilemma och möjligheter, Skolverket, 2011, p 24
[14] Formativ bedömning – en översikt, Skolverket,

• Gain understanding of their own learning development by reflection and repetition in writing what they've done and why.

We have not find any examples of vehicle companies using learners self-evaluation as a tool, like in Germany[15], to more successfully meet business goals or the learning intervention provides a good return on the investment made by them. However we found a few examples of questions for dialog evaluation of learning outcomes used by learner, lecture and mentor in dialog, see next chapter.

Furthermore by experiences from the Swedish automotive learners' internship abroad in Germany, the Netherlands and Scotland[16] we can assume that automotive learners' self-evaluation can be a tool for assessment of a broad intervention of work-based learning.

[15] self-evaluation sheet, Auto Scholz AVS Gera
[16] LdV and Erasmus+ Provehicle 1-3

2 Analysis of learners' self-evaluation tools in work based learning

Germany

Self-evaluation in the training process

Learners often lack the ability of self-evaluation of their learning progress. However, evaluation, both self and external, is an important tool for analysing the training progress for success or deficit. Regular feedback and assessment additionally establishes mutual trust between learner and trainer/mentor. Assessments are the basis for a common interpretation of the single parts of the training.

1 Existing tools for self-evaluation in the training process

Assessment sheets seem to be effective and approved tools for self-evaluation. These sheets are differently designed, depending on the task (see 2.6). Anyway, the training period that is supervised and the assessment criteria need to be drafted clearly and understandable. Options for answering the sheets must be given precisely. Another tool for self-evaluation is the self-test. Self-tests are used to assess the professional skills of the learner. These self-tests are more and more completed using computers and digital media. Examples are the company's own digital media like Computer Based Training (CBT) by Mercedes (see also 5.1) or media made by teaching material manufacturers like autoFACHMANN+ (see 5.2). Digital media can be used very flexibly and individually. They support the imparting of teaching content. Most of the digital media also contains self-evaluation tests with analysis (see example in 5).

2 Experiences with tools for self-evaluation

Interviews in selected companies have shown that the existing tools for self-evaluation are used very differently. Only 10% of the training companies use these self-evaluation tools in developing, handling, and analysing the assessment sheets. Furthermore, the self-evaluation sheets are often seen as red tape.

On the other hand, the companies that use the self-evaluation sheets (10% of the surveyed companies) see them as a chance to increase the quality of the training progress and the motivation of the learner. The interview with Ms Regina Zingel is an example of good experiences with self-evaluation sheets for learners. Ms Zingel is head of the training department at AUTO-SCHOLZ-AVS GmbH & Co. KG. She said that the company uses self-evaluation sheets and external-evaluation sheets. Two of their sheets can be found attached.

3 Basis of the success of self-evaluation

In self-evaluation tests the learner estimates their own competences and skills, like professional competences, social competences, and methodological competences.

The results of these tests should also be part of the regular dialogue between the learner and the trainer. It is important to know for the learner if both the learner and the training company see the training progress and the results the same way. Any differences need to be discussed and analysed. Self-evaluation should be done regularly, either after certain training content or on a time basis. Also, the learning environment in the training company (personal and social aspects) should be part of the self-evaluation. Self-evaluation on a regular time basis helps the learner to follow the development of the training progress and to align the training progress to the learner's skills. Generally self-evaluation tends to develop higher autonomy and responsibility of the learner.

4 Enhancement of self-evaluation in the training progress

In 2 it was stated that only 10% of the training companies use self-evaluation tools actively. Prejudices and impediments should be scrutinized and practical solutions should be approached.

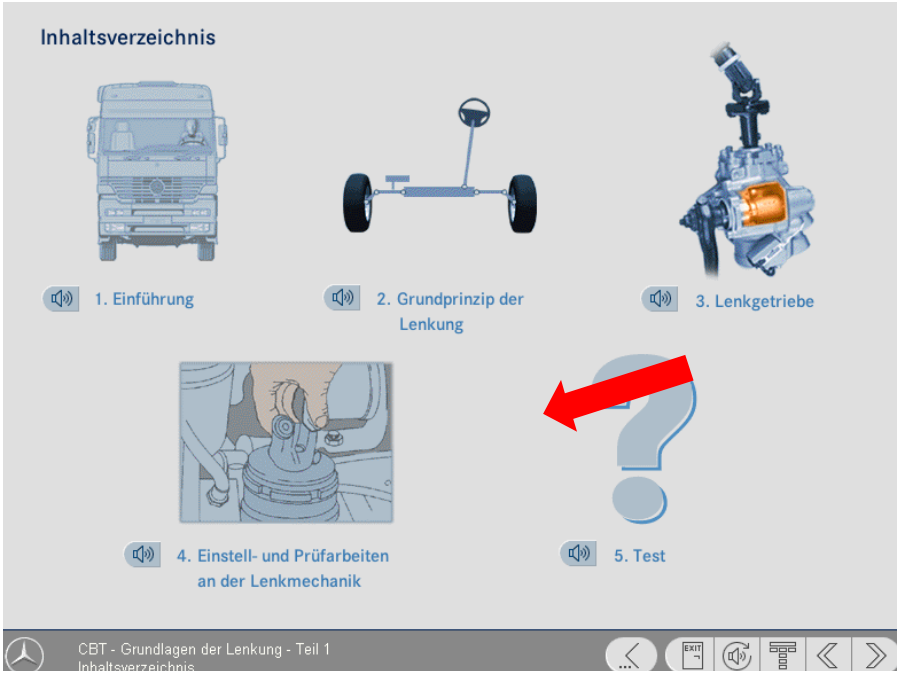
It is important to show the added value of regular self-evaluation to those companies that do not use self-evaluation tools at the moment.

For German companies in automotive trade there is a wide range of self-evaluation tools, both electronically and manually. Some of the practice-oriented versions are described or can be found attached. The self-evaluation tools should play a more important role in the training progress. To get there the training companies, the vocational schools, the vocational training advisors, and the vehicle guilds need to cooperate more than before.

5 Introduction of self-evaluation tools in automotive trades

5.1 Computer Based Training (CBT)

In IO_2 CBT was already introduced (shortly). Additionally, the imparting of vocational skills CBT contains a self-evaluation test. The imparting of vocational skills uses computer based self-learning software. In a step-by-step system the learner is guided through different lessons. It starts with an introduction, then goes to explanations and ends with a test to determine the learner's knowledge.

