

Developing a model path for Industry Placement of Skilled Talent

(Technician with Collaboration of Enterprise and Higher Vocational Education, In Systematic Methods)

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ABSTRACT

The Enterprise linkage between the industry skill technician and the TVET teacher to develop a training plan is essentially based on the following cornerstones in the enterprise and college plan, organize the training in joint agreement, industry, and school together plan the teaching of practical and theoretical content. The amount of time required providing practical instruction in the company and theory instruction in the college will be determined before the start of training. The proportion of time spent on practical training in the company should be approx. 70% and that spent on theory in the school approx. 30%. To do this, it is first necessary to determine the annual working time (12 months). The determination can be a Calculation of annual working hours in industry, the working hours were calculated for 1 year or 12 months. The calculation is based on 8 working hours per day from Monday to Friday and 4 working hours on Saturday. Thus, 44 hours are worked per week. Since the year has 52 weeks, this results in 2288 working hours in 12 months. Subtract from this the 14 days of Public Holidays and the 20 Leave days. This results in several working hours in 2021/2022 for one year. If you want to carry out education other than 12 months, only need to modify the value in the adjacent column in (annex sheet) determining the total working time available for 12 month's any occupation duration in TVET qualification and automatically receive the data for 14,9or8 months of training. In this model advanced leather goods production Level III is calculated with 9 months, so both columns show the value of 945 total allocated hours to accomplish the course in the theoretical lesson and practical session. As we have calculated with teaching hours in our allocation of times for theory lessons, the teaching hours (45 minutes) must now be converted to working hours (60 minutes). Only then can we total the working hours in the company and the teaching hours in the school and determine the time shares of practice and theory according to percentages with percentages of 62/38, the target ratio for cooperative training of 70/30 is well achieved. Before we implement this concretely, however, still have to determine in which organizational form the training should be carried out.

Keywords: - TVET, College, Training Plan, talent, Industry Linkage

1. INTRODUCTION

Intellectuals, students and companies across the world approve that the factory floor is the most dependable learning environment to pull a highly talented technicians a proficient labor force. The factory floor delivers a framework for apprentices to renovate and paradigm vocationally and on a social basis meaningful acquaintance and skills. Teaching providers and industries, through employers, form enterprises to bargain to be found erudition chances in the factory floor so that Trainees have right of entry to dependable practices that only the factory floor can agreement. Enterprises attachments have long been Putative as a fundamental part of training for trainees and are well organized and synchronized. Although industry attachment for teachers and trainers is equally important, it has not expected parallel attention, consistency or harmonization at the policy or organizational levels.

This chapter begins with an overview of training arrangements of modern countries TVET policy for Technical Vocational Education and Training (TVET) practitioners followed by a discussion on the significance of industrial attachment for them.

Brief descriptions of industrial attachment models for TVET practitioners in selected subject are presented that a fundamental guide for multi disciplines especially Eastern Africa TVET programs like Ethiopia, Tanzania, Somali Land. Key issues are drawn from an analysis of these models. The chapter concludes with considerations for planning and arranging industrial attachment to update or maintain TVET practitioners' currency of industry changes, knowledge and skills. There are three types of models that represent TVET training globally: the British Liberal Free Market Model, A French-led bureaucratic model, and a German binary model. In the UK, the provision of free-market model TVET training depends on the needs of the free market industry, and is known as a voluntary model because the industry and private companies voluntarily cover the costs of the trainees. Vocational qualifications are determined by industry sector skills councils. Although the industry and private companies cover the cost of the trainees, the government subsidizes research at the expense of at-risk trainees and industry skills needs. As a result, some professions may be left out of the list (USAID, 2014). The bureaucratic model of government training is seen as part of the education system, and it is the responsibility of the countries' education system to determine the type of tertiary training provided, to provide the training, and fully cover the cost. The biggest gap in this model is the inability to provide hands-on training that is fully theoretical and qualified for the workplace (USAID, 2014). The design, preparation, and implementation of the German binary model TVET training is coordinated by various trade unions and state agencies, and organizations. In this model, there will be strong public-private partnerships, with the industry covering the cost of apprenticeship training and the government paying for the training of TVET institutions. It is a failure (USAID, 2014). Of the three different models, binary model trainees are allowed to acquire theoretical knowledge from TVET institutions and put this knowledge into practice in the industry, making it an ideal model for combining theory and practice. The Industry linkage system (IL) in the context of many countries and some parts developing countries also follow from one of the entire model, a training system for industrial and commercial vocational training. The industry and school-based training are based on an Occupational Standard (OS), which is developed by the industry and the respective vocational training institutions in cooperation with the responsible Ministry of Education. In this system, the industries/companies and the TVET institutions together share the accountability for the best possible occupational requirement of the trainees. The word "Industry linkage" refers to the two parties in the training. The term "system" means that the two parties providing training do not work independently of each other, but coordinate their work.

