# Work That Educates: How to make Structured Work-Based Learning Work

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## 1. Background

This paper focuses on developing the worksite element of occupational education, with practical suggestions on how to make structured work-based learning work  as an equal complement to school-based learning. In this first part I want to give a few background thoughts about school-to-work in general and where the work-based part fits in. The second part is a ten-step, hands-on, how-to guide for companies to set up the work-based learning component.

### 1.1.    The Basic Model - a help for orientation

Good occupational education, for a broad range of occupations from medical doctors to chefs, should include all the elements of this basic model:

## The Basic Model

| Occupational Title   (remember: not just one job!) | | | |
|---|---|---|---|
| | **Worksite** | **Both Sites** | **Classroom** |
| **1. Goals** | *1.1. Technical Skills*<br>- Skills Standards<br>- Duty and Task Lists | *1.3. Foundation Skills/ Core Competencies*<br>- SCANS-Skills | *1.2. Knowledge*<br>- Technical<br>- General |
| **2. Steps** | *2.1. Worksite Learning Plans*<br>- Rotation Plans<br>- Assessment System | *2.3. Methods* of<br>- Learning<br>- Teaching | *2.2. School Curricula*<br>(Secondary and Post-Secondary) |
| **3. Exams** | *3.1. Practical Exams* | *3.3. Forms of exams* | *3.2. Theoretical Exams* |
| **4. Certification** | *4.1. National Certificate* of Competence and Industry Certification | *4.3. Letter of Recommendation* | *4.2. Associate's Degree* of Applied Science or Certificate or Higher Degree |

**The Basic Model** can be applied to every occupation that we define. It is intended as a structure to include all elements of the education necessary for each occupation.

An **Occupation** is considerably more than a job. It is extremely important to distinguish between a job description and an occupational title. The basic thoughts behind defining these titles or clusters should be:
⇒ What kind of multi-skilled people does the industry need in the future to maintain a world-class service or manufacture world-class products?
⇒ What kind of knowledge and skills must these people have?
⇒ What is the nature of duties and tasks they will be called on to perform?

This article's major focus is on the two parts of The Basic Model that are highlighted: *1.1. Technical Skills and 2.1. Worksite Learning Plans.* SCANS-skills *(1.3.)* and methods of teaching *(2.3.)* are mentioned in connection with assessments and mentor training. This does not imply that all the other parts are not equally important to good occupational education.

## 1.2.  How Educational Institutions and Industry can work together

After having been part of 'School-to-Work USA' for a little over one year now and having traveled around the country extensively to give presentations at conventions and state conferences, my impressions are:

- There still are places in the US where industry doesn't really care what's happening in the schools and is just complaining about the schools failing to do their job. At least complaining employers realize the current system isn't working very well. That's **stage one.**
- We're fortunate in Austin to have a lot of firms teaming up with schools to help them do a better educational job. That's **stage two.**
- Now I think it's time for **stage three**: Industry needs to take over the responsibility for the work-focused education of American youth. Industry needs to formulate their visions and goals for their future in a highly competitive world market and to identify the role of the generation that's now in elementary, middle and high schools in this future. Then set up the training system to make youth able to be the leading part of their vision. In other words, the responsibility for workforce preparation needs to gradually move from the schools to the firms. With schools, colleges and universities teaming up with them to do the job.

Educational institutions, on the other side, have to get used to this process as well. In the past they were made fully responsible for everything that even remotely resembled education.

| Industry levels of awareness: | | Levels of educator response: | |
|---|---|---|---|
| Stage 1: | Criticize the school system | Stage 1: | see business/industry as potential enemy |
| Stage 2: | Support schools for social image and community reasons | Stage 2: | use business/industry as money suppliers and worksite experiences as 'playscapes' to motivate students |
| Stage 3: | Assume responsibility for structured work-based learning and get involved in related school curriculum! | Stage 3: | assume a 50/50 partnership with industry in time allotment, in credentials, in responsibility, in supervision, in decision making |

## 1.3.  Comparing school-based with work-based learning approaches

Partnerships between the different learning places and partners need to be built up under a 50/50 assumption, rather than using the workplace as an addition to the schools. In true partnerships classroom education and structured work-based learning go hand in hand, thus reinforcing each other. There is no primary and no secondary learning environment; both entities are equal partners. The two different approaches of educators and employers to workforce preparation need to be discussed and compromises need to be found.