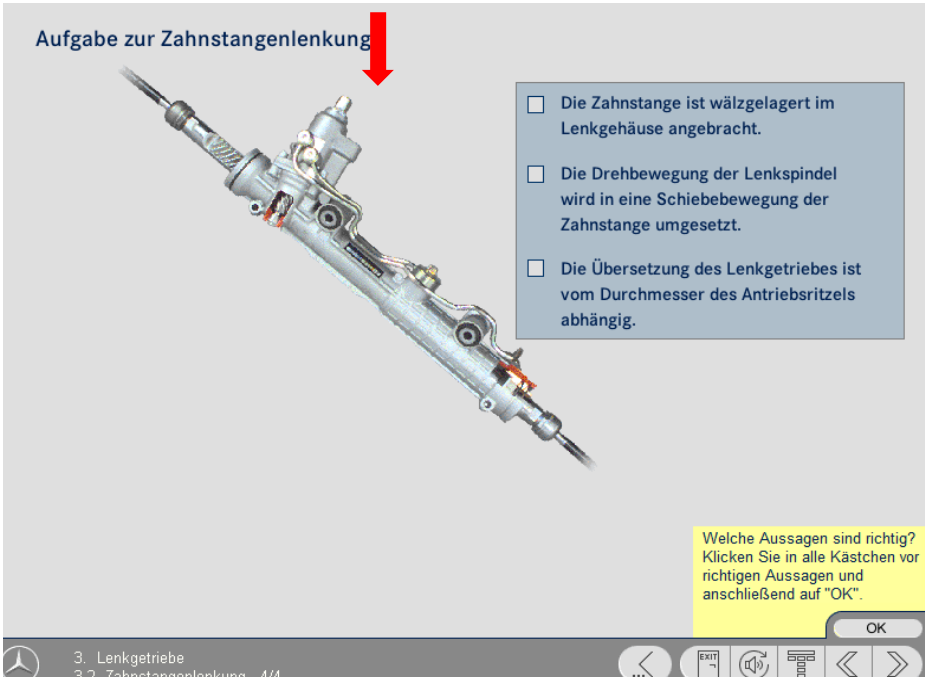


picture: CBT starting screen, score DaimlerChrysler AG

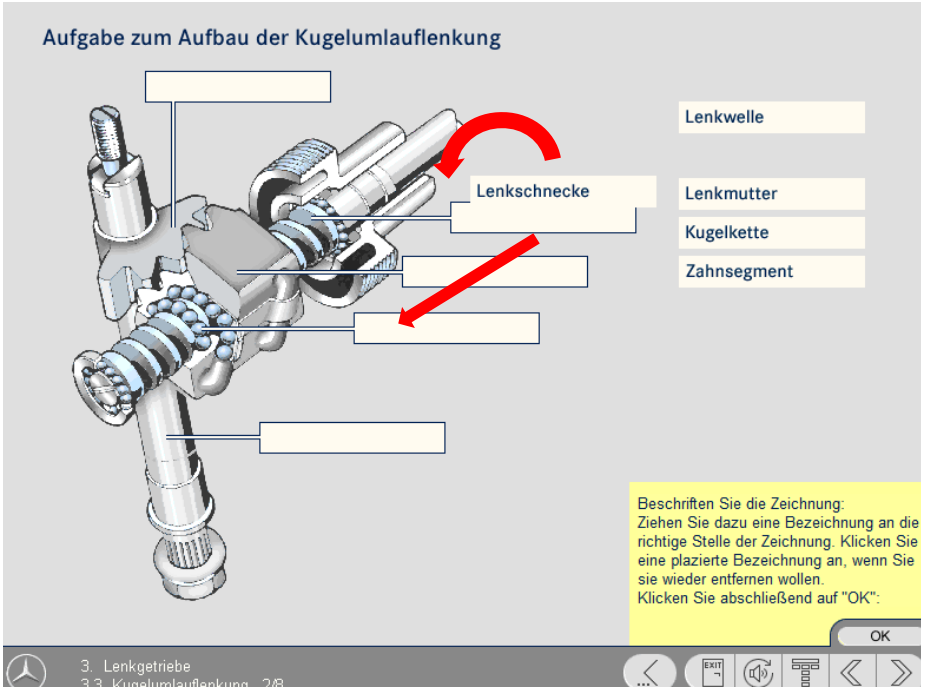
This software can be used to train basic knowledge in certain topics (e.g. engine parts, brake, gear box, steering, etc.) in the training company. The trainer checks the state of the learner's knowledge by looking at the self-evaluation test. There are different options for testing in the software:

a) tick the right answer

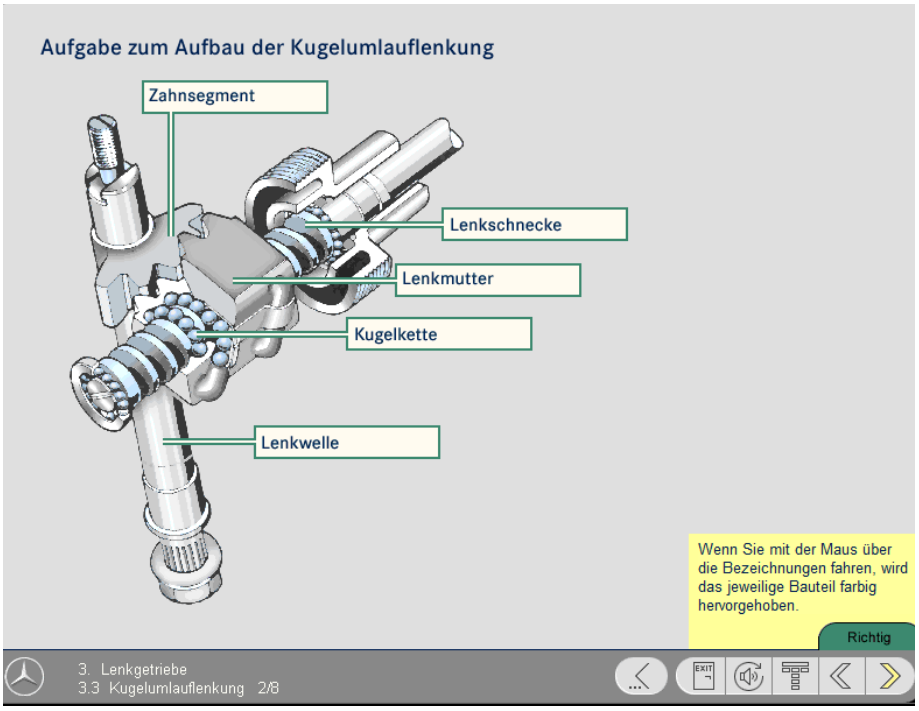
b) drag the right word



picture: CBT, tick the right answer, score DaimlerChrysler AG



picture: CBT, drag the right word, score DaimlerChrysler AG



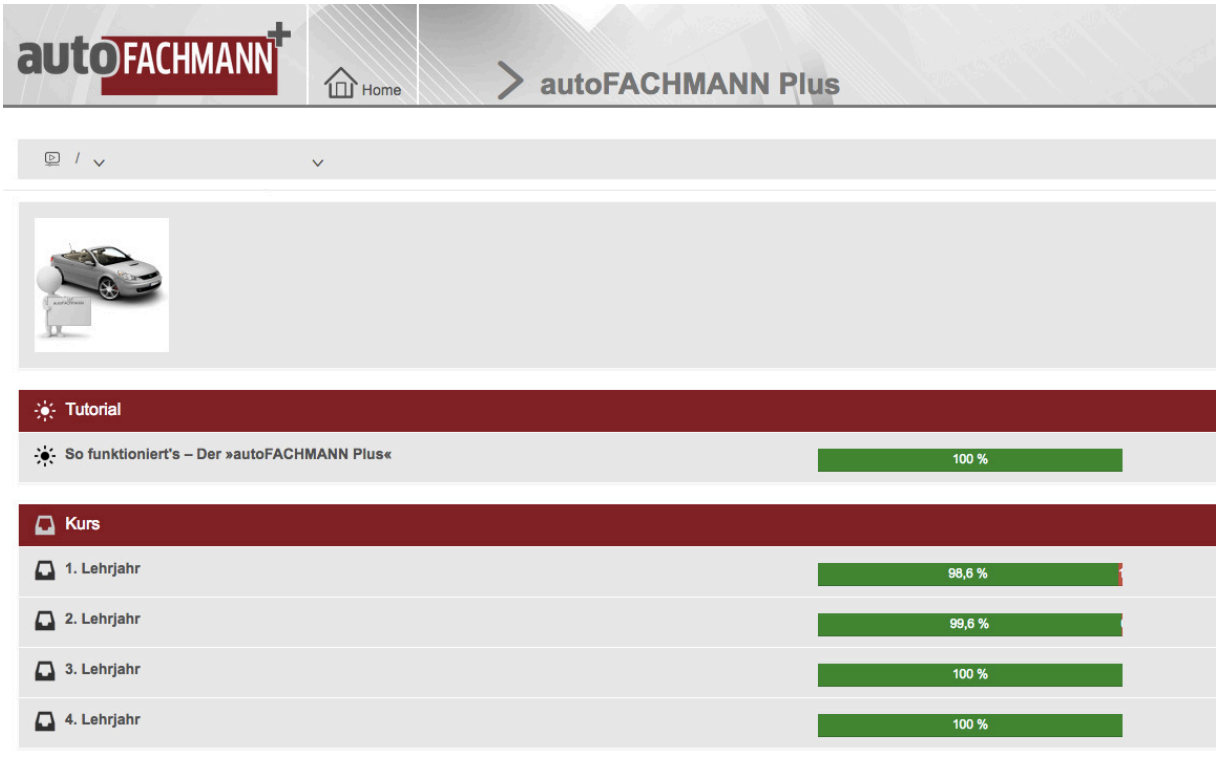
picture: CBT, drag the right word (score: green for right), score DaimlerChrysler AG

At the end the test will be analysed. This helps the learner to self-evaluate the answered questions. The results can be stored with a username on the HDD of the computer. The right answers are also stored. The trainer has access to the score. So the trainer can survey the training and self-evaluation progress and can intervene as necessary.

picture: CBT, self-evaluation; score DaimlerChrysler AG

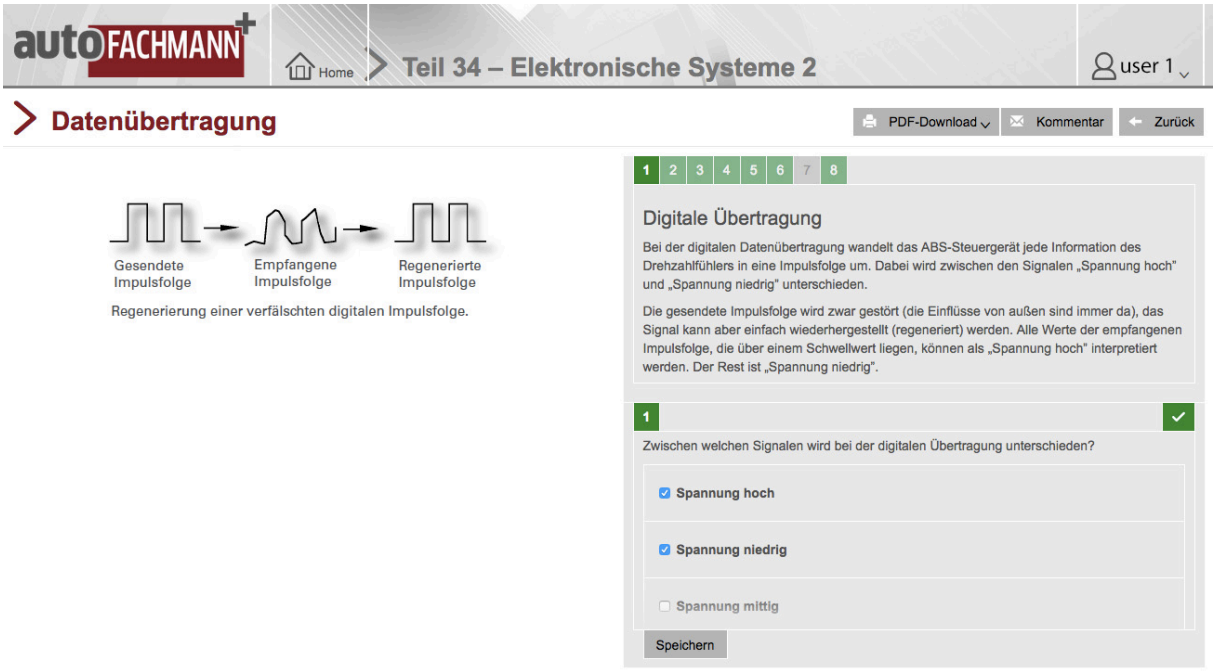
5.2 autoFACHMANN+

The internet based version of the autoFACHMANN+ enables the learner to learn using his own ability and knowledge. There are different levels of difficulty depending on the training year. (picture 1)