The guiding principle is that all parties involved, i.e. the companies, the trainees, and the TVET institutions, have a direct and lasting benefit. Within the framework of cooperative TVET programs, theoretical instruction usually takes place in a TVET college and practical training in the industry/enterprise. Theoretical instruction should comprise about 30% of the time and practical training in companies about 70%. If special vocational knowledge and skills cannot be trained in the industry/enterprise, there is also the possibility that e.g. Trainees learn special techniques in a partner company for a certain period or do a course during the training at special training providers or also the TVET College. The current Industry linkage model in many countries adopt dual system approach and other concise policies with their countries the TVET is the institutional attachment training model, where the training and qualification process of the trainees is led and managed by TVET institutions. The TVET strategy specifies that TVET training should take the form of Industry attachment, which requires two locations for training: Enterprises for the more practical on-the-job training and TVET institutions for the more theoretical orientation. Industry linkage training is considered to be one of the most efficient TVET models, as companies are significantly involved in the training, their interest in having well-trained skilled workers is usually high, and the costs for the training are relatively manageable due to the trainees' work performance. In corresponding cost-performance studies in various occupations in different countries, it was found that in many occupations a positive cost balance for the company is indeed achieved. Particularly in technically demanding occupations (e.g. mechatronics technician, etc.) with high theoretical training components, additional costs arise.

2. METHODOLOGY

The base of any qualification depends on the development of occupational standard (OS) that laid on present labour markets needs and flexible approach training mode and occupational standard describes what is to be taught, which performance criteria are to be met, which framework conditions are to be observed and which assessment tools are to be used. It should be noted that despite the detailed descriptions in the OS, professional experience is always required to provide appropriate theoretical instruction or practical training according to the current state of the art. In the occupational standard (OS), the usual technical terms of the occupational field are used, so very good specialist knowledge and practical professional experience are necessary to use the occupational standard (OS) correctly in training. Again and again, the question arises in training "How do I convey the content to my trainees in the most profitable way?" To answer this question correctly, depending on the task, knowledge of training methods is required. Since there are many different methods, it would go beyond the scope of this model package to list and describe them all. When choosing a method, a trainer have to consider several criteria: Learning target, performance level, number of trainees, premises, training material, time, action orientation, and of course your role during the method the following most of model training method has been imposed

1. Model of the complete action

How does the complete action model work? Action-oriented learning or training implies that vocational action is to be learned by trainees by means of practical experience. Vocational action competence is acquired through the ability to independently plan, carry out and control work activities of the training occupation. This ability distinguishes skilled work from semi-skilled work.

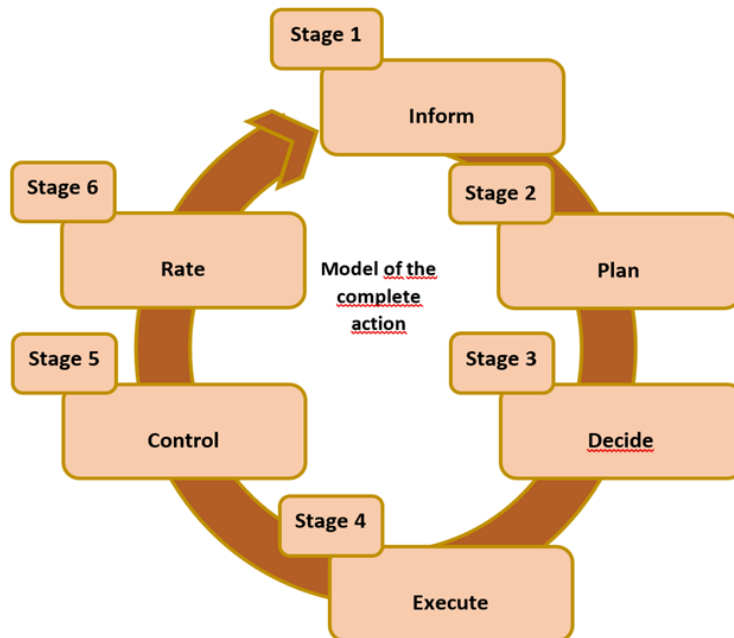


Figure-1-complete action model

Stage 1 - Inform

The trainees are introduced to the topic by the trainer and are given a complex work task. In order to solve the task, the trainees must first obtain an overview and independently procure the necessary information to complete the task. The procurement of information is part of the task and should be done as independently as possible. The trainer only sets the framework conditions.

Stage 2 - Planning

The trainees create different work processes to solve the learning or work task. This defines the work steps, tools, materials, time requirements and distribution of work in teamwork. Finally, the trainees evaluate the different alternatives. Work task.

Stage 3 - Deciding

Based on the planning, the trainees make a decision on the selected alternative solution. The concept is presented to the trainer. The trainer clarifies open questions and gives suggestions for improvement if necessary.

Stage 4 - Execute

The trainees carry out the steps worked out in the work planning independently. If this is done in a team, good cooperation must be ensured. The trainer is available as a contact person on request.

Stage 5 – Checking/Control

The trainees self-critically check the completion of the learning or work task (target-performance comparison).

