ANALYSES OF THE NATIONAL EDUACATION MARKETS AND VET CONCEPT FOR PRACTICALLY GIFTED AGRICULTURE STUDENTS

IMPLEMENTATION AND RECOGNITION OF VOCATIONAL TRAINING FOR YOUNG PEOPLE WITH PRACTICAL TALENTS

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Introduction

Vocational training in agriculture plays a central role in the development of a sustainable and competitive agricultural economy. Young people with a strong practical aptitude are a particular focus of this study, as they have essential skills for the agricultural sector that are often not sufficiently promoted by traditional education systems. This analysis examines the national education and training structures in the agricultural sector and develops a concept for improving vocational education and training (VET) for practically gifted young people.

Importance of the target group

Practically gifted young people are characterised by a high level of manual dexterity, technical understanding and strong problem-solving skills, which are particularly important in manual and agricultural professions. In many education systems, however, the focus is primarily on theoretical knowledge and academic achievement, which means that the individual strengths of this group are often inadequately promoted. This can lead to talented young people finding it difficult to find suitable training or to realise their full potential.

The relevance of this target group arises not only from an educational policy perspective, but also from an economic one. Agriculture is a sector that relies heavily on practical skills to ensure operational efficiency, technological innovation and sustainable production methods. The shortage of skilled labour in many European countries, particularly in the agricultural sector, underlines the need to target training pathways at those with practical skills. According to European Commission reports on vocational education and training, there is a growing need for skilled workers with application-oriented skills, particularly in the context of the increasing mechanisation and digitalisation of agriculture.

Challenges of the target group

One major problem is the lack of permeability between general and vocational education systems. In many countries, there are strict divisions between academic and practical training, which often puts talented young people without the relevant school qualifications at a disadvantage. In addition, practical talents are often not sufficiently recognised in school assessment systems, which reduces their chances of obtaining high-quality vocational training.

Another problem is the social perception of vocational education. In many countries, academic careers are still seen as more prestigious than practical training, which can lead to talented young people deciding against a vocational career or not finding suitable training opportunities. In addition, there are significant differences in the quality and recognition of VET programmes between different national education systems. The lack of standardisation and mutual recognition of vocational qualifications within Europe is a further obstacle.

Analyses and forecasts of the education and labour markets

Northern Germany

With a population of 84.3 million, Germany is the largest economy in the EU and the fourth largest in the world, after the US, China and Japan. It is also one of the three leading export nations.

The German labour market is strongly influenced by demographic change and a persistent shortage of skilled workers. The number of people in employment has remained stable in recent years, but a shrinking labour force is foreseeable due to low birth rates and an ageing society.

In the construction industry in particular, there is an acute shortage of qualified workers, especially in highly specialised professions. Progress in digitalisation is still limited in many companies, which places an additional burden on competitiveness. At the same time, a lack of interdisciplinary cooperation between companies and training providers is making it difficult to develop modern training programmes that meet market requirements.

Innovations in education and training as well as stronger networks between companies and educational institutions are necessary in order to meet these challenges and ensure the long-term supply of skilled labour.

Current situation in the German Labour and Education Market

In March 2023, 45.72 million people were in employment in Germany, an increase of 1% over the previous year. While western German states, particularly Hamburg, saw significant employment growth, parts of eastern Germany experienced slight declines. At 7.2 per cent, the unemployment rate in the east remained above the level in the west (5.3 per cent), although the gap has narrowed in recent years.

The influx of Ukrainian refugees since the beginning of Russia's war against Ukraine has increased the unemployment rate by about 0.4 percentage points. Many of these refugees are employable, but face language barriers or have to adapt their qualifications to German standards. Despite the rise in unemployment, there are still about 773,000 vacancies, indicating a shortage of skilled workers.

Demand for well-trained workers is particularly high in professions such as medicine, nursing, engineering, science, computer science and skilled trades (e.g. mechatronics, electrical engineering and construction). At the same time, there is a surplus of skilled workers in areas such as dialogue marketing, cosmetics, administration and textile manufacturing.

The German education system supports the combination of practice and theory with its dual vocational training to prepare young skilled workers for the labour

market. Migrants and refugees have access to qualification programmes to meet the language and professional requirements of the German labour market.