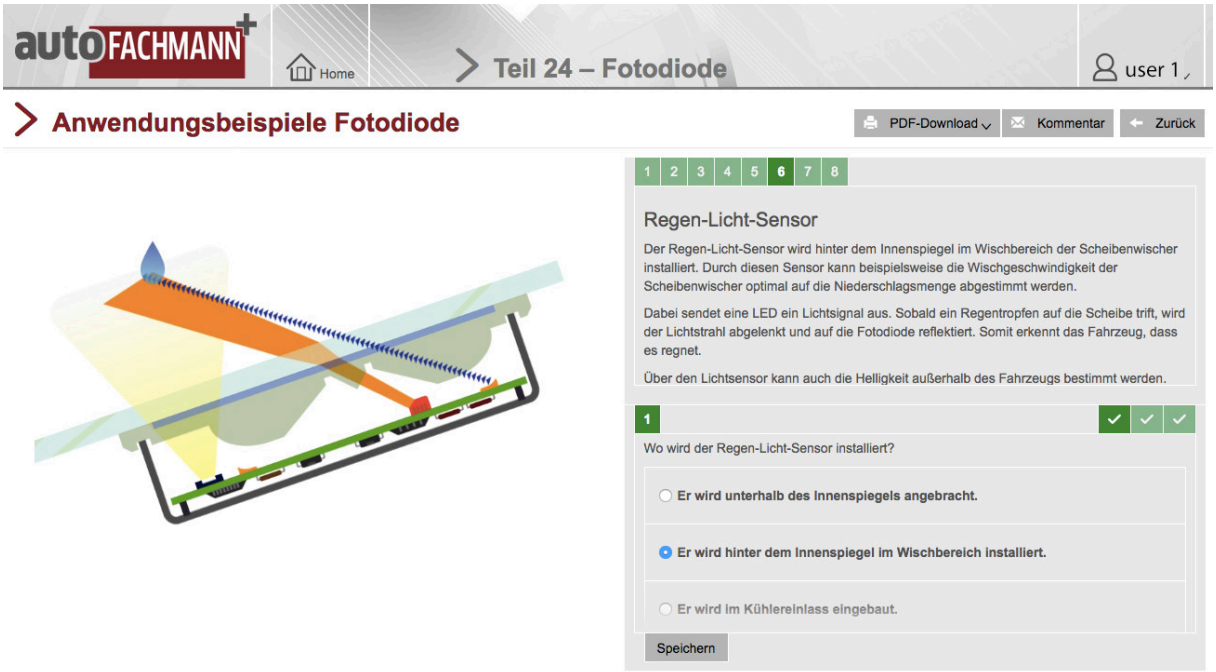


picture: autoFACHMANN+, levels, source: Vogel Business Media

According to the learner's interests or needs the learner can choose between learning new content or testing knowledge. In doing so the learner finds basic knowledge (picture 2) or special issues and subjects (picture 3).



picture: autoFACHMANN+, basic knowledge, source: Vogel Business Media



picture: autoFACHMANN+, special content, source: Vogel Business Media

6 Self-evaluation forms

Name:
Training:
Company:
Start of apprenticeship:

Rating scale: 1 = particularly/very positive 5 = particularly negative/not at all	very good	good	adequate	enough	faultily	evaluation – Please do not fill in.
	1	2	3	4	5	
A) Questions about practical education						
1. I am satisfied with my choice of training.						
2. I understand the explanations of the trainer.						
3. I can work after independently an instruction.						
4. I can discover my mistakes by myself.						
5. I can work in the demanded rate of working.						
6. I have talent at practical works.						
7. I can mostly finish my begun works.						
8. The quality of my working results is good.						
9. I can use tools safely.						
B) Questions about theoretical education						
10. I like to go to the vocational school.						
11. I go regularly to the vocational school.						
12. I can cope with the demands at vocational school.						
13. I am active in the lessons.						
14. I write the report book according to the demands.						
C) Questions about personal and social manner in the education						
15. I enjoy my work. I work motivated.						
16. I work accurately.						
17. I can concentrate at work.						
18. I am regularly at work.						
19. I am on time at work.						
20. I keep order at my workplace.						
21. I can work persistently.						
22. I am reliable.						
23. I can independently evaluate my work.						
24. I am a good team player and work with others.						
25. I feel fine in a team.						
26. I can handle with criticism.						

Date Signature

picture: Self-evaluation for learners in training project JOBSTARTER, source BZ Bildungszentrum Kassel GmbH

Mercedes-Benz

Training Evaluation

Name	
First name	
Staff number	
Training section	
Training	from to
Department	
Responsible trainer	

Evaluation of the learner by: O trainer
O learner

Date: _____

The following items are graded with marks (1 = very good, 4 = poor).

	1	2	3	4	additional comment
Skills and competences					
work performance					
quality of work					
professional knowledge and skills					
general knowledge					
Methodological competence					
problem-solving skills					
conception of relations					
transfer of knowledge					
Self competence					
autonomy and responsibility					
commitment					
constancy and creativity					
paralanguage and presence					
Social competences					
capacity for teamwork					
communication skills					
ability to take criticism					
behaviour towards superiors					
behaviour towards customers					
Interdisciplinary competences					
timeliness					
reliability					
sense of responsibility					

training targets:
support and assistance:
additional comments:

Signatures

trainer learner parents staff executive

picture: self-evaluation sheet, Auto Scholz AVS Gera

Scotland

Use of alternative Self Evaluation tools in the MV industry

The log books currently used in the MV industry are a means of recording work carried out and are currently used in many differing apprenticeship schemes. Logbooks are often paper based and descriptive. Within the MV industry they may be better described as job sheets, which build into a folder of work evidencing activities, for future verification. The job sheets contain details of what the activity was, what the outcome was and on what date. Assessors are moving towards electronic copies and storage of these documents. Reflective logs are also being introduced, but there is a tendency to consider them (by apprentices), as lengthy, not necessarily reflecting what they have to do as mechanical engineers and just another task in an already busy day.

The problem with paper based and stand alone electronic storage of log books is that the assessor and the trainee often don't have easy and common access to their training provider's servers. Therefore access through a common portal that can be accessed easily by all parties would be a tool that could work very well.
One such application is the skills-profilers application which has been developed by Bluedog training in Australia[17]. Although this is specifically for that training provider, the concept could potentially be adapted and used as a common methodology for managing apprenticeship log entries. In this application photos can also be added, commentary provided as well as assessors comments. There is also another provider of a similar application Bilproffs[18] which is a Swedish based provider.

