



**Demands and Requirements for
Dual Study Programs in South Africa
- Expert Interviews and Company Survey -**



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Abstract

The Osnabrueck University of Applied Sciences has initiated a project to investigate whether and how dual study programs or even elements of it can be integrated into South African university study programs. The present part of the investigation presents the expert assessments of the demands and requirements for dual study programs and, based on a company survey, the existing level of information.

The significance of dual study programs in South Africa is still low, only a few company specific approaches exist, mostly in internationally operating companies. Nevertheless, closer cooperation and more company orientated learning is required. The willingness to participate in dual study programs was confirmed from all surveyed companies. Dual courses seems to be particularly suitable for technical disciplines, but are also suitable for some business courses.

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1. Rationale for a study on Dual Study Programs

1.1. The dual study approach in Germany

The dual study approach, sometimes also called cooperative studies, is a combination of practical training in a company with an academic education at a university, usually at universities of applied sciences. Dual programs are offered for more than 30 years in Germany. The Osnabrueck University of Applied Sciences cooperates with about 500 companies; nearly 1.000 students are registered to dual study programs currently.

One characteristic feature of the dual approach is the definition of two learning places. Students are not just changing between the academic learning place and the company in a 10/14 weeks rhythm to study at university and to work in the company. The company is the second learning place where students are reflecting the academically learned in a practical environment. The curriculum consists of a combination of theory and practically learned expertise.

1.2. The dual approach in South Africa

A big challenge for companies in South Africa looking for qualified and work-ready staff is the lack of practical workplace exposure of university graduates. University study programs do usually not include sufficient practical experience. The curricula often do not fit the requirements of the companies.

Together with industry partners, the Department of Higher Education and Training (DHET) is currently implementing dual approaches in the vocational education field (TVET). The Dual System Pilot Project (DSPP) is a three-year apprenticeship program combining theory and practical training at TVET colleges with workplace-based training in companies. It is supported by the GIZ on behalf of the German Federal Ministry for Economic Co-operation and Development (BMZ).

At the academic level, no dual approaches are being pursued yet in South Africa.

1.3. Aim of the investigation

The Osnabrueck University of Applied Sciences has initiated a project to investigate whether and how dual study programs or even elements of it can be integrated into South African university study programs. The present part of the investigation focusses on expert assessments of the demands and requirements for dual study programs and on a company survey to determine the existing level of information.

2. Study structure and investigation methods

The study was divided into two parts:

- Part I: Guided Expert Interviews
- Part II: Online company survey

2.1. Guided Expert Interviews

Experts selected were assumed to have first experience with cooperation between companies and universities/training providers. In total 13 experts from 7 companies, chambers and education institutes have been interviewed.

The interviews have been conducted by J. Gochermann and J. Biedendieck as structured expert interviews based on an interview guideline with nine questions:

- *Is the topic “Dual Study Programs” already discussed in your industry?*
- *What is your understanding of “Dual System” - University study programs vs. apprentice system?*
- *Are you cooperating with universities in the field of education (not R&D)? How is this cooperation organized?*
- *Does your staff have sufficient competences to supervise students in dual study programs? Do you already supervise students and in which projects?*
- *What benefit could be generated from dual study programs? For your company, your branch, your region, the country?*
Which occupational fields are suitable to implement dual study programs?
(business, engineering, logistics, finance, software, industrial engineering, marketing ...)
- *May your company is willing to pay for the study programs?*
- *What should be a suitable organization structure of dual study programs?*
(block-wise, how many weeks, which period ...)
- *Further ideas, further contacts?*

The questions were adapted to the specific disciplines of the experts (industry, chamber, institution). The answers were recorded in writing and afterwards transferred to an Excel file.

The interviews took between 30 to 60 minutes. No unexpected questions or problems occurred.

The assessment was done by qualitative data analysis. Main statements and keywords were clustered in a multistage process.

Interviewed experts and organisations:

Business Chamber Port Elizabeth

Prince Matonsi (CEO), Nicke Smith, (Assistant), Port Elizabeth
[03.08.2017]

Border-Kei Chamber of Business

Les Holbrock (Executive Director), Drayton Brown (Project Manager),
East London
[13.09.2017]

Jendarmark (Pty) Ltd.