Expected Development on the German Labour and Education Market.

Demographic developments in Germany will shape the labour market in the years to come. The rising average age of the population will increase the demand for workers in the health and care sectors. At the same time, traditional industries such as automotive engineering and chemicals could lose some of their importance due to the transition to sustainable and digital technologies.

To address the skills gap, Germany is increasingly relying on foreign labour recruitment and investment in vocational training. Demand for skilled workers will increase, particularly in the STEM subjects (science, technology, engineering and mathematics) and in the care sector. The German government is also promoting digitalisation and automation in key industries, which will bring new skills requirements.

The transition to a more sustainable economy also opens up opportunities in areas such as renewable energies and sustainable construction. Professions in the skilled trades and agriculture continue to be shaped by technological innovations, making it necessary to retrain and further educate the workforce.

Germany is also expected to benefit from the immigration of young workers, particularly through programmes such as the ‘Make it in Germany’ initiative, which targets foreign skilled workers. Nevertheless, it remains a challenge to increase the employability of low-skilled job seekers through education programmes and language courses (Labour market information: Germany, 2023).

Lithuania

The Lithuanian labour market is in a state of flux, characterised by demographic changes, technological developments and economic dynamics. With a population of 2.86 million (as at the beginning of 2023) and an unemployment rate of 9%, it is clear that despite positive developments in some areas, structural challenges remain. At the same time, digital transformation and sectoral specialisation are opening up new opportunities for employment and education.

Current Situation of the Lithuanian Labour and Education Market

In 2023, Lithuania recorded a 6.2% decrease in unemployment compared to the previous year, indicating active and resilient labour market dynamics. The unemployment rate fell in 42 out of 60 municipalities, with the sharpest declines in urban centres such as Vilnius and Kaunas. Despite this progress, the discrepancy between supply and demand remains: While there is a shortage of qualified labour in some regions and occupations, there is a surplus of jobseekers in other areas.

Demand is increasingly focused on professions in healthcare, engineering, digital technology, skilled labour and machine operators. The labour shortage is particularly severe in sectors such as transport, construction and production. At the same time, digitalisation has increased the demand for IT specialists and HR experts to help companies transform and retain talent.

Labour market dynamics are further influenced by technological developments and changes in production. Some professions, such as shoe machine operators, are less in demand due to declining domestic production, while others are becoming more important due to digitalisation and automation. The ageing population is also having an impact on the labour market, as there is an increasing demand for nursing and healthcare professions.

Expected Development of the Lithuanian Labour and Education Market

For the coming years, it is predicted that employment will grow particularly in the financial sector (+11.9 % by 2030), information and communication technology (+9.5 %) and in the hotel and restaurant industry (+9.3 %). Digitalisation will continue to be a driving force, requiring not only IT specialists but also new qualifications in traditional industries.

Demand for jobs in the health and care sectors will continue to grow as the population ages. Similarly, occupations in sustainable production and renewable energies will become more important, requiring retraining and further education. In addition, the immigration of skilled workers will be facilitated, particularly in occupations where there is an acute shortage, such as welders, electricians or bus drivers.

The Lithuanian government has taken measures to address labour shortages. These include a list of 67 occupations that have been made more accessible to foreign workers. This initiative aims to close the gap between labour supply and demand and improve access to skilled workers.

Another focus is on adapting the education system to the demands of the labour market. Technological advances and interdisciplinary cooperation between companies and educational institutions will be crucial to creating modern training opportunities and meeting the demand for skilled workers in the long term (Labour market information: Lithuania, 2023).

Norway

The Norwegian labour market is facing a combination of positive trends and significant challenges. With a population of 5.49 million in 2023, the country has one of the highest employment rates in Europe. However, the labour market also faces issues of skill mismatches, a growing need for specialized workers, and a significant shift towards green industries.

Current Situation of the Norwegian Labour and Education Market

As of January 2023, Norway's employment rate stands at 69.7%, and unemployment is at a record low of 1.8%. Despite the low unemployment, there is a growing shortage of skilled workers in many sectors. There is a particular demand for expertise in healthcare, engineering, manufacturing, and green industries, such as battery factories and offshore wind turbines. Companies are struggling to find employees with the exact skills they need, and the mismatch between supply and demand is a pressing issue. In fact, 46% of companies have tried to recruit workers without obtaining the required expertise. The Norwegian labour market also faces regional disparities, with Northern and North-West Norway experiencing the most significant gaps in skills.