Stage 6 – Evaluate/Rate

The trainees evaluate the result of the learning or work task and present the result to the trainer. The aim is that the trainees learn to reflect on their actions and explain what should be done

Four-step method

With the four-step method, knowledge is imparted and checked within four steps. Characteristic of this is that the trainer guides his trainee and demonstrates and explains an activity to him.

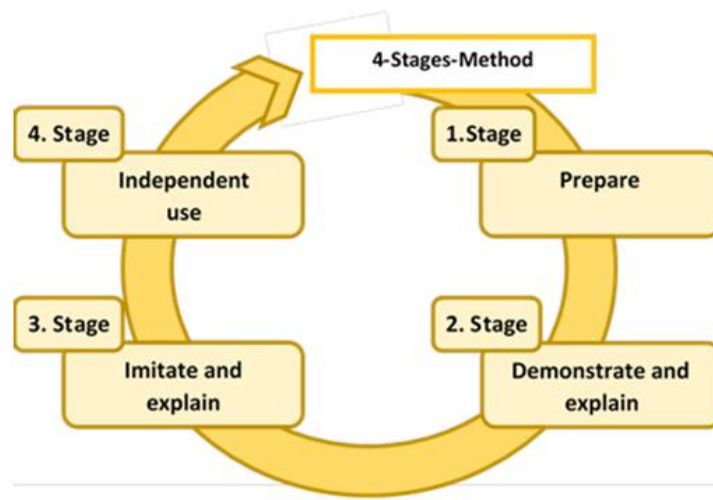


Figure -2-four step model

Since the 4-step model is still frequently used in practice, the 4 steps are described here in a little more detail.

Stage 1 – Prepare

The trainer determines the learning objective, content, sequence and time for the training session. In particular, always include the applicable health and safety regulations in your planning. The required work equipment such as tools, materials, work clothes etc. must be made available. Before the start, roughly explain the task to the trainees. Sometimes it is also good to start with a short repetition of what is already known, to see what is still remembered and then to move on to something new by drawing on previous experience. In this stage, the trainee listens to the trainer's explanations or answers the trainer's questions.

Stage 2 - Demonstrate and explain

At this stage the trainer carries out the task. Explain and justify what needs to be done, how it needs to be done and why. Furthermore, give hints and explanations on how the learner has to behave. Encourage the trainee to observe and listen carefully. Give the trainees the opportunity to ask questions. At this stage, you can also give the trainees material or work equipment to examine. Make sure that the trainees can see their hand movements well and carry out your hand movements correctly. Always remember that the trainees

Stage 3 - Imitate and explain

In this stage, to ask the trainees to copy the step(s) themselves and to give explanations for the individual operations based on the explanations of the individual actions, so as the trainer can see whether the "what", "how" and "why" have been understood by the trainee. Please remember: that praise when the work steps are carried out correctly, intervene when there is danger and correct the misbehaviour or ask control questions. Incorrect hand movements of the trainee should be corrected immediately so that correct execution of the work is learned from the beginning. Depending on the need, the procedure can be repeated several times.

Stage 4 - Apply independently

In the 4th stage, what has been learned is to be applied independently, i.e. the trainer gives the trainee exercises to consolidate what has been learned. The trainee works independently by carrying out the exercises and checking the results. As a trainer, you are available to answer questions. The trainee should independently assess his or her work. The better this succeeds, the higher the increasing professional independence. The trainer checks the result, confirms the trainee's assessment, praises or corrects the progress made

3. Result and Discussion

In general, practical and theoretical contents are taught in vocational training. Vocational training can be carried out solely by a college or a special training Institution if, for example, no suitable training companies are available as cooperation partners and the educational institution has the appropriate technical equipment for vocational training. In principle, however, the aim is to carry out vocational training not only at a college, but always also with company cooperation partners. The aim is for the students to establish contact with companies during their training and to experience practical work experience in a company during the training period. At the same time, close cooperation between school and company ensures that the training is closely oriented to everyday company practice and does not become too theory-heavy. In companies, and thus also in In-Company training, there are specific company rules on cooperation, working techniques, labour law, etc. The world of work is also a part of in-company training. Getting to know the working world in real life during vocational training and thus experiencing work and social behaviour on a daily basis can only take place in a company. At the same time, close cooperation between In-Company trainers and TVET teachers offers the possibility of continuous professional exchange, so that TVET teachers are also informed, for example, about technical changes in production processes and adapt the theoretical lessons accordingly. Overall, the cooperation is a benefit for the training of young people and ensures that workers are trained who are qualified according to the requirements in the economy and thus have a good chance of finding a job. The cooperation between the In-Company trainer and the TVET teacher to develop a training plan is essentially based on the following cornerstones in industry linkage/enterprise attachment, Company and college plan and organize the training in joint agreement, Company and school together plan the teaching of practical and theoretical content, the amount of time required to provide practical instruction in the company and theory instruction in the college will be determined prior to the start of training and The proportion of time spent on practical training in the company should be approx. 70%, and that spent on theory in the school approx. 30%.