Yanesh Naidoo (Marketing & Sales Director), Mariette Geldenhuys (HR),
Grame van Zyl (Manufacturing Director), Port Elizabeth
[03.08.2017]

MAN Diesel & Turbo South Africa (Pty) Ltd.

Nita Govendasamy (HR Manager), Robin Watson (MD), Germiston
[12.09.2017]

Mercedes Benz South Africa

Peter Howe (Teamleader Specialist Technical Training) Human
Resource Development, East London
[13.09.2017]

MSC Business College

Cobus Potgieter (Managing Director), Carol Taggart (Executive
Officer), East London
[13.09.2017]

Southern African - German Chamber of Commerce and Industry - AHK

Matthias Boddenberg (CEO), Johannesburg
[11.09.2017]

Siemens South Africa Ltd.

Nivesh Luchtman (Learning and Development Specialist), Midrand
[18.08.2017]

2.2. Online Company Survey

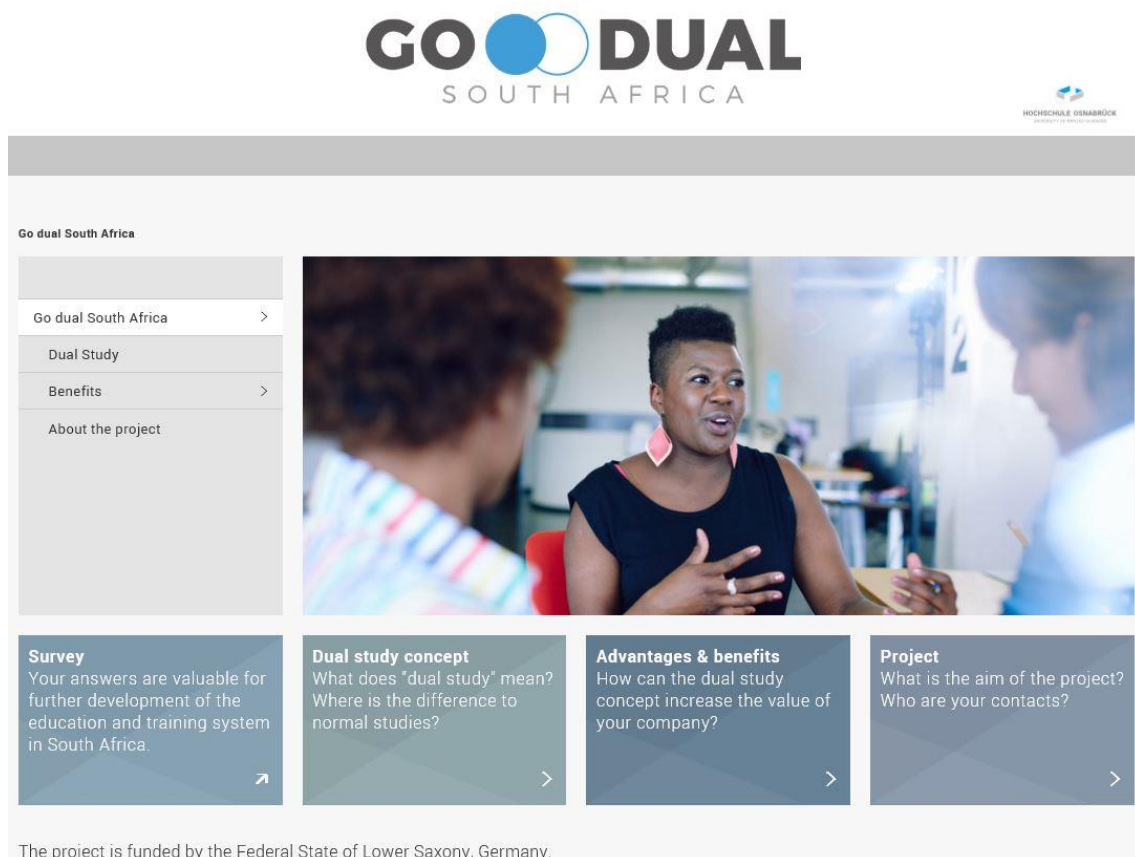
The assumption was that knowledge about dual study programs is still low in South African companies. The online survey attempted to verify this assumption.