Unemployment, although low, is not evenly distributed. Many of those unemployed lack up-to-date skills, and there is a noticeable trend where workers in sectors like tourism and transport are reluctant to return to work due to the instability and vulnerability of these industries. However, the sectors facing the greatest skill shortages include health, engineering, and manufacturing, with a particular focus on recruitment for the green transition.

Expected Development of the Norwegian Labour and Education Market

Looking ahead, the demand for skilled workers is expected to grow, particularly in the fields of healthcare, green industries, and digital technologies. The green transition will likely create new jobs, especially in the production of renewable energy sources such as wind turbines and battery manufacturing. However, the pace of these developments remains uncertain due to global economic factors, such as the Inflation Reduction Act in the US, which has slowed some industrial initiatives.

As the demand for workers in green sectors rises, Norway will face increasing challenges in meeting the recruitment needs locally, and possibly even nationally. The country will likely rely on immigration to fill gaps, especially in sectors experiencing the most acute shortages. Moreover, lifelong learning and continuous professional development will be critical as industries evolve rapidly, particularly in the manufacturing and IT sectors.

The Norwegian government is focusing on addressing these challenges by investing in education and training programs that are aligned with the needs of the labour market. This includes efforts to attract foreign workers in key industries, along with creating a more flexible recruitment process for employers to reach a wider pool of candidates.

In conclusion, while Norway has a strong labour market with high employment rates, the mismatch between the skills available and the skills required, along with the pressure from the green transition, will shape the labour and education landscape in the coming years. As the country adapts to these changes, it will require a strategic alignment between education, training, and the evolving needs of the workforce (Labour market information: Norway, 2023).

Finland

The Finnish labour market faces a dynamic set of challenges and opportunities influenced by demographic shifts, evolving workforce trends, and sectoral changes. With a population of approximately 5.5 million, Finland is experiencing a decrease in its working-age population due to the rising retirement rate. Simultaneously, the country is seeing an increase in immigration and people staying longer in the workforce. These demographic pressures are shaping both the labour and education markets in the country.

Current situation in the Finnish Labour and Education Market

inland's labour market is currently characterised by a relatively low unemployment rate of approximately 7.7%, with around 210,000 people unemployed in 2021. The majority of employed individuals work in the service sector, which is set to expand in the coming years. Key industries include commerce, transport, hotel and catering services, education, health and social services, and other service sectors. Notably, the service and retail sectors, particularly in sales, are experiencing significant demand for workers, while the social healthcare services and construction industries also report a growing need for personnel.

While Finland's workforce is highly educated and technologically skilled, a critical gap exists in terms of matching the demand for workers with the right qualifications. Employers often report difficulties in finding suitable candidates due to issues such as inadequate training, a lack of relevant work experience, or insufficient specialized skills. The most notable shortages are seen in healthcare (e.g., healthcare assistants, nurses, psychologists), construction (e.g., foremen), and social services. Conversely, oversupply is apparent in areas such as journalism, art and culture, and administrative roles, where unemployment remains high.

The Finnish education system is widely regarded for its focus on equity, lifelong learning, and skills development. The country's vocational education and training (VET) system is well-established, offering three levels of training: basic vocational education, further vocational education, and specialist vocational education. This system provides students with practical skills and experience, helping bridge the gap between education and the demands of the labour market. However, the COVID-19 pandemic has exacerbated certain challenges, particularly in terms of youth unemployment, which remains disproportionately high among those with lower levels of education. The government has responded with various support mechanisms, including retraining programs and wage subsidies.

Expected Development on the Finnish Labour and Education Market.

The future development of the Finnish labour and education markets is closely tied to demographic trends, sectoral shifts, and technological advancements. The labour force is expected to shrink further due to the ongoing increase in the

retirement rate. As a result, there will be an even greater reliance on immigration and older workers to fill vacancies, particularly in sectors experiencing critical shortages such as healthcare, social services, and construction.