The following recommendation are made in two main areas:

1 The Tools for Recording

- Although not a cure all, in the process for getting learners to consistently make entries to their log, the use of an App, stands a good opportunity for use as young people are very phone centric. Therefore consideration should be given to the adoption of a concept along the lines of the Bulldog or Bilproffs application.

- The App would have to be suitable to run on all the major mobile platforms.

- It would also have to be suitable as a desk top application, in order that the less mobile desk bound stakeholders are not excluded.

- Cost would have to be considered, to determine viability of its adoption.

[17] https://bluedogtraining.com.au/news/skills-profiler-for-iphone
[18] https://bilproffs.se/yrken/personbilsmekaniker/

• In any adaptions should be considered using the suggestions provided by all stakeholders and their likely usage.

• The software would have to be compatible with those applications in existence

• The method of inputting the data should not be onerous or complex

2 The Techniques

• Self-evaluation is a technique that may not be easily understood and so training in its use would improve the understanding and hopefully adoption.

• The use of matrixes which incorporate the need for a multi-layer understanding of a business should be encouraged, as it gives apprentices scope for understanding the wider business.

This could also encourage apprentices to have an appreciation as to how, they can progress in their chosen progression.
Personal Learning and Thinking Skills Tracking Document IMI

IMI
THE INSTITUTE OF THE MOTOR INDUSTRY

Personal Learning and Thinking Skills.

Candidate Name:.....

Candidate Number:.....

Centre Name:.....

Awarding Organisation:.....

1 - Independent Enquirer		
		Evidence Reference
1.1	identify questions to answer and problems to resolve	
1.2	plan and carry out research, appreciating the consequences of decisions	
1.3	explore issues, events or problems from different perspectives	
1.4	analyse and evaluate information, judging its relevance and value	
1.5	consider the influence of circumstances, beliefs and feelings on events	
1.6	support conclusions, using reasoned arguments and evidence	

2 - Creative Thinker		
		Evidence Reference
2.1	generate ideas and explore possibilities	
2.2	ask questions to extend your thinking	
2.3	connect your own and others' ideas and experiences	
2.4	question your own and others' assumptions	
2.5	try out alternatives or new solutions and follow ideas	
2.6	adapt ideas as circumstances change	

3 - Reflective Learner		
		Evidence Reference
3.1	assess yourself and others, identifying opportunities and achievements	
3.2	set goals with success criteria for their development and work	
3.3	review progress, acting on the outcomes	
3.4	invite feedback and deal positively with praise, setbacks and criticism	
3.5	evaluate experiences and learning to inform future progress	
3.6	communicate your learning in relevant ways for different audiences	

picture: self-evaluation sheet, http://www.theimi.org.uk

4 - Team Worker		
		Evidence Reference
4.1	4.1 collaborate with others to work towards common goals	
4.2	reach agreements, managing discussions to achieve results	
4.3	adapt behaviour to suit different roles and situations	
4.4	show fairness and consideration to others	
4.5	take responsibility, showing confidence in yourself and your contribution	
4.6	provide constructive support and feedback to others	

5 - Self Manager		
		Evidence Reference
5.1	seek out challenges or new responsibilities and show flexibility when priorities	
5.2	work towards goals, showing initiative, commitment and perseverance	
5.3	organise time and resources, prioritising actions	
5.4	anticipate, take and manage risks	
5.5	deal with competing pressures, including personal and work-related demands	
5.6	respond positively to change, seeking advice and support when needed	

6 - Effective Participator		
		Evidence Reference
6.1	discuss issues of concern, seeking resolution where needed	
6.2	present a persuasive case for action	
6.3	propose practical ways forward, breaking these down into manageable steps	
6.4	identify improvements that would benefit others as well as yourself	
6.5	try to influence others, negotiating and balancing diverse views to reach workable solutions	
6.6	act as an advocate for views and beliefs that may differ from your own	

picture: self-evaluation sheet, http://www.theimi.org.uk

Sweden

In Sweden colleges have great freedom to choose assessment tools for work-based learning in the vehicle business. Mostly they use a simple college-made paper form for learners to fill out like a diary used for work-reports and do not normally include any questions for self-evaluation that is useful for the learning development in work-based learning. Like Scotland they may be better described as job sheets. The lecturers use them as work evidencing activities for assessment of the learner's skills and knowledge obtained during learning in a work shop. The job sheet specifies jobs performed for example service, brakes, wheel changes and settings etc. The trend is a shift towards electronic copies and storage of these documents like the Bilproffs app. see appendix.
Nevertheless learner's self-evaluation can be of additional help for assessing the impact of the mentors training of the learner and to create a trusting learning environment. It can in addition also be useful for new and less experienced mentors, as an aid in their efforts to improve the learners' professional development. In order to create a bridge between learners' knowledge and the expected learning outcomes that are in focus during work-based learning, the work-based mentor achieves objectives to know the learners learning abilities, cognition, motivation, power of initiative, ability to put themselves into the new duties and entrepreneurial independence.
The learners self-evaluating questions in the vehicle work-based learning will probably be more useful if the questions are customized to the learning environment of the business when working under commercial conditions and limited time as well. We can for these reasons assume that learner's self-evaluation questions must be short, easy to understand and use, both by the learner, the company manager and mentor.
It can, like in Germany, be beneficial for the management of the company in long term systematically implementation of learning needs analysis and evaluation of the learning outcomes in order to improve learner's employability as well. Learner's self-evaluation can also be a useful complementary tool for lecturers in vehicle VET in the assessment of work-based learning outcomes and the quality of the learning environment in the company.

Finding of best practice

We asked motor vehicle lecturers at 30 colleges[19] about questionnaires for learner's self-evaluation of the learning process and find only questions where the learner's evaluated parts of the learning environment within the company[20] for example "*I have been involved in varied and good work assignments.*". This kind of question is

[19] Consortiums partners in the Erasmus+ mobility project no. 2015-1-SE01-KA102-012037
[20] One questioners were designed for the learners evaluation of the company as learning provider.

addressing the learner's evaluation of the company and not the evaluation of their own learning processes.