The research interest focused on the following questions:

- Level of information about dual study programs.
- Grade of education and skills of employed students.
- Possible benefits of dual study programs.
- Suitable occupational fields for dual study programs.
- Willingness to participate.


The survey consisted of 12 questions, including 3 structural questions (industry sector, number of employers, function of the interviewee). For further details, refer to the questionnaire attached in the annex.

Access to the online survey was given via a newly developed website “Go Dual South Africa” (www.go-dual-south-africa.co.za).



In addition, companies were provided with the direct link to the online questionnaire. Universities and chambers shared lists of cooperating companies.

A combined advertisement and information sheet was published in the 2017 September volume of the monthly journal of the Nelson Mandela Bay Business Chamber:



**GO DUAL
SOUTH AFRICA**

University of Applied Sciences
Osnabrück in Germany broadens its activities in South Africa and analyses the potential of dual study programmes in the Eastern Cape.

From: Julia Bledendieck

Prince Matonsi, Julia Bledendieck, Nicki Smith and Josef Gochermann at the Business Chamber

Execution of a survey of viability of dual study programmes in the Eastern Cape

The dual approach is the combination of practical training in a company with an academic degree at a university (of Applied Sciences). Dual programmes are being offered for more than 25 years in Germany now. More than 500 companies use the study and education programme to qualify their staff in cooperation just with the University of Applied Sciences Osnabrück, who is thus an expert for the intertwining of two learning places, as it is customary in dual studies.

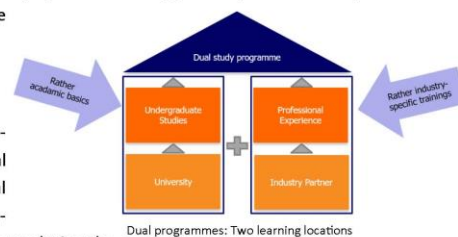
As a company at the Eastern Cape, we are interested in your opinion of the dual study programmes. We are looking forward to participating in the survey. Under the following link you can find the survey:
www.go-dual-southafrica.co.za

The University of Applied Sciences Osnabrück in Germany is currently conducting a feasibility study on dual studies at the Eastern Cape. The aim is to find out whether and how a dual study or even elements of it can be implemented at the Eastern Cape and integrated into the South African education system. A survey with companies of the Eastern Cape will take place. The University of Applied Sciences started a cooperation with the Business Chamber Port Elizabeth. CEO Prince Matonsi values the project of Dr. Josef Gochermann, leader of the project „Go dual South Africa“ and identifies many benefits for the Eastern Cape. The German idea of combining working and studying could be an opportunity for local companies. That's why he wants to support the survey of Dr. Gochermann.

What does “dual study” mean?

A dual study is defined as follows: Dual programmes combine a university course with practical training with an employer. In a dual programme the employment and training element is an integral part of the course. The knowledge is imparted at two different locations: During the practical terms the student is learning in a company, during the theoretical terms at a university. The Curriculum consists of a combination of theory and practically learned know-how. This change of practical and theoretical terms lasts during the whole study. This is how a dual study differs from a normal course in terms of higher practical reference. This is what we call “dual system”.

There are many benefits for companies, e.g. they get graduates with a substantiated academic education, focused on the application field of the company. The combination of the two learning locations opens companies the direct access to current academic knowledge and to new impulse from outside. One special benefit in these programmes is the huge students' commitment to their companies. Generally, students stay in their companies beyond the dual study programme.



Contact: Dr. Josef Gochermann, go-dual-south-africa@hs-osnabrueck.de; www.go-dual-southafrica.co.za

The link is still open, but results were taken only from the period September 2017 to February 2018.

3. Results

3.1. Expert interviews

The expert interviews were analysed using qualitative data analysis. Main statements and keywords have been clustered in a multistage process.

The overall statements and some related specific statements are given as follows. The specific statements were largely given literally.

3.1.1. Attitude towards and significance of dual study programs

Linkages between higher education sector and companies	
Overall statements	<ul style="list-style-type: none"> • Practical knowledge, skills and experiences are not sufficiently taught. • Higher educational system is separate from the employment system.
Specific statements	<ul style="list-style-type: none"> - The Universities are not teaching the skills needed by the companies; they are too academic. - The public colleges do not teach the practical knowledge. - Practical experiences, also in the middle management companies, are missing. - It is an old educational system, which is separate from the employment system, with old structures and processes. - Colleges and governmental schools are not well positioned and far away to be able to support the industry.