In a more **work-based system**
◊  availability of educational possibilities depends on the needs and the future needs of the economy; business is in the driver's seat
◊  workplaces are considered a good environment to learn
◊  the fact that learners have different learning styles is accepted and taken into account

while in a more **school-based system**
◊  students' abilities, parents' wishes and teachers' preferences determine which educational paths are offered (often with no reality check confirming that skills are needed in the labor market)
◊  the classroom is considered the best place to learn
◊  the student who learns well in the classroom is praised and promoted.

Let's face it: classrooms are only one of the many learning environments to which students are exposed. Others include TV, peer groups, sports and music activities, families, churches, the natural environment, etc. The workplace can help students in their transition to the world of work, the world of adulthood, the world of their future lives. Schools worldwide tend to be sheltered refuges that don't replicate the real world very well and are, therefore, not very well suited to do all the workforce preparation that is needed alone.

Here are some basic differences that need to be discussed and worked out when creating **real world** occupational education:

| Differences between |  |
| --- | --- |
| **a more school-based program and** | **more work-based programs:** |
| - arranged according to school schedule | - hours, shifts, days are important |
| - school buses for transportation | - students' own transportation |
| - often unpaid | - paid |
| - busy work | - real work |
| - teachers responsible for workplace learning | - industry mentors responsible for workplace learning |
| - graduation credits | - often no graduation credits |
| - focused on school's/students' needs | - focused on industry's needs |
| - may change from semester to semester | - learning objectives for several years |
| - input oriented | - output oriented, total quality management |
| - career sampling | - career preparation |
| - **Goal:** work exposure | - **Goal:** management position, career |

## 2. A very Short and Pragmatic Guide to set up Structured Work-based Learning

The following is a ten-step program designed to help businesses setting up a good learning environment for structured work-based learning:

1. Determine what learning environments exist and what elements are in place in firms of the industry.

2. Find out what the different departments are doing; make a list of all the activities that are performed. Which ones have to be mastered by the student learners? This leads to a **Checklist of Duties and Tasks** for the student learners.

*Example 1 (see appendix)*

3. Why are these activities performed? What are the ends behind the means? This leads to a **List of Learning Goals**.

4. What are the skills that need to be learned? At what level of performance are they mastered? This leads to a list of **Measurable Skill Standards**.
    (Note: There are 22 national contracts to industry groups and educators to develop voluntary skill standards in their industry; most of the skills standards are now available)

5. What is the appropriate duration of the learning experiences in the respective areas to acquire the skills for the required activities/tasks and to reach all the respective goals? This leads to the **Duration of Every Training Period**.
    (Note: If an employer has just one student learner, the duration of rotations may be of variable length; with two or more learners you might want to use a standardized time period, such as 1 month, 3 months, 4 months, 6 months and schedule student learners in a staggered way for each placement, avoiding gaps and overlaps)

6. What sequencing makes sense, so that the student learner is moving from easier tasks to more complicated ones? This leads to a **Rotation Plan**.
    (Note: Again if you have one student learner you don't have a scheduling problem. If you have several and you rotate them through the same departments, you will find that they all have different rotation plans. Make sure that they all are going through the same departments during the same year)

*Example 2 (see appendix)*

7. How are the student learners assessed at the end of each training period in each department? What kind of forms should be used? Establish a process of assessment, qualification, information, skills certification for each training station? And most important, allow enough time to talk about it with the student learner. This leads to a **Set of Qualification Sessions and Forms** to be used after each training station.

*Example 3 (see appendix)*

8. Find the mentors/coaches who will be responsible for the on-the-job training. Mentors/coaches are people who (1) like to work with young learners, (2) have a master-level knowledge of the occupation and (3) are good teachers of what they know. Identifying and selecting the right group of mentors/coaches will lead to a **Group of very Motivated Employees**.

9. Arrange training for the mentors/coaches to prepare them for their new part-time job. They do not only need to have a broad occupational knowledge (like the *Meisters* in Germany do) but also be able to communicate well with learners even in difficult situations. This will lead to **your Group of Certified Mentors/Coaches**.