Best practice can however be assessed from the questionnaires intended for learner, mentor and lecturer to jointly respond to[21]. When analysing the questions we found following main categories of questions concerning the learner's self-evaluation of competences and skills:

1) Ability of creative thinking e.g. to put themselves into the new tasks and entrepreneurship
2) Ability to work independently and to solve problems
3) Ability to reflect on their own learning
4) Ability to work in a team and to communicate by using a professional language
5) Ability to perform professional work

It is similar to the German samples of self-evaluation when the learner estimates their own "competences and skills, like professional competences, social competences, and methodological competences". We also find that questions asked by IMI in Scotland have similarities to the questions asked of the learners for self-evaluation of competences and skills.

Find examples of questions asked to the vehicle learners related to their own learning development below.

[21] Samples pictures of self-evaluation forms from Nyköpings gymnasium, Wendelsgymansiet and Njudungsgymnasiet.

Learner's self-evaluation question used by Nyköpings gymnasium, Sweden, for work based learning in Vehicle Company

Learners name:			
Company Name:			
Work field / education:			
Start date:			
Assessment items	Good	Very good	Need for improvment
Arbetets kvalitet: Noggrannhet, omsorg i arbetet			
Job quality: accuracy, responsibility at work*			
Arbetstider: Förmåga att passa arbetstider			
Schedule: Ability to keep working hours, to be in time*			
Kreativitet: Förmåga att sätt sig in i nya arbetsuppgifter			
Creativity: Ability to way into new duties*			
Intresse för arbetet			
Interest in work*			
Initiativförmåga: Företagsamhet, självständighet			
Initiative: Entrepreneurship, independence*			
Samarbetsförmåga			
Interpersonal skills*			
Ordningsam			
Orderly*			
Uppförande			
Conduct*			
Tekniska grundkunskaper			
Basic technical skills*			
Första dagen på arbetsplatsen: Hur blev jag mottagen och presenterad			
First day at work: How I was received and presented			
Arbetets innehåll: Har jag fått delta på varierade och bra arbetsuppgifter			
Work content: I have been involved in varied and good work assignments			
Delaktighet i verkstan: Har jag känt välkommen i verkstadsgänget			
Participation in the workshop: I have felt welcome in the workshop work team			
Stämning: Hur jag upplevde stämningen på arbetsplatsen			
Mood: How I experienced the atmosphere at the workplace			

*Question asked to the mentor and can be enquired to learner as well, Keijo Sipinen, lecture in vehicle, Nyköping

Övriga kommentarer/ Other comments:

picture 1: Nyköpings gymnasium, Vehicle and Transport Programme

Wendesgymnasiet

Vehicle and Transport Programme,
Assesment support of work based learning
(self evaluation in cooperatin with mentor)

Learner:.....

Company:.....

	Mark along the blue		
Ability to perform work that is undertaken.	Learner performs **in consultation** with the mentor and in familiar situations, **simple** tasks.	Learner performs **after consultation** with the mentor and in familiar and some **new** situations duties.	Learner performs after consultation with the mentor and in familiar and new situations **advanced** tasks. Very good
The learner responsibility / be in (hold) time.	Learner takes responsibility for the customer's property and the premises and workshop equipment. It also make learner to achieve planned results. The result of the learners work is **satisfactory**.	Learner takes responsibility for the customer's property and the premises and workshop equipment. It also **helps to maintain cooperation** to achieve planned results. The result of the learner's work is satisfactory.	Learner takes responsibility for the customer's property and the premises and workshop equipment. It also helps to maintain cooperation to achieve planned results. The result of the learner's work is **good**. Very good
Ability to use a professional language.	In communication with other uses the learner with **some** certainty a professional language.		In communication with other uses Learner **certainly** a professional language. Very good
Ability to select and use methods and equipment.	In the work uses learner **some** certainty safety-related practices and relevant equipment and work safely and comply with laws, regulations and quality standards in the work.		In the work learner with **certainty** selecting and using safety-related practices and relevant equipment and work safely and comply with laws, regulations and quality standards in the work. Very good
Ability to assess their own knowledge.	When learner consults with the mentor believes he or she is with **some** certainty in their own ability and the requirements of the situation.		When learner consults with the mentor believes he or she is **certainly** in their own ability and the requirements of the situation. Very good

picture 2: Wendelsgymnasiet, Kristianstad, Vehicle and Transport Programme

Vetlanda kommun

Njudungsgymnasiet

Learners in the second year of vocational education and training in the Vehicle and Transport Programme,. Three parts evaluation (lecture, mentor and learner)

Duties

1. To what extent has the student has had the opportunity to practice the following operations /tasks and theoretical knowledge (mark with X)?

Purpose scheduled to included in the work based learning period/ Car Technology-Introduction	In very High grade	In High grade	In some grade	Not at all
Operating and screening, for example Periodic inspections and service.				
Troubleshooting, maintenance, repair in connection with functional and security .				
Principles of vehicle main components and main systems and how these components and systems interact.				
Working methods, work instructions and Service literature workshop manuals in Swedish and English, including information stored in computing environment.				

Assessment of student achievement (mark with X)

Njudungsgymnasiet, Norrvägen 6, 574 34 Vetlanda • *Telefon* 0383-975 50 *Fax* 0383-970 08 • njudung@vetlanda.se • *Organisationsnummer* 212000-0571 *Postgiro* 2 52 00-7 • *Bankgiro* 289-7551 • www.vetlanda.se

Quality of the work carried out	In very High grade	In High grade	In some grade	Not at all
To what extent has the student completed their duties in a satisfactory manner?				
Entrepreneurship and initiative	In very High grade	In High grade	In some grade	Not at all
To what extent has the student demonstrated the ability: To understand the new tasks and work independently?				
Interpersonal skills and communication	In very High grade	In High grade	In some grade	Not at all
To what extent has the student demonstrated the ability to collaborate and communicate to solve tasks and problems?				
Problem solving	In very High grade	In High grade	In some grade	Not at all
To what extent has the learner demonstrated the ability to solve problems and take responsibility?				
Learning skill	In very High grade	In High grade	In some grade	Not at all
To what extent has demonstrated the ability ot the learner: To take responsibility for their own learning?				

Comments:

picture 3: Njudungsgymnasiet, Vetlanda, Vehicle and Transport Programme

3 Suggestions for the use of self-evaluation tools

3.1 Use of different types of questions

It is important for self-evaluation to use purposeful and eligible questioning techniques. A central aspect is the carefully-worded question. It is all about getting meaningful information about the acquired knowledge. Feedback on the developed skills and social competences is also important. As part of the evaluation new objectives for the next training period can be set.
A general rule is that there is no single discrete question in a self-evaluation test. Only a combination of different structured questions can produce a reliable result. Ideally mentor and learner should establish an important dialogue.