Attitude of the companies to dual study programs	
Overall statement	<ul style="list-style-type: none"> • Most South African companies do not recognize advantages of dual study programs.
Specific statements	<ul style="list-style-type: none"> - Great problems to convince companies - Companies are not playing their part in training and education; they do not see the value. - Companies do not have time, focusing only on profit.

Significance of the dual approach	
Overall statement	<ul style="list-style-type: none"> • Significance of dual study programs is low, only a few company specific approaches exist.
Specific statements	<ul style="list-style-type: none"> - No big discussions (subject is not discussed). - Some company activities already exist focused on individual company demands. They cooperate with different educational institutions. - Industry specific knowledge and related skills are taught by the companies. - Companies are bypassing the national education system.

3.1.2. Requirements, suitable study courses, and benefits

Requirements for dual study programs	
Overall statement	<ul style="list-style-type: none"> • Close cooperation and company orientated learning is required.
Specific statements	<ul style="list-style-type: none"> - Close cooperation between universities and companies is required: communication and management. - Company orientated learning must be integrated. - Companies need specialised qualified people. Well-founded basic knowledge supplemented by specific modules is required.

Benefits of dual study programs

Overall statement	<ul style="list-style-type: none"> • Benefits are being perceived in different areas.
Specific statements	<ul style="list-style-type: none"> - Enhancement of the graduate's quality. (<i>Quality</i>) - Companies have access to more qualified candidates for different positions. (<i>HR</i>) - Due to dual study programs, employees and students are more committed. (<i>HR</i>) - Improvement of relationships between industrial companies and higher education institutions. (<i>Relationship</i>) - Region benefits from dual study programs. (<i>Local business</i>) - The investment in dual study programs pays off. (<i>Local business</i>) - Advantages for and from international businesses. (<i>International business</i>)

Suitable study courses

Overall statement	<ul style="list-style-type: none"> • The dual courses are particularly suitable for technical disciplines, but are also suitable for some business courses.
Specific statements	<p><u>Ranking of technical courses (<i>priority</i>):</u></p> <ul style="list-style-type: none"> - industrial engineering - mechatronics - electrical engineering - mechanical engineering - software Development / IT - electronics <p><u>Ranking of business courses:</u></p> <ul style="list-style-type: none"> - auditing and accounting - HR & leadership - procurement - production processes - industrial engineering - project management - marketing

3.1.3. Supervising competences and time structure of rotation

Supervising competences in companies		
	Overall statement	<ul style="list-style-type: none"> • Supervising competence depends on the size of the company.
	Specific statements	<ul style="list-style-type: none"> - Bigger companies do have competences and experiences. - Small companies do not have supervising competences because of missing qualities, skills, staff and time. - Many external institutions exist for skilled trainings; but there is a need for better consultancies.

Time structure of rotation		
	Overall statement	<ul style="list-style-type: none"> • Companies are familiar with the P1/P2 program (2x 6 months). Divergent statements regarding the 10/14 week model.
	Specific statements	<p>Divergent statements:</p> <ul style="list-style-type: none"> - 10/14 weeks are too disrupted - 10/14 weeks is the best, because of no interruptions, but continuity - if university is close by: short time to change, like 10 weeks/14 weeks model - I prefer the P1/P2 program (2x 6 months). - If it's too short it is difficult to bring them into the system; irrespective of the duration there are driven introduction processes (security HR, compliance, safety ...). - If they come back for the second time you just make him active.