Joint planning can be carried out in the following steps: The OS for Advanced leather Goods production Level III are used as an example document; the procedure can be transferred to all occupational areas.

Steps 1 – Industry and College plan together the working hours for the practical training in the industry and the theory lessons in the college .Basically, the company representatives and the college teachers first have to get an overview of the different modules of Level III Advanced leather Goods production. The aim is to develop an approximate idea of the training time to be planned (theory and practical).

After this overview phase, the detailed work begins, i.e. for each module, training times for practice in the company and teaching times for theory lessons in the college are to be determined and jointly agreed for each element and performance criterion. In practice, it has proven useful for the company representatives to specify their time in working hours (= 60 minutes) and the college teachers to specify their time in teaching hours (= 45 minutes). This makes it easier to allocate times for the teachers, since all timetables at the college are usually worked in teaching hours of 45 minutes.

These time allocations can be entered directly into the OS by hand or into a previously created Excel list (see below).

After this overview phase, the detailed work begins, i.e. for each module, training times for practice in the company and teaching times for theory lessons in the college are to be determined and jointly agreed for each element and performance criterion. In practice, it has proven useful for the company representatives to specify their time in working hours (= 60 minutes) and the college teachers to specify their time in teaching hours (= 45 minutes). This makes it easier to allocate times for the teachers, since all timetables at the college are usually worked in teaching hours of 45 minutes.

| Module Code | Module Title | Theory | Practice | | Total |
|---|---|------------|------------|------------|------------|
| | | | In-school | In-company | |
| IND ALP3 M01 1020 | Maintain Quality System and Continuous Improvement Process (Kaizen) | 16hr | 8hr | 11hr. | 35 hr |
| IND ALP3 M 02 1020 | Understanding Basic Principles, Elements and Methodology of Design | 40hr | 10hr | 20 hr | 70 hr |
| IND ALP3 M03 1020 | Developing Understanding Fashion and Illustration | 30hr | 60hr | 30hr | 120 hr |
| IND ALP3 M04 1020 | Preparing Design and sample Of Leather Goods | 40hr | 100hr | 40hr | 180 hr |
| IND ALP3 M05 1020 | Developing Leather goods Pattern Manually | 30hr | 100hr | 70hr | 200 hr |
| IND ALP3 M06 1020 | Perform Design and Patternmaking Using CAD for Leather goods | 32hr | 74hr | 44hr | 150 hr |
| IND ALP3 M07 1020 | Monitor Implementing of Work plan/Activities | 10hr | 5 hr | 15 hr | 30 hr |
| IND ALP3 M08 1020 | Applying Quality Control | 20hr | 10hr | 20hr | 50 hr |
| IND ALP3 M09 1020 | Leading Workplace Communication | 24hr | 6hr | 20 hr | 50 hr |
| IND ALP3 M10 1020 | Leading Small Teams | 12hr | 6 hr | 12 | 30 hr |
| IND ALP3 M11 1020 | Improving Business Practice | 24hrs | 6hr | - | 30 hr |
| | | | | | |
| Total Theory Hours | | 278 | | | |
| Total In-school Training (Practice) Hours | | | 385 | | |
| Total In-company Training (Practice) Hours | | | | 282 | |
| TOTAL HOURS | | | | | 945 |

Table-1-The working hours for the practical training in the industry and the theory lessons in the college

| Document Number: 01 | | | | | | Training Plan Advanced Leather Goods | | | | |
|---------------------|---------------|--|----------------|-----------------------|------------|---------------------------------------|--------------|---|---|---|
| Notes | Hours Company | Teaching-Hours Training Provider (College) | Company Rating | Face to Face learning | E-Learning | Advanced Leather Goods pro. Unit Code | Elements No. | Unit Title | Elements Title | Pe Quick note - pl |
| Sum: | 19 | 16 | | 11 | 5 | | | | | |
| | 4 | 3 | | 2 | 1 | IND ALP3 M01 1020 | 01 | Maintain Quality System and Continuous Improvement Processes (Kaizen) | • Develop and maintain quality documents | Requirements and purpose of drawing, from workshop manuals, and designers |
| | 2 | 1 | | 1 | 0 | IND ALP3 M01 1020 | 02 | Maintain Quality System and Continuous Improvement Processes (Kaizen) | Maintain quality documents | Drawings, including auxiliary views, and specifications are produced |
| | 2 | 1 | | 1 | 0 | IND ALP3 M01 1020 | 03 | Maintain Quality System and Continuous Improvement Processes (Kaizen) | Facilitate the application of standardized procedures | |
| | 2 | 1 | | 1 | 0 | IND ALP3 M01 1020 | 04 | Maintain Quality System and Continuous Improvement Processes (Kaizen) | Provide training in quality systems and improvement processes | |
| | 2 | 2 | | 1 | 1 | IND ALP3 M01 1020 | 05 | Maintain Quality System and Continuous Improvement Processes (Kaizen) | Monitor and review performance | |
| | 2 | 2 | | 1 | 1 | IND ALP3 M01 1020 | 06 | Maintain Quality System and Continuous Improvement Processes (Kaizen) | Build continuous improvement process | |
| | 2 | 3 | | 2 | 1 | IND ALP3 M01 1020 | 07 | Maintain Quality System and Continuous Improvement Processes (Kaizen) | Facilitate the identification of improvement opportunities | |