Employment in the service sector is expected to continue to rise, with increasing demand for skilled workers in areas such as healthcare, education, and customer service. Additionally, the digital transformation and automation of industries are likely to lead to the creation of new job roles, particularly in fields related to IT, technology, and digital communication. However, this shift will also require significant investment in upskilling and reskilling the workforce, particularly in fields like digital technologies, data analysis, and cybersecurity.

As the workforce ages, the demand for professionals in elderly care and healthcare is projected to increase substantially. Finland's education system will need to adapt to these changing needs, with a stronger emphasis on healthcare training and digital skills development. Additionally, there will likely be a growing demand for skills related to sustainability and green technologies, as Finland moves toward a more sustainable economy.

The government's efforts to align educational offerings with labour market needs will play a key role in addressing skill mismatches. Continuing investment in vocational training, lifelong learning programs, and cooperation between educational institutions and employers will be essential to ensure that the Finnish workforce remains competitive and adaptable. Furthermore, the shift towards remote work, accelerated by the COVID-19 pandemic, will continue to impact the labour market. The emphasis on digital skills, flexibility, and work-life balance will shape future employment trends, while also highlighting the need for mental health support and the development of a strong digital infrastructure.

Overall, Finland's labour and education markets will continue to evolve in response to demographic changes, technological progress, and shifts in societal needs. Addressing skills gaps, adapting to new work patterns, and enhancing access to training and education will be critical to ensuring the country's long-term economic prosperity and the well-being of its workforce (Labour market information: Finland, 2023).

Italy

The Italian labour market is characterized by regional diversity and sectoral variation, with industrial activity concentrated in the north and agriculture and tourism dominating the south. The economy is showing resilience with GDP growth supported by consumption, investment recovery, and a rebound in tourism.

Employment needs remain high, especially in services, industry, and agriculture, with significant demand anticipated in sectors linked to the National Recovery and Resilience Plan (NRRP).

Current situation in the Finnish Labour and Education Market

Italy's main economic sectors include services (€291.8 billion GDP), manufacturing (€75.7 billion), construction (€21.6 billion), and agriculture (€7.6 billion). Employment is largely dominated by fixed-term and full-time contracts, with the most requested qualification being an upper secondary school diploma. The labour force participation rate has slightly increased to 66.2% (Q1 2023), while unemployment and youth unemployment have decreased to 7.8% and 22.3%, respectively. However, NEETs (23.1%) remain a challenge. Regional disparities persist, with unemployment rates highest in southern regions like Campania and Sicily.

The NRRP has been a critical driver of growth, allocating substantial investments to reduce regional disparities and support ecological and digital transitions. For example, Lombardy focuses on mobility and healthcare, while Piedmont aims to become Italy's Hydrogen Valley. Between 2023 and 2027, the labour market expects an annual demand of 760,000 workers, driven primarily by services, construction, and tourism. The hardest-to-fill roles include engineering technicians, healthcare professionals, and ICT specialists.

The gender employment gap is among the highest in Europe, with female unemployment at 9.5% (Q4 2022) compared to 7.3% for men. In southern Italy, this disparity is more pronounced, with female unemployment reaching 14.6%.

Expected Development on the Finnish Labour and Education Market.

Investments under the NRRP will continue to stimulate job growth, especially in green and digital sectors. A budget of €59.46 billion is earmarked for ecological and digital transitions, targeting areas like renewable energy, sustainable mobility, and hydrogen technologies. These transitions will increase demand for specialized professions, including environmental IT specialists, CAD designers, automation engineers, and green job roles like eco-designers and energy managers.

By 2027, 34.3% of job roles will require tertiary education, with shortages expected in STEM disciplines, healthcare, and economics. Technical vocational training and secondary education will face critical mismatches in fields like transport, logistics, and construction, meeting only 60% of potential demand.

Challenges in recruitment remain significant, with 46% of job vacancies unfilled nationally as of May 2023, particularly in northern regions. The demand for immigrant workers is increasing, especially in operational services, transport, and construction. However, unemployment in southern regions is expected to remain high, necessitating targeted interventions to bridge regional and gender disparities (Labour market information: Italy, 2023).