3.2. Online Company Survey

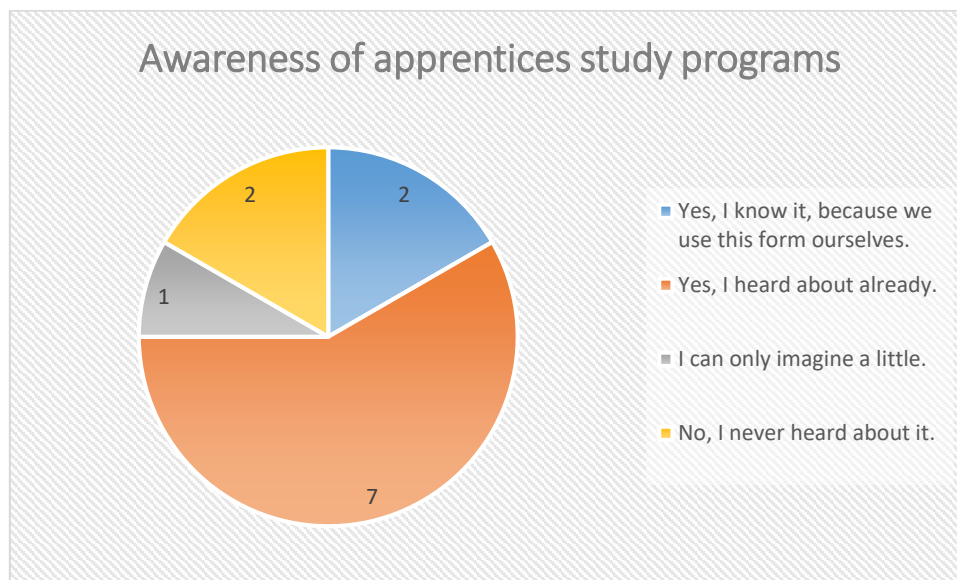
Participation in the online survey was rather limited. Out of 32 participants who visited the survey website, 12 completed the questionnaire, another 20 gave only very few answers. The survey of course is statistically not representative, but allow some initial conclusions to be drawn.

The survey respondents came from different industries. The questionnaire was mostly filled out by management staff.

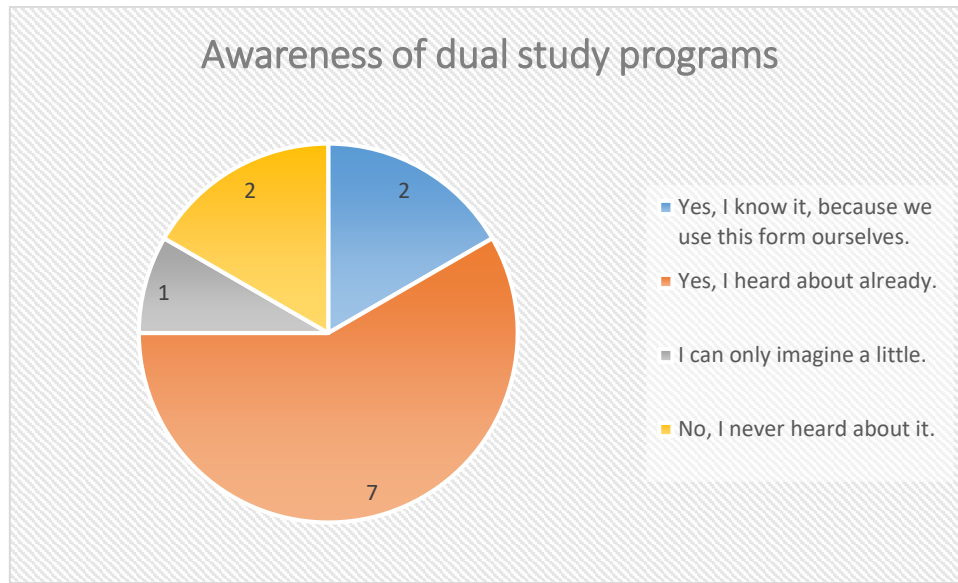
The following results are based on the 12 completed questionnaires.

3.2.1. Awareness of dual apprentices and study programs

Question: In a dual apprentices program students learn theory and practice in both, colleges and cooperating companies. Have you heard about dual apprentices programs between companies and colleges?