3.2 Advantages and disadvantages of different types of questions

3.2.1 Polar questions

Polar questions are often used to transfer knowledge and skills. But this type of question reads little into the actual skills.
Example: *Did you understand that? Yes / No.*

3.2.2 Single and multiple choice questions

Single and multiple choice questions let the learner choose from different options. There is one (single) or more than one (multiple) possible answers. This type of question allows a quick and easy interpretation, however the results can mislead. By the method of elimination or by the method of guessing the learner may find correct answers. In the vocational training this technique is only used in combination with open questions. For self-evaluation tests this type is rarely used.

3.2.3 Descriptive questions

Descriptive questions help the mentor to find out whether the learner can state and demonstrate his/her new knowledge about technical items, e.g. the enumeration of facts. This type of question enables the mentor to draw conclusions about the learner's actual knowledge. It is a regular feature in reflecting the learning progress.
Example: *Describe the construction and function of a diesel engine.*

3.2.4 Explanatory questions

Explanatory questions ask the learner for broad and detailed answers. Especially the technical cohesions and connections can be shown, substantiated, and concluded with this type of question. This type of question is often used in the second half of the vocational training and is very important for showing the actual knowledge of the learner. Using explanatory questions helps to develop reasoning and communicative skills.
Example: *Explain why the defect cannot be fixed only by replacing this component.*

The learner needs all of his/her complex knowledge about the component, the involved units, and the connected ramifications.

3.2.5 Reflective questions

Reflective questions help to avoid misunderstandings by taking up comments and statements of the colloquist. The enquirer already knows that there can be uncertainty in solving the demanding task. This type of question helps to eliminate deficits in the learning progress and is often used in combination with explanatory questions.

Example: *Do you have in mind that this is a diesel engine?*

This type of question helps the learner to reflect his/her method in professionally solving the problem and if there are possibly other attempts due to the fact of the diesel engine.

Type of question	Pros	Cons
Closed questions (3.2.1, 3.2.2)	– ask for tangible facts and issues – can structure a conversation – little time for preparation needed – prompted decisions – complex issues can be simplified – easy and fast evaluation, even automated – impartial evaluation (right/wrong)	– constricted answers – no further information – can put pressure on interlocutor – right answer can be guessed – can lead to wrong conclusions
Open questions (3.2.3, 3.2.4, 3.2.5)	– plenty of information gathered – variation of possible answers – range of ratings – cohesion and logical thinking can be monitored	– interviewee is not lead and can swerve – more time required – interviewer has to screen the answers – subjective grading

3.3 Use of different types of questions depending on the training progress

Throughout the training progress different types of questions should be used depending on the individual vocational training level of the learner.

At the beginning of the training progress the acquisition of factual knowledge is more important. Therefore at the beginning the closed questions are used more often

because closed questions ask for factual knowledge (e.g. use of technical terms, use of formulas). The longer the training progress the more the acquisition of know-how and professional knowledge is in focus. Open questions ask for that professional knowledge. Furthermore the social (soft) skills of the learner are trained. Especially in the service sector it is necessary to appear friendly and professionally competent. These aspects can be trained notably by the use of open questions. The training companies utilise different types of questions intuitively and situation-related. It is important to sensitize the trainers to the different aspects and options of the types of questions with all their pros and cons.

Recommendations

The analyses of national findings in Germany, Scotland and Sweden in this report show that it is not possible to carry out self-evaluation in a multi-country common way for formal assessment of knowledge, skills and competences. In Scotland there are regulations to use the standards provided by for example, IMI and The Scottish Qualification Authority. The dual system in Germany and the Swedish vocational education and training model have nationally regulated assessment of learning outcomes as well. Based on result from the analyses the recommendation will focus on self-evaluation tools useful for companies by outlining the experiences some of the training companies had made recently. The company mentors can learn and get inspiration in how to design questions for their own learner's self-evaluation and to be integrated in reflective logs. Examples of self-evaluation tools can be found in this report. Our examples can provide the company mentors with knowledge about learner's self-evaluation in Germany, Scotland and Sweden. They can also use the examples for improvements of work-based learning methods. The report shows that about ten percent of the training companies in East Thuringia have used self-evaluation methods to consider and to improve the training progress. These companies attest that the learners could enhance their skills more quickly compared to those who do not use the self-evaluation tools. About thirty minutes up to one hour would be necessary for self-evaluation. The companies also recommend to be very honest in the tests and to show the actual progress, even if the progress was slower than expected or not as successful as thought. Especially the failures can bear a chance to find new (or other) ways how a certain subject should be taught and studied. Also important is to consider both experiences those of the learner and those of the mentor. The experiences and results of the tests should help to aim on new targets. The self-evaluation can play an important role in the quality management system of the company.

Resources

Germany

Printed publications

- Gute Ausbildung – Guidelines, December 2014, working group of HWK´s in Thuringia, Erfurt
- Planning of in-company training, Federal Employment Agency, Nuremberg, Germany
- Toolbox companies, VW Academy, Kassel, Germany
- Guideline for mentors in skilled crafts training companies, West Germans Handwerkskammertag, Düsseldorf, Germany
- Erfolgreich ausbilden!, Landesgewerbeförderstelle des nordrhein-westfälischen Handwerks, Düsseldorf, Germany
- Ausbilden mit Lern- und Arbeitsaufgaben, Guidline and practice for in-company training, author: Nicolas Schöpf (2005), book band 11 editor: H. Loebe and E. Severing publisher´s: W. Bertelsmann, Bielefeld, Germany
- Self-evaluation sheet for learners, AUTO-SCHOLZ-AVS GmbH & Co. KG, Gera, Germany
- Self-evaluation sheet for learners; BZ Bildungszentrum Kassel GmbH, Kassel, Germany

Digital publications

- Autofachmann+, Vogel Business Media GmbH & Co. KG, Würzburg, Germany
- Computer based learning software(CBL) Mercedes Benz AG, Stuttgart, Germany

Interviews

- Ms Katja König, department manager vocational training HWK f. Ostthüringen, Gera, Germany
- Ms Andrea Friedewald, staff department further education HWK f. Ostthüringen, Gera, Germany
- Ms Regina Zingel, personnel manager, AUTO-SCHOLZ-AVS GmbH & Co. KG, Gera, Germany
- Mr Sven Böttcher, service manager AFA Gera-Nord GmbH, Gera, Germany
- Mr Thomas Fietsch, service manager RENAULT Autohaus Walter GmbH, Gera, Germany
- Mr Hans-Peter Haupt, owner Ford Autohaus Haupt, Großebersdorf, Germany
- Mr Stefan Haase, CEO vehicle guild of East Thuringia, Gera, Germany
- Mr Ulf Teichmann, service manager truck, AUTO-SCHOLZ-AVS GmbH & Co. KG, Gera, Germany
- Mr Rolf Nigbur, service manager passenger cars, AUTO-SCHOLZ-AVS GmbH & Co. KG, Gera, Germany
- Mr John Helmuth, branch manager, Knoll GmbH Bosch Car Service, Gera, Germany