| | | | | | | | | | | |
|------------|-----|-----|--|-----|----|-------------------|----|-----------------------------|---|---|
| Sum: | 6 | 24 | | 21 | 3 | | | | | |
| | 0 | 4 | | 3 | 1 | IND ALP3 M11 1020 | 01 | Improving Business Practice | • Diagnose the business | P |
| | 1 | 4 | | 4 | 0 | IND ALP3 M11 1020 | 02 | Improving Business Practice | • Benchmark the business | C |
| | 2 | 4 | | 4 | 0 | IND ALP3 M11 1020 | 03 | Improving Business Practice | • Develop plans to improve business performance | N |
| | 1 | 4 | | 3 | 1 | IND ALP3 M11 1020 | 04 | Improving Business Practice | • Develop marketing and promotional plans | A |
| | 0 | 4 | | 3 | 1 | IND ALP3 M11 1020 | 05 | Improving Business Practice | • Develop business growth plans | S |
| | 2 | 4 | | 4 | 0 | IND ALP3 M11 1020 | 06 | Improving Business Practice | • Implement and monitor plans | D |
| Total Sum: | 667 | 278 | | 443 | 97 | | | | | |

Figure-2-Training Plan Allocation Four Annual Training Period (9-months /annual) allocation of training period's company and college in an Excel spreadsheet

Note: The OS Advanced leather Goods production Level III has a total of 11 modules. In the figure above the first and the last module "IND ALP3 M11 1020" are shown. In this example, 667working hours (60 minutes each) have been allocated to in-industry /enterprise training and 278 teaching hours (45 minutes each) to school.

Hints:

- Since in-company training usually involves 8 hours of work per day, it makes sense to use only times for full days (8 h) or half days (4 h) for later planning.
- As there are usually 6 theory hours per teaching day at school, it makes sense for later planning to work with corresponding allocations per day (6 teaching hours) or per week (30 teaching hours). After the allocation of times for all modules, elements and performance criteria, the summation of the times is done for the industry linkage /enterprise attachment and the college respectively. Now a target for the training time of Level III should also be determined for the further planning steps. In our example, a training time of 12 months is recommended

Step 2 - Creation of a block scheduling for working hours at the company and teaching hours at the college.

| Table 4 - Determining the number of working hours and the number of blocks for machining level III | | | |
|--|---|------|---------|
| 19 | Sum: Teaching hours Training Provider (College) | 278 | => 408 |
| 20 | Number of Teaching blocks | 3.09 | => 3.09 |
| 21 | Only if the number of blocks in line 19 does not result in a whole number, you have to decide for a new number of blocks here. Please enter a whole number! | | |
| 22 | Recalculated sum: Teaching hours Training Provider (College) | 0 | 0 |

| Table 5 - Share of training time between college and company | | | |
|--|---|---|------|
| 23 | Working hours per XX month (= line 12) | | 1075 |
| 24 | Teaching hours Training Provider (College) in working hours | | 408 |
| 25 | Working hours in the "company" (=line 23 - line 24) | | 667 |
| 26 | Percentage share company | % | 62% |
| 27 | Percentage share college | % | 38% |

| Table 2 - Determination of Teaching hours and conversion of Teaching hours into working hours | | | |
|---|---|----|-------|
| College | | | |
| 13 | Teaching hours (45 minutes each) per day - Monday to Friday | 6 | |
| 14 | Number of teaching days per week Monday to Friday | 5 | |
| 15 | Teaching hours per Saturday | 0 | |
| 16 | Number of Teaching hours per week | 30 | => 44 |

| Table 3 - Determining the number of teaching weeks per block | | | |
|--|-------------------------------------|----|--------|
| 17 | Teaching weeks per block in college | 3 | |
| 18 | Teaching hours per block | 90 | => 132 |

The number of Teaching hours is automatically taken over from the Training Plan (Register color "Yellow", Cell C93)!
Please note that at college, planning should always be for whole weeks only. For organization at school, it is best if all blocks have the same number of weeks!

This newly calculated number is automatically transferred to the Training Plan (Register color "Yellow").

Only if a block number is entered in line 21, the value of line 22 column F is automatically taken over.

Number of working hours per week

3 week blocks for school lessons have proven very good in practice! For this reason, this block length is used in this example.
In principle, other block lengths are also possible.

Figure-4-Calculation Scheme of Company and TVET College working/teaching time

Since the training period is to be 12 months in total, it is now necessary to determine the total working hours available in 12 months and then to check the given ratio of approximately 70% of the training time for practical and 30% for theoretical teaching.