*Example 4 (see appendix)*

10. In larger firms or consortia of small firms where ten or more student learners need to be accommodated each year, it is recommended that a person be designated who is responsible for the student learners (from hiring all through graduation and after) and who also serves as the in-house-contact for all your mentors/coaches. So you may consider having a **Manager of the School-to-Work Department or a School-to-Work Coordinator.**

# 3. Conclusions

Structured work-based learning is an imperative component of every good occupational education. Nobody wants to have surgery performed by a physician who has little or no prior supervised practical experience. But the same is true for almost all other occupations.

I normally urge companies to get into the driver's seat and to start considering workforce preparation of our teenagers to be **their business**. After all, we all want youth to be functioning well in our companies in the future. Industry needs to get in touch with local school-to-work or tech-prep facilitators today. They are very interested in helping to shape the workforce of the future. Let's start today to have the graduates ready when we will need them most: **Tomorrow!**

Austin, May 28, 1996/Egloff

# Appendix:

## Training Station: Time, Meetings and Travel Management

| Duties: | - Manage time |
| --- | --- |
|  | - Arrange meetings for manager |
|  | - Coordinate travel plans |

| Tasks: | done alone | under supervision | not done |
| --- | --- | --- | --- |
| **Time Management:** <br><br> - compare secretary's calendar to manager's <br> - prioritize secretarial duties <br> - prioritize mail, meetings, and phone calls <br> - delegate tasks to staff <br> - screen phone calls, mail, meetings, and visitors <br> - anticipate and respond to customer crises | | | |
| **Meetings management:** <br><br> - obtain meeting information from manager <br> - reserve conference room and equipment <br> - confirm final meeting place with attendees <br> - arrange accommodations for out-of-town guests <br> - plan and order refreshments | | | |
| **Travel management:** <br><br> - obtain travel requirements <br> - select and make flight arrangements <br> - select and make hotel reservations <br> - arrange ground transportation <br> - secure appropriate travel documents: passport, visa, etc. <br> - advise staff of manager's absence and acting manager <br> - process 'Request for Travel' form <br> - acquire tickets and money <br> - verify travel arrangements prior to departure <br> - arrange meetings at destination | | | |

*Example 2: A Rotation Plan for Banking Apprentices in Switzerland*

| Rotation planning within Banks: A realistic Rotation Plan that works at Bank Julius Bär in Zurich: |
|---|

| First Year of Apprenticeship | Duration |
|---|---|
| Checks dept. | 8 weeks |
| Money Transactions (Switzerland and International) | 8 weeks |
| Bookkeeping dept.:     ~ banks accounts OR | |
|                       ~ security deposit accounts | 8 weeks |
| Coupons dept. | 2 weeks |
| Registry/Archives | 2 weeks |
| Incoming and Outgoing Mail | 2 weeks |
| Internal Printing dept. | 2 weeks |
| Securities Control | 8 weeks |

| Second Year of Apprenticeship | |
|---|---|
| Stock Exchange | 8 weeks |
| Short-term Investments | 8 weeks |
| Central Accounting OR | |
| Mutual Funds Accounting | 8 weeks |
| Signature Card Control | 4 weeks |
| Teller Services | 4 weeks |
| Securities Delivery OR | |
| Security Issue Business | 8 weeks |

| Third Year of Apprenticeship* | | |
|---|---|---|
| Loans dept. | 10 to | 20 weeks |
| Legal Services | 10 to | 20 weeks |
| Portfolio Management | 10 to | 20 weeks |
| Foreign Exchange Dealing | | 20 weeks |
| Swiss Options and Financial Futures Exchange (SOFFEX) | 10 to | 20 weeks |
| Sales | | 10 weeks |

*in the third year the apprentice has the choice to stay in one department for 20 weeks (half a year) and two other departments for 10 weeks each. This means that not all the student learners go through all the departments in their third year.

*Example 3:*
*Set of evaluation forms to be completed for each student learner after every training station.*

*Page 1 (to be completed by supervisor)*

## STUDENT LEARNER/SUPERVISOR MEETING #3
## SUMMARY EVALUATION

Student learner's name: _____

Department/Training Station: _____

Time frame: (from)_____ (until) _____

*1. Has the student learner gained a clear understanding of all phases of the duties of the station? Explain.*

_____

*2. Did the student learner accomplish established job activities or goals? Were assigned tasks completed? Explain.*

_____

*3. Did the student learner achieve excellence in his/her work? Comment on thoroughness, accuracy, and overall completion of job assignments.*