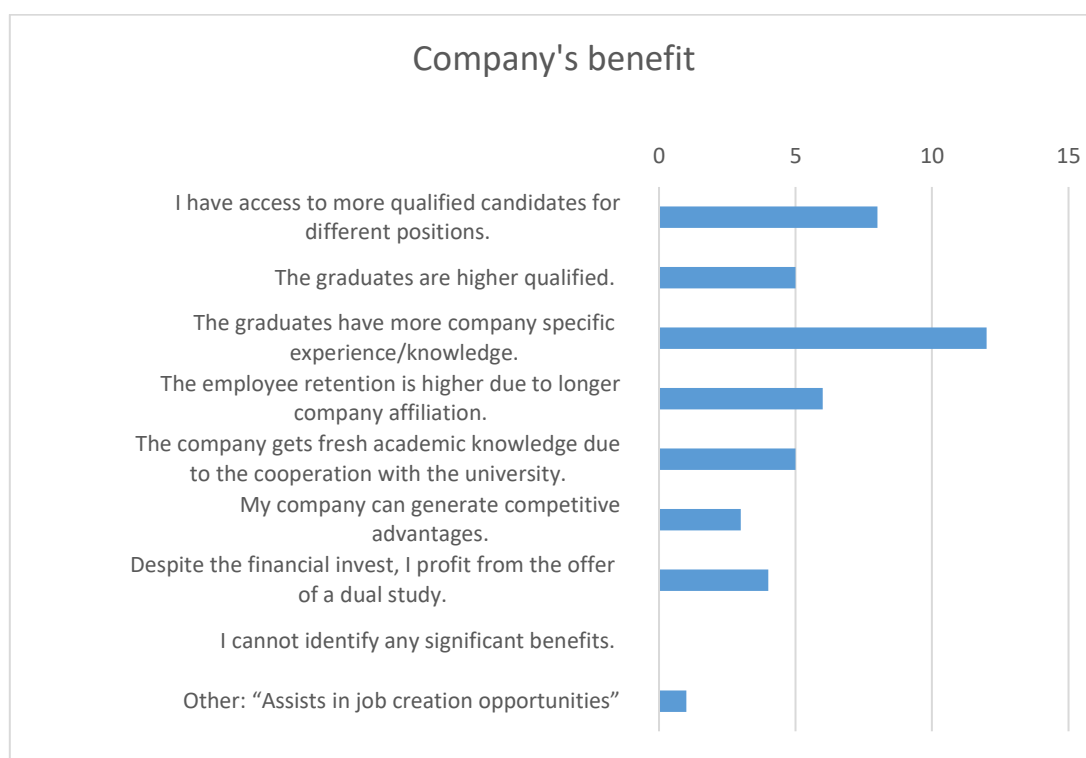
Question: In dual study programs, the learning sites are in universities and cooperating companies. Theoretical knowledge is taught in the university while practical know-how is gained in the company. The theory and practice phases alternate equally. As a rule, the student is employed by the company and the company takes the study fees. Have you heard about dual study programs?



Remark: Respondents gave exactly the same answers for apprentices and for dual study programs. That may indicate no difference is made between those two programs.

3.2.2. Company's individual benefit of dual study programs

Question: Which benefits could be generated by a dual study program for your company (multiple answers possible)?