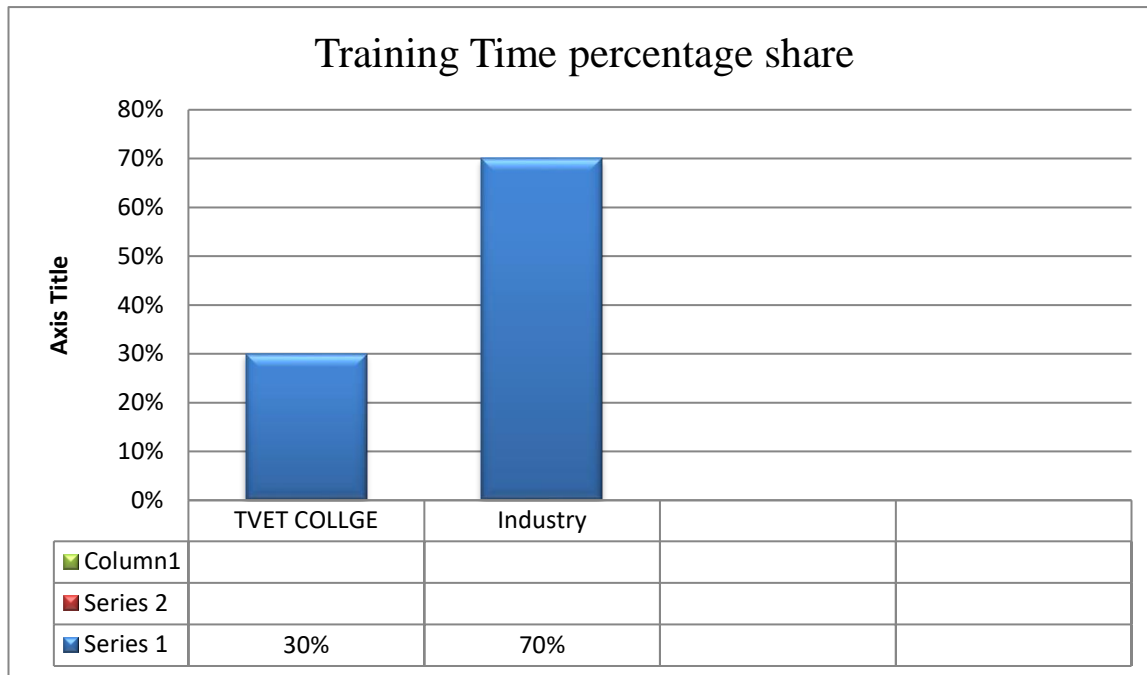


Figure -5-percentage share of industry linkage training and Tvet college training

To it is first necessary to determine the annual working time (12 months). The determination can be done with the help of the above table. In the column with the blue heading "Calculation of annual working hours in industry", the working hours were calculated for 1 year or 12 months. The calculation is based on 8 working hours per day from Monday to Friday (line 2) and 4 working hours on Saturday (line 4). Thus, 44 hours are worked per week (line 5). Since the year has 52 weeks (line 6), this results in 2288 working hours (line 7) in 12 months. Subtract from this figure the 14 days of Public Holidays (line 8) and the 20 Leave days (line 10). This results in a number of working hours of 2016 for one year. Since the above figure is an extract from an Excel table, this column represents the reference value for further calculations, i.e. if you want to carry out training other than 12 months, you only need to change the value in the neighbouring column "Determining the total working time available for 12 month's any occupation duration in TVET qualification " and will automatically receive the data for e.g. 14,9 or 8 months of training. In this example Advanced leather goods production Level III is calculated with 9 months, so that both columns show the value 945 total allocated hours to accomplishment the course in theoretical lesson and practical session. As to have calculated with teaching hours in our allocation of times for theory lessons, the teaching hours (45 minutes) must now be converted to working hours (60 minutes). The working hours in the company and the teaching hours in the school and determine the time shares of practice and theory according to percentages.

Table 2 shows the conversion of teaching hours into working hours. Teaching takes place on 5 days per week for 6 hours each (lines 13 and 14). There is no teaching on Saturdays. This results in 30 teaching hours per week (line 16). In the same period, a company works 44 hours per week. For this reason, 44 working hours per 30 teaching hours must be calculated if the correct ratio of the division of working time between company and school is to be determined on the basis of working hours. In our example for Advanced Leather Goods production Level III, the school has calculated 278 teaching hours. Converted into working hours, it is 408 working hours.

The calculation: (278 teaching hours per 9 months / 30 teaching hours per week) * 44 working hours per week = 408 working hours per 9 months.