_____

*4. Was the student learner a team player (able to gain the support of others in the group and contribute to others when necessary)? Explain.*

_____

*5. Describe those areas where the student learner could benefit from improvement.*

_____

*6. Describe the student learner's strongest points.*

_____

*7. Would it be beneficial for this student learner to take certain courses to help achieve career goals? If so, which courses? Explain.*

_____

*8. Please list any additional comments or recommendations*

_____

_____

_____

## *Performance against SCANS-Skills*

| Foundation Skills | | | | | |
|---|---|---|---|---|---|
| Basic Skills | The ability to read, write, perform arithmetic and mathematical s, listen and speak | 3 | 2 | 1 | 0 |
| Thinking Skills | The ability to think creatively, make decisions, solve problems, visualize, reason and know how to learn | 3 | 2 | 1 | 0 |
| Personal Qualities | Displays responsibility, self-esteem, sociability, self-management and integrity and honesty | 3 | 2 | 1 | 0 |
| Competencies | | | | | |
| Resources | Effective in managing time and money to complete tasks within budget and deadline constraints. Ability to organize co-workers based on personal qualities and work requirements , and to use materials and facilities effectively. | 3 | 2 | 1 | 0 |
| Information | Identifying and analyzing relevant information and keeping track of it in an organized method. Includes synthesizing and using a computer to manipulate information to be communicated in the most effective format. | 3 | 2 | 1 | 0 |
| Interpersonal | Objectively working with others as an effective member of a team, as a trainer of new co-workers, and being able to assist customers effectively. Includes taking on a leadership role to improve existing procedures - to make some process better. | 3 | 2 | 1 | 0 |
| System | Understanding and manipulating a procedure to produce desired results. Measuring and correcting or improving the procedure or designing a new alternative method. | 3 | 2 | 1 | 0 |
| Technology | Understanding and applying the most appropriate piece of equipment for the job, maintaining that equipment in good condition, and troubleshooting any problems for correctable solutions. | 3 | 2 | 1 | 0 |
| | | | | | |
| | *Overall evaluation of student's performance against SCANS skills* | 3 | 2 | 1 | 0 |

*Evaluator's comments:*

_____

_____

<u>*SIGNATURES:*</u>

*Student learner*                      *Date*

*Supervisor*                          *Date*

| *Student Learner's Contribution* | *My Activities* |
|---|---|

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*My name (student learner):* _____

*Department/Training Station:* _____

*Time frame: (from)_____ (until)* _____

*Year of Apprenticeship:*     first π        second π        third π        fourth π

*Tasks and Activities:*
_____

_____

*Work load:*        too much: π              just right: π              too little: π

*What did you like best?*
_____

_____

_____

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*What did you like less / least?*
_____

_____

_____

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*My suggestions for improvement, also personal remarks:*
_____

_____

_____

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*Comments on this training station:*
_____

_____

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*Date:*            *Signature of student learner:*            *Signature of mentor:*

*Example 4:*

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## Outline of a Modular Training Program for
## Worksite Supervisors/Mentors/Coaches

*(This outline is based on the Swiss Federal 6-day seminar for Apprenticeship supervisors [Lehrmeister] which is mandatory for businesses that want to educate apprentices)*

### Topics of Module 1:

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*- Evolution of a career/life goal for students*
*- Career counseling - Who does it? What does it?*
*- Hiring process in the World of Work*
*Trainer: Good career counselor, and HR people*

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### Topics of Module 2:

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*- Planning and realization of structured work-based learning*
*- Teaching and learning on the job*
*- Assessment/evaluation of the student learners*
*Trainer: Worksite learning expert*

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### Topics of Module 3:

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*- Understand and work with youth between 16 and 22 years of age*
*- How to be a good mentor on the job*
*- What to do in certain situations (Case management)*
*Trainer: A good psychologist (and maybe parent)*

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### Topics of Module 4:

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*- Legal basics of work-based learning (OSHA, child labor laws, etc.)*
*- Apprenticeship basics like contract, goals, partners (BAT\*, sponsor, Community College), etc.*
*- Your relationship with the vocational school (Community College, High school)*
*- The Final Exam (Graduation and Certification)*
*Trainers: People from BAT\*, Educators, Chamber of Commerce etc.*

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*\* Bureau of Apprenticeship and Training of the US Department of Labor*