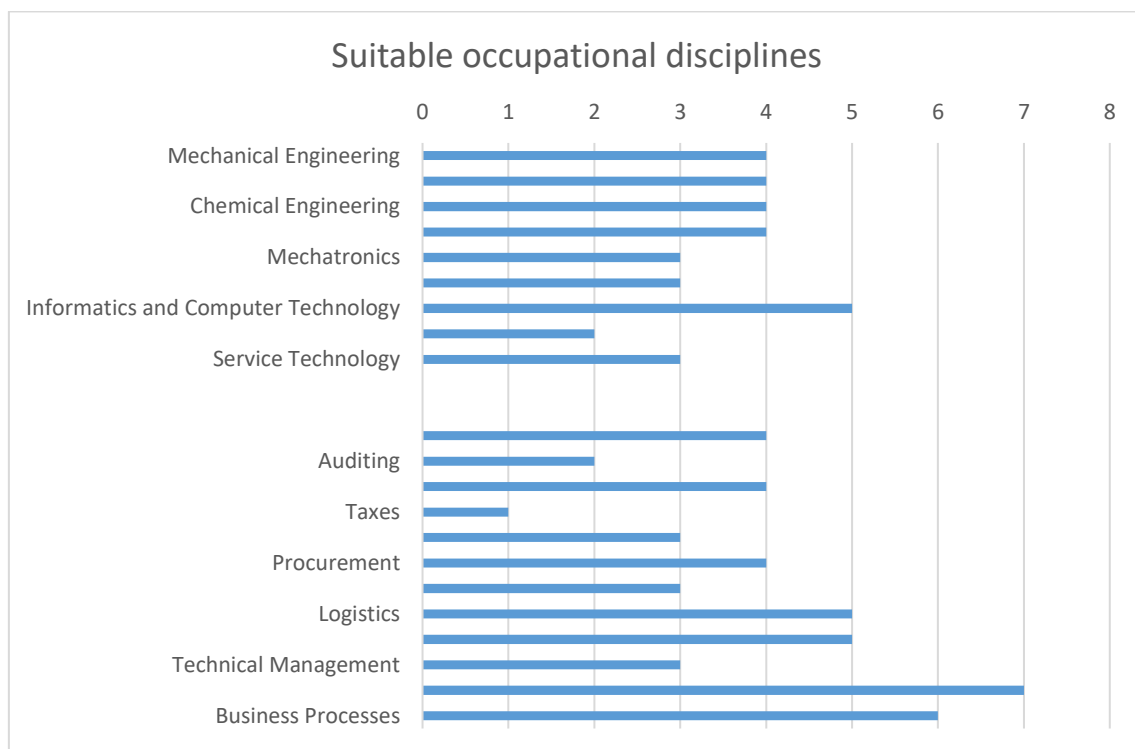
3.2.3. Supervision competences

Question: Are sufficient supervision competences available in your company to guide students in the practical phase?

	Yes	Partially	No	I'm not sure	No answer
technical supervision	6	4	1	0	1
organizational supervision	6	5	1	0	0

3.2.4. Occupational field of dual study programs

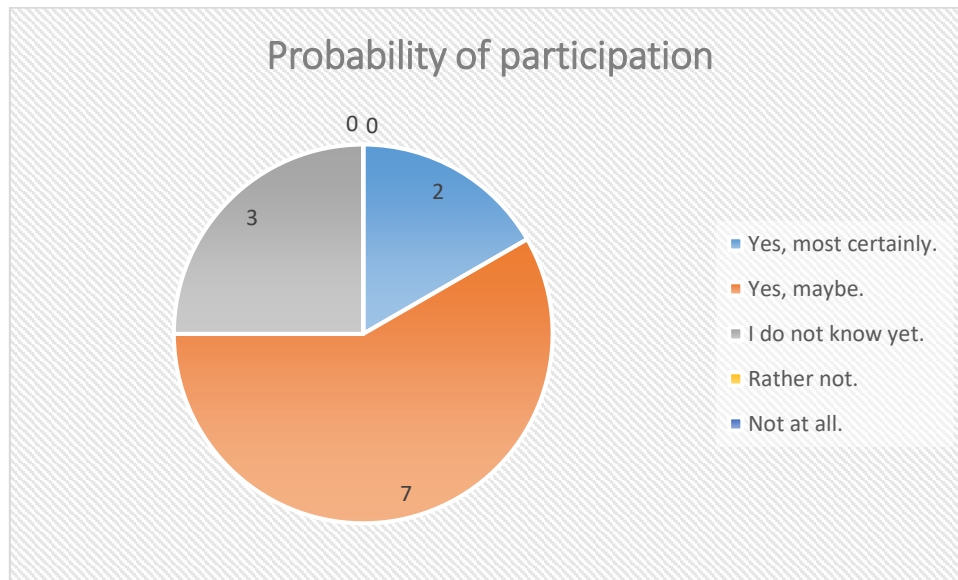
Question: For which occupational fields a dual study could be suitable (multiple answers possible)?



Remark: The answers deviates a little from those of the experts. They prioritize more the technical subjects.

3.2.5. Probability of participation in dual study programs

Question: If a dual degree program is offered in your region, can you imagine participating?



4. Conclusions

Results of the expert interviews, supported by answers given in the online survey, allow drawing some initial conclusions regarding the attitude of companies towards and their requirements on dual study programs:

- The significance of dual study programs in South Africa is still low, only a few company specific approaches exist, mostly in international based companies.
- Industry specific knowledge and related skills are taught by the companies.
- Large companies have a clearer idea of dual study courses than smaller ones.
- Some companies are implementing elements of dual approach in cooperation with different educational institutions.
- Benefits are being perceived by companies in different areas. As main benefits higher and more specific qualifications of the participants were specified.
- Supervising competence depends on the size of the company.
- Closer cooperation and more company orientated learning is required.
- The willingness to participate in dual study programs was confirmed from all surveyed companies.
- Dual courses are particularly suitable for technical disciplines, but are also suitable for some business courses.
- There is no clear preference for a specific rotation schedule identifiable.