Implementation and recognition of vocational training for young people with practical talents

Introduction

Vocational training in the European Union is facing fundamental challenges: while the labour market is experiencing a growing demand for qualified specialists, there is a significant discrepancy between the established training structures and the needs of a substantial group of young people. This problem manifests itself in the form of a worrying rate of training dropouts, which is between 10 and 12 per cent across the EU, and in some regions is significantly higher. Particularly affected are practically talented young people, whose potential often remains untapped in the current system.

The Hamburg model has demonstrated a promising approach to solving this challenge with its remarkable success rate of 90%. The successful transfer of this model to different European contexts, particularly to Italy and Lithuania, illustrates the potential for EU-wide implementation. While in Lithuania, it has already been successfully integrated into the existing vocational training system, the example of Italy, with its regionally differentiated educational structures, shows the complexity of such transfer processes.

Cross-border concept

1. Modular training structure – A strategic reorientation of dual vocational training

The modular structure of the training represents a fundamental paradigm shift in European agricultural vocational training, as exemplified in the ProGREEN project. Based on the successful German dual training system, a systematic restructuring of the traditional training curriculum into manageable, coherent learning units was undertaken.

The modularization enables a differentiated qualification that is geared to the specific requirements of modern organic agriculture. Central modules include:

- Fundamentals of sustainable agriculture
- Soil science and biodiversity
- Organic farming methods
- Livestock farming and animal welfare

The flexible design of the learning process is based on individual learning speeds and enables progressive skills development. This is supported by a system of continuous success experiences and partial certifications. An essential aspect of innovation lies in the possibility of setting individual priorities. Trainees can deepen their knowledge of specific modules according to their personal strengths and operational requirements. This flexibility contributes significantly to motivation and training success. The integration

of practical and theoretical elements within the modules ensures a holistic development of skills. Each module has clearly defined learning objectives and skill levels that can be achieved through various didactic methods.

The modularization also allows for more flexibility in the learning process in terms of time and content, which effectively addresses individual learning barriers. This is particularly important for the integration of learners with practical talents. A transparent assessment system is used to systematically document the acquired competencies. This enables continuous adaptation of learning strategies and targeted support in areas with an increased need for support. The implementation of a modular training system requires careful coordination between all stakeholders involved in vocational training. Vocational schools, training companies and inter-company training institutions must coordinate their curricula and training plans.

The ProGREEN project provides a proven framework and concrete examples of implementation. The developed modules and teaching materials can serve as a blueprint for implementation in other EU countries, thus contributing to the harmonization and quality improvement of agricultural vocational training in Europe. The modularization of vocational training for farmers is therefore a promising approach to increasing the accessibility and effectiveness of vocational training while meeting the requirements of sustainable, future-oriented agriculture.

2. Practice-oriented learning – an innovative training concept for those with practical skills in agriculture

The training program developed as part of the ProGREEN project for people with practical skills and learning disabilities represents a significant innovation in agricultural vocational training with its exceptionally high practical component of 70%. This radical departure from traditional, theory-heavy training formats takes into account the specific needs of learners who develop their strengths primarily in practical work. The innovative character of the program manifests itself in the significant increase in practical training time compared to conventional training courses, which previously had a maximum of 50% practical experience, especially in countries with predominantly school-based training. This new approach is based on the realization that practical people can develop their potential particularly effectively in authentic work situations. The theoretical instruction, which makes up only 30% of the program, is integrated directly into the practical phases and takes place predominantly directly at the workplace.

The practical training takes place in specialized agricultural enterprises that have been certified as learning sites as part of the ProGREEN project. These enterprises have specially trained instructors who have been specifically qualified in dealing with the target group. The learning content is conveyed through systematic demonstration, joint execution and independent practice, with a focus on developing practical skills.

An essential feature of the program is the consistent application of the “learning by doing” principle. Theoretical content is taught only in direct connection with practical activities,

which makes abstract concepts immediately tangible. This direct link between theory and practice enables learners to understand complex agricultural relationships through their own actions. The training content is divided into small, manageable learning units, each of which is associated with a direct sense of achievement. This structure enables participants to continuously recognize progress and build self-confidence. Assessment is primarily based on the practical demonstration of acquired skills, which minimizes the often demotivating hurdle of written exams. The program particularly takes into account the requirements of modern organic farming. The trainees learn about sustainable farming methods, animal welfare and the careful use of natural resources in their daily work. This practical introduction to organic farming methods creates a deep understanding of sustainable agriculture.