- Mr Volkmar Wiemann, branch manager, Fahrzeugbau Popp GmbH, Gera, Germany
- Mr Joachim Groneberg, branch manager, Swecon Baumaschinen GmbH, Seelingstädt, Germany
- Mr. Jens Möller, branch manager, Scania Gera GmbH, Gera, Germany
- Mr Rolf Fischer, CEO Autohaus Fischer GmbH, Jena, Germany
- Mr Jürgen Franke, CEO Autohaus Rinnetal GmbH, Rudolstadt, Germany
- Mr Maurice Anton, workshop manager, Automobile Exner GmbH, Gera, Germany
- Mr Frank Mühlbauer, CEO Autohaus am Südbahnhof GmbH & Co. KG, Gera, Germany
- Mr. Thomas Kille, Mr. Rayk Polowy, Mr Mirko Wenschuh, trainer in VTC HWK Gera-Aga

Scotland

Digital publications

- http://www.semap.co.uk/resources/Systems%20Engineering%20Masters%20Assessment%20Plan%20-%20v1%20FINAL.pdf
- http://www.semap.co.uk/resources/Competency%20Self%20Assessment.xls
- http://sydney.edu.au/education_social_work/groupwork/docs/SelfPeerAssessment.pdf
- http://dera.ioe.ac.uk/4104/1/self-assessment-and-development-planning.pdf
- http://www.hr.virginia.edu/uploads/documents/media/Conducting_a_Self_Evaluation.pdf
- http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/StudentSelfAssessment.pdf
- http://www.nfer.ac.uk/what-we-offer/getting-to-grips-with-assessment-primary/sut04.pdf
- http://www.waikato.ac.nz/tdu/pdf/booklets/9_SelfPeerAssessment.pdf
- http://www.educationscotland.gov.uk/Images/Assessment%20for%20Learning%20version%202vp_tcm4-385008.pdf
- https://www.griffith.edu.au/__data/assets/pdf_file/0016/142108/GuidePeerSelfAssessment-Long.pdf
- http://files.eric.ed.gov/fulltext/EJ815370.pdf
- https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/417468/Ensuring_quality_in_apprenticeships.pdf
- https://www.jisc.ac.uk/guides/transforming-assessment-and-feedback/work-based-assessment
- http://www.educationscotland.gov.uk/professionallearning/clpl/selfevaluation.asp
- http://www.educationscotland.gov.uk/resources/p/professionaldevelopmentpacks/genericresource_tcm4642418.asp
- http://eu.trainerguide.eu/9-assessment-evaluation/b-preparations-self-evaluations-and-self-tests.aspx
- http://www2.warwick.ac.uk/services/ldc/resource/evaluation/tools/selfevaluation

- http://www.esdc.gc.ca/en/essential_skills/tools/es_self_assessment_trades.page
- https://www.nde-ed.org/TeachingResources/ClassroomTips/Self-evaluation.htm
- http://www.assessmentforlearning.edu.au/professional_learning/student_self-assessment/student_strategies_enhance.html
- http://www.studentsatthecenter.org/resources/student-centered-assessment-resources
- https://ebridge.hull.ac.uk/access/content/group/cmpst_00676/2.9_docs/eguides/peer.html
- http://ar.cetl.hku.hk/self_peer.htm
- http://www.collinsdictionary.com/dictionary/english/self-evaluation

Company Web Sites
- https://bilproffs.se/yrken/personbilsmekaniker/
- https://bluedogtraining.com.au/news/skills-profiler-for-iphone
- http://www.baesystems.com
- http://www.cobham.com/
- http://www.generaldynamics.uk.com/
- http://www.leonardocompany.com/en
- http://www.mbda-systems.com/
- https://www.gov.uk/government/organisations/defence-equipment-and-support
- https://www.gov.uk/government/organisations/defence-science-and-technology-laboratory
- http://www.raytheon.co.uk/
- http://www.rolls-royce.com/
- https://www.thalesgroup.com/en

Interviews
- Jim Stein, Martin Mackenzie, Derek Young, Lecturer/Assessors Automotive Engineering
- Stephen Ayton, Curriculum Manager, Mechanical and Automotive Engineering, Fife College Stenton

Sweden

Printed publications
- Self-evaluation forms from *Nyköpings gymnasium, Vehicle and Transport Programme*
- Self-evaluation forms from *Wendelsgymnasiet, Kristianstad, Vehicle and Transport Programme*
- Self-evaluation forms from *Njudungsgymnasiet, Vetlanda, Vehicle and Transport Programme*

Digital publications
- Bedömning i yrkesämnen – dilemma och möjligheter, Skolverket, 2011, p 24
- Formativ bedömning – en översikt, Skolverket,

- *Bilproffs app,* https://bilproffs.se/yrken/personbilsmekaniker/

Interviews

- Kiejo Sippenen, vehicle lecture, Nyköpings gymnasium, Nyköping, Sweden
- Christian Embring, vehicle lecture, Värmdö tekniska gymnasium, Värmdö, Sweden
- Emil Bergdahl, vehicle lecture, Njudungsgymnasiet, vetlanda, Sweden
- Mikael Karlsson, vice principal FT-prorgammet, Erikslundsgymnasiet, Borlänge, Sweden
- Roger Bäckman, vehicle lecture, Alleskolan, Hallsberg, Sweden
- Joakim Shalin, Headmaster, FT-programmet, Wendelgymnasiet, Kristianstad, Sweden
- Victoria Lagh, vice principal FT-programmet, Skärgårdsgymnasiet, Åkersberga, Sweden
- Claesson Jonas, vehicle lecture, Tingholmsgymnasiet, Ulricehamn, Sweden
- Jimmy Lindberg, vehicle lecture, Erikslundsgymnasiet, Borlänge, Sweden
- Lars Eriksson, vehicle lecture, Yrkesgymnasiet, Gävle, Sweden
- Seved Andersson, vehicle lecture, Högbergsskolan, Tierp, Sweden
- Lars Svensson, vehicle lecture, Malmö, Sweden