5. Appendix

Online company survey design

Go Dual South Africa

1

From which educational institution do you recruit specialists and how many graduates do you recruit? (multiple answers possible)

	sufficient	partially	insufficient	none	No answer
Governmental Schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
TVET Colleges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Technical Universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Academic Universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

2 Do the students have sufficient skills and on which level?

	Practical skills	Theoretical Knowledge	Management Skills	No answer
Yes, the employees bring more skills than we need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Yes, the skills are sufficient for my company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
They bring some skills, but we need to further qualify them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
They have low skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
No, the skills are not sufficient at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

3

In a dual apprenticeship programme students learn theory and practice in both, colleges and cooperating companies.

Have you heard about dual apprenticeship programmes between companies and colleges?

- ☐ Yes I know it, because we use this form ourselves.
- ☐ Yes, I heard about already.
- ☐ I can only imagine a little.
- ☐ No, I never heard about it.
- ☒ No answer

4

In **dual study programmes** the learning sites are in **universities** and cooperating companies. Theoretical knowledge is taught in the university while practical know-how is gained in the company. The theory and practice phases alternate equally.

As a rule, the student is employed by the company and the company takes the study fees.

Have you heard about dual study programmes?

- ☐ Yes I know it, because we use this form ourselves.
- ☐ Yes, I heard about already.
- ☐ I can only imagine a little.
- ☐ No, I never heard about it.
- ☒ No answer

5 Which benefits could be generated by a **dual study programme** for your company? (multiple answers possible)

- ☐ I have access to more qualified candidates for different positions.
- ☐ The graduates are higher qualified.
- ☐ The graduates have more company specific experience/knowledge.
- ☐ The employee retention is higher due to longer company affiliation.
- ☐ The company gets fresh academic knowledge due to the cooperation with the university.
- ☐ My company can generate competitive advantages.
- ☐ Despite the financial invest, I profit from the offer of a dual study.
- ☐ I cannot identify any significant benefits.
- ☐ Other

6 For which occupational fields a dual study could be suitable? (multiple answers possible)

☐ Mechanical Engineering

☐ Electrical Engineering

☐ Chemical Engineering

☐ Production Engineering

☐ Mechatronics

☐ Electronics

☐ Informatics and Computer Technology

☐ Software Development

☐ Service Technology

☐ Finance

☐ Auditing

☐ Accounting

☐ Taxes

☐ Controlling

☐ Procurement

☐ Marketing & Public Relations

☐ Logistics

☐ Human Resource Management

☐ Technical Management

☐ Project Management

☐ Business Processes

☐ Others

7 Are sufficient supervision competences available in your company to guide students in the practical phase?

	Yes	Partially	No	I'm not sure.	No answer
technical supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
organizational supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

8 Do you already have a cooperation with educational institutions and/or universities? If yes, which one?

9 If a dual degree programme is offered in your region, can you imagine participating?

- ☐ Yes, most certainly.
- ☐ Yes, maybe.
- ☐ I do not know yet.
- ☐ Rather not.
- ☐ Not at all.
- ☒ No answer

10 In which industry is your company active?

- ☐ Automotive & supplier
- ☐ chemistry
- ☐ food processing
- ☐ metal processing
- ☐ mining industry
- ☐ logistics & transport
- ☐ craft business
- ☐ finance, banking
- ☐ tourism, gastronomy
- ☐ services
- ☐ administration services
- ☐ medicine & healthcare
- ☐ marine industries/ shipping
- ☐ Other
- ☒ No answer

11 What is your position in your company?

- ☐ General Management
- ☐ Human Resource Management
- ☐ Research & Development
- ☐ Production
- ☐ Marketing & Sales
- ☐ Finance & Accounting
- ☐ Logistics
- ☐ Other
- ☒ No answer

12 How many employees work in your company?

- ☐ less than 10
- ☐ 11 - 50
- ☐ 51 - 100
- ☐ 101 - 250
- ☐ 251 - 500
- ☐ 501 - 1000
- ☐ more than 1000
- ☒ No answer