Experience gained from the ProGREEN project to date shows that this highly practice-oriented approach can also be used to successfully integrate individuals into agricultural vocational training who often fail in conventional training courses. This innovative form of training thus makes an important contribution to social inclusion and to ensuring the urgently needed supply of skilled workers in European agriculture. The concept has proven to be transferable to different national contexts and can serve as a model for similar programs in other EU countries.

3. Digital Learning Integration - promoting digital skills in vocational training

The integration of digital learning methods into vocational training is a crucial step in meeting the requirements of modern workplaces and making training fit for the future. The aim of this concept is to specifically promote digital skills while increasing the flexibility and accessibility of training.

A central component of this approach is the introduction of digital learning platforms and tools that enable trainees to learn flexibly and independently of location. Interactive modules, virtual simulations and e-learning offerings form the basis for modern and practice-oriented knowledge transfer. Digital learning methods can be a valuable addition, particularly for occupations in the agricultural sector, which are often heavily characterised by practical experience. For example, simulations can be used to clearly illustrate and train complex agricultural processes.

The use of digital technologies also opens up new possibilities for better integrating learners from rural or remote areas into vocational training. Location-independent access to high-quality learning content reaches a larger target group that would otherwise have limited training opportunities due to geographical barriers. At the same time, digital tools enable learners to better track their individual learning progress and adapt it to their personal needs.

Another advantage of digitalisation in vocational education is the promotion of key skills that are becoming increasingly important in almost all sectors. These include, among

other things, the use of digital technologies, the ability to organise oneself and to work in virtual teams. These skills are not only essential for agriculture, but also for many other professional fields.

The implementation of digital learning methods in vocational education and training thus not only contributes to the modernisation of training, but also makes an important contribution to equal opportunities and to promoting the employability of young people. However, in order to derive the greatest possible benefit from this concept, close cooperation between educational institutions, companies and technology providers is essential. This is the only way to develop digital learning opportunities that meet the specific requirements of the respective professions while also meeting the needs of the learners.

The digitalisation of vocational training is therefore not only a timely response to the challenges of the labour market, but also an investment in the future of the younger generation.

4. Cross-Sectoral Training – Cooperation between different sectors

Agriculture is on the cusp of a profound transformation, driven by technological innovation and the need for sustainable practices. To meet these challenges, a promising solution is a cross-sector training model. The aim is to integrate skills from other sectors – such as technology, renewable energy and digital data analysis – into agricultural training.

Such a training model could include, for example, training in drone technology, sustainable energy production or agricultural data analysis. These skills are not only essential for the modernisation of agriculture, but also promote the adaptability of learners to changing labour market requirements. The interlinking of knowledge from different sectors also creates new career prospects and increases the attractiveness of agricultural occupations.

Furthermore, cross-industry training supports the transition to a green and digital economy. By imparting skills that are both ecologically and technologically relevant, not only is the environment protected, but the innovative strength of the industry is also strengthened. Learners benefit from a broader range of skills that enable them to work in different professional fields and actively contribute to the sustainable transformation of the economy.

The implementation of such a model requires close cooperation between educational institutions, companies and industry experts. Only by sharing knowledge and resources can practice-oriented and future-oriented training content be developed. Cross-sectoral training is thus a key to making agriculture fit for the challenges of the future while promoting the employability of young people.

5. Mentorship programmes – promoting peer learning and social support

Mentorship programmes are a valuable addition to traditional vocational training by combining social support and practice-oriented learning. In these programmes, experienced professionals or older apprentices mentor younger learners to support them in their professional and personal development. This form of mentoring can take place both on-site and virtually and offers a flexible way to address the individual needs of learners.

A key advantage of mentorship programmes is that they strengthen the social fabric within the training system. Young people benefit not only from the professional expertise of their mentors, but also from their practical experience and personal motivation. This creates a supportive environment that is particularly important for learners with practical talents or from challenging life circumstances.

In addition, mentorship programmes help to reduce dropout rates by providing learners with a reliable point of contact for questions and challenges. The personal relationship between mentor and mentee boosts the apprentices' self-confidence and helps them to define their professional goals more clearly. At the same time, the mentors also benefit, as they can develop their own leadership and communication skills.