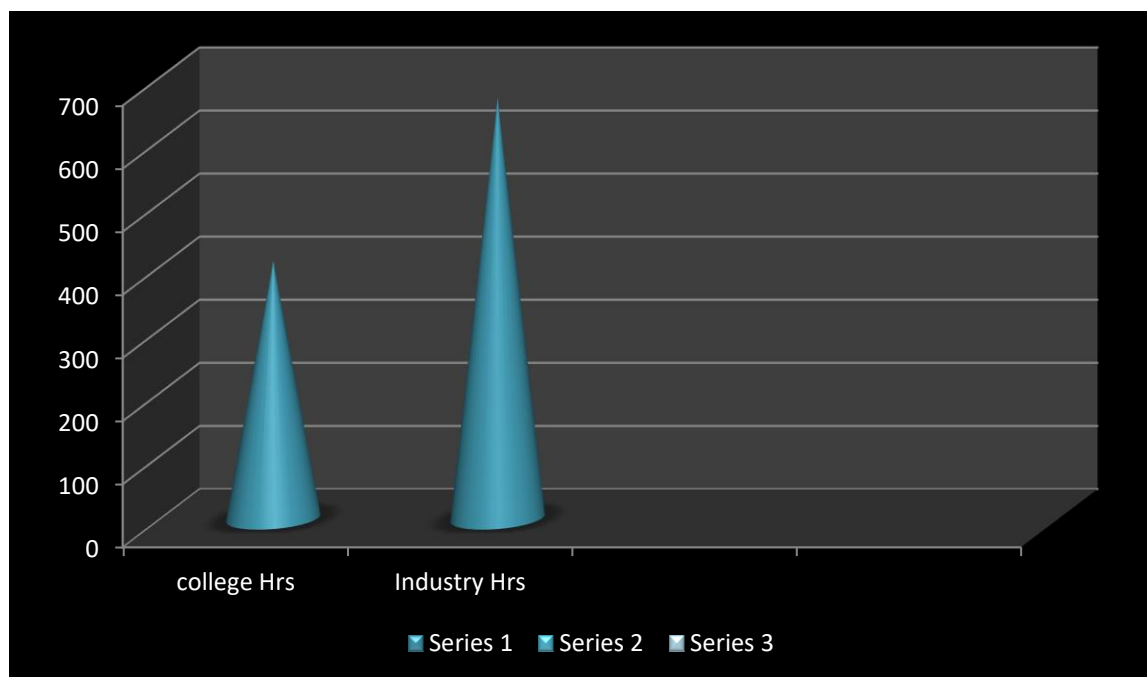


Figure -6-calculation of teaching hours per 9 months

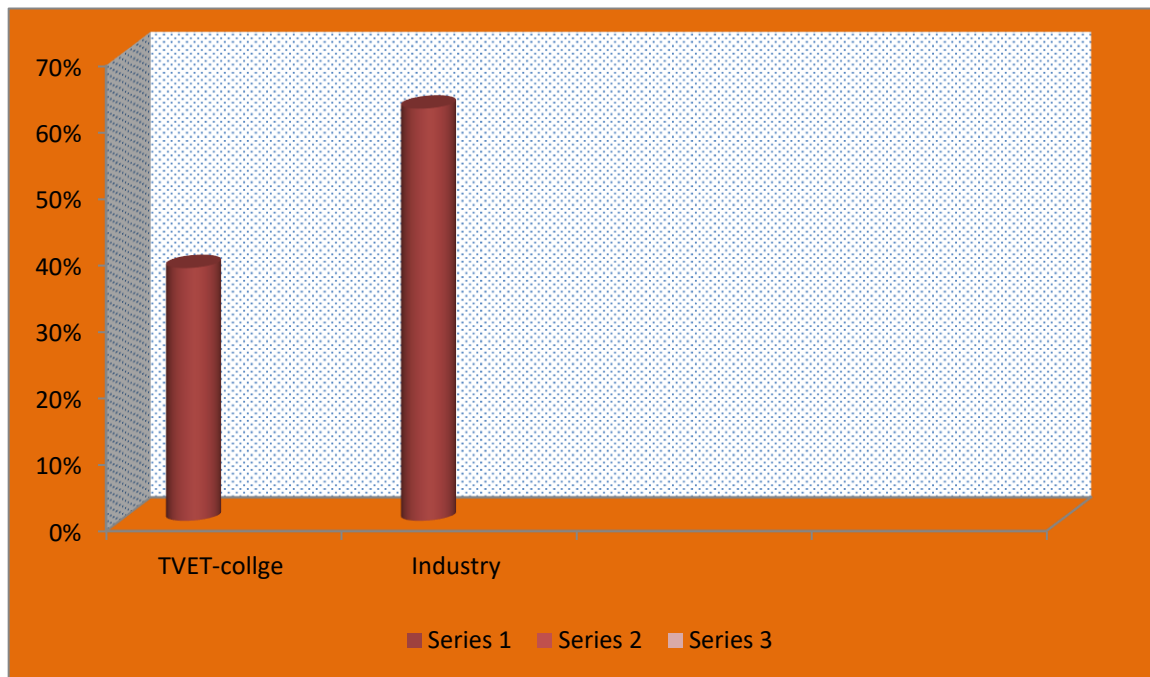
In the above calculation, to have determined that for a 9-month training period, a total of 1075 working hours are available for training. Since 408 working hours are needed for schooling, 667 working hours are still available for the company ($1075 - 408 = 667$).

| | Per year (9months) | Percentages |
|------------------------------|------------------------------|-------------|
| Hours of work in the company | 667 | 62% |
| Teaching hours at college | 278 (= 408 hours of work) | 38% |

Table -2: Training periods in company and school in working hours per year and percentages

With percentages of 62/38, the target ratio for Industry linkage training of 70/30 is well achieved. Before we implement this concretely, however, still have to determine in which organisational form the training should be carried out.

Figure -8-Advanced Leather Goods %share



Many different models have been tried out in practice so far. Overall, it can be stated that day classes (no matter in which form) do not offer a continuous presence in the company and school, so that learning and training processes are constantly interrupted. It is usually an unsatisfactory situation for the teachers as well as for the in-company trainers and last but not least for the trainees. For training in companies with complex tasks, it means in particular that the trainees do not fully accompany work processes and thus cannot really be properly integrated into teams. This is also the reason why in cooperative training with high training shares in companies, the companies would like the trainees to be present in the company for longer periods and thus be well integrated in different departments or teams. At school, on the other hand, it is also much easier if the trainees are present at school for longer periods, because then a continuous learning process can be initiated, including performance records. However, it should be noted that very long school periods are usually perceived as particularly strenuous for the student clientele present in VET. For many pupils, the theoretical parts of an apprenticeship are particularly challenging, so that shorter theory sections can be seen as increasing motivation. In cooperative training with a high proportion of practical periods in companies, a joint decision should be made with the TVET teachers as to which organisational model should be implemented in the training. It is important here that both sides provide insight into the respective organisational structures so that a structure that makes sense and is sustainable for both sides is chosen. The block model with 6 weeks of training in the company and then 3 weeks of teaching in the school has proven itself and is therefore presented in our example.

| Table 3 - Determining the number of teaching weeks per block | | | |
|--|-------------------------------------|----|--------|
| 17 | Teaching weeks per block in college | 3 | |
| 18 | Teaching hours per block | 90 | => 132 |

3 week blocks for school lessons have proven very good in practice! For this reason, this block length is used in this example. In principle, other block lengths are also possible.

Figure-7-Determining the number of teaching weeks per block

In table 3 the calculation of the working hours for a 3 week block at school is done. In line 17 the 3 was entered. The multiplication 3×30 teaching hours per week = 90 teaching hours per block or 3×44 weekly working hours = 132 working hours (see line 18). Since in our example a total of 450 teaching hours per year are to be given in 3-week blocks of 90 teaching hours each, the school must therefore offer 5 school blocks per 3-week block.

The following figure shows an annual plan in detail with the holidays, the annual leave of the trainees, the theory blocks at school and the training time in the company. As the figure had to be reduced somewhat to fit the format used here, can view a more legible figure in the attachment. In the above illustration, 1 September 2021/2022 (calendar week 9) was set as the start of training in Level III. The apprentices are therefore in the company for 2 weeks and 2 days (yellow markings) and then have leave until the end of the 14th calendar week. After that, the school block begins until the end of the 17th calendar week. As there is a public holiday in the 16th calendar week, there is no school day. Please note that all figures are given in working hours, i.e. 44 working hours are calculated for each school week. All other operating and school hours are shown in the diagram. Note: As there is usually no teaching in the schools from July to the beginning of October, the trainees have to go to the company and take their annual leave during this phase. So that, if possible, the theory periods at school do not last longer than 3 weeks, only the last school block has been extended so that the loss of teaching time due to holidays is made up for. In cooperative training, block planning must always be done in close cooperation with both training partners so that not only school but also company interests are taken into account.

After all of the above work has been done in joint agreement between the partners, further planning can take place: In the company, the high skill talented trainer has to develop a training plan for all trainees, and in the school, the individual theory blocks have to be designed in terms of content. While in full-time training, with the appropriate equipment of teachers and workshops, a close temporal interlocking of theoretical content and practical exercises can be carried out alternately, this is usually not possible in cooperative training with a large number of trainees from different companies. This is simply because the companies have to plan the practical training not only according to the number of available workplaces (e.g. for welding, turning, etc.) but also according to the order situation. However, these influencing factors usually vary greatly from company to company. It is therefore all the more important that the companies and the school continuously exchange information and ensure that neither the company nor the school demand performance from the trainees that they will only receive at a later point in time.

CONCLUSION

Through vocational training, the trainee is supposed to acquire the ability to act professionally and gain initial work experience. Much of the learning content is therefore taught in the context of day-to-day business. It is important to bear in mind that guiding, supporting and supervising an apprentice also ties up the capacities of the staff member responsible for it, who must be granted corresponding relief in day-to-day business. A company training plan usually has a factual and time-based structure. In accordance with the above training plan calculation of hourly scheme, rollout plan, and the in-company training plan is drawn up on the basis of the results of the joint work of the company and the TVET-college

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