The introduction of such programmes requires careful planning and selection of suitable mentors. However, through targeted training and the provision of resources, mentorship programmes can make a lasting contribution to improving the quality of vocational training and promoting the social integration of learners.

6. Green Skills Training – Focus on sustainable agricultural practices

The transition to a sustainable economy places high demands on the skills of the workforce. Specific training programmes that target green skills offer a forward-looking solution to meet these demands. The aim is to provide students with in-depth knowledge in areas such as regenerative agriculture, water resource management and sustainable energy production.

A programme like this not only promotes environmental protection, but also increases the competitiveness of trainees in a changing labour market. Green skills are increasingly in demand as many businesses are switching to more sustainable practices to meet environmental and economic requirements. Trainees who are trained in these areas are therefore more likely to successfully gain a foothold in the industry in the long term.

Furthermore, agricultural businesses also benefit from the integration of sustainable practices. By using resource-saving technologies and methods, costs can be reduced and efficiency increased. At the same time, businesses that focus on green skills make an important contribution to achieving global climate goals and strengthen their position in an increasingly environmentally conscious society.

The development and implementation of green skills training requires close cooperation between educational institutions, agricultural businesses and environmental experts. Only in this way can practice-oriented and application-oriented content be created that meets the specific requirements of the industry. Green skills training is therefore not only an important step towards sustainability, but also an investment in the future viability of agriculture and its workforce.

7. Soft Skills Development – Fostering social and personal skills

The development of soft skills is a central component of modern training programmes and aims to develop key competencies such as teamwork, communication, conflict management and problem-solving skills. These abilities are taught through interactive methods such as workshops, group projects and role-playing, which offer learners practical experience and direct application opportunities.

In an increasingly dynamic working world, social and personal skills are becoming more and more important alongside specialist knowledge. Trainees who can communicate effectively, work constructively in a team and approach conflicts in a solution-oriented manner are better prepared for the challenges of modern working environments. These skills are not only essential for professional success, but also contribute significantly to a positive and productive working environment.

Furthermore, developing soft skills promotes the personal maturity of the trainees. They learn to take responsibility, to empathise with others and to react flexibly to new situations. This not only strengthens their self-confidence, but also their ability to act confidently in complex work contexts.

The integration of a targeted module to promote soft skills in the training programme is therefore an important step in supporting the holistic development of the students. It helps to prepare them not only as skilled workers, but also as competent and self-confident personalities for the labour market.

Standardised concept for promoting vocational training for practically talented trainees in agriculture.

Introduction

Agriculture is facing major challenges worldwide: a shortage of skilled workers, the increasing importance of sustainability, digitalisation and the need to engage young people with diverse talents and backgrounds. Young people with practical talents, who often fail in theory-heavy training systems, need an approach that promotes their strengths and prepares them for the demands of a modern labour market. The aim of this concept is to create a future-oriented and flexible training structure that considers the individual needs of trainees and strengthens the competitiveness of agriculture while promoting social inclusion.

Modular training structure as a foundation

The foundation of this concept is a modular training structure based on the German dual system but expanded to include additional approaches. The training is divided into clearly defined, coordinated modules that can be flexibly adapted to the individual needs of learners and companies. Each module combines theoretical knowledge and practical application to enable holistic skills development. The modules cover fundamental topics such as sustainable agriculture, soil science and biodiversity, organic farming methods, and animal husbandry and animal welfare. These are complemented by innovative content such as drone technology, digital farm management and sustainable energy production. This structure allows learners to specialize in specific areas while also experiencing regular success through partial certificates that boost their motivation.

Work-based learning as a central component

A central component of the concept is work-based learning, which comprises 70% of the training. Theory is integrated directly into practice, so that abstract concepts become tangible through the students' own actions. The training takes place on certified farms, where students work and learn under real-life conditions. This approach ensures that learners not only acquire theoretical knowledge but also practical skills that they can apply directly in their day-to-day work. By closely linking theory and practice, the training is particularly attractive for young people with practical skills, as it allows them to fully develop their strengths. At the same time, social skills such as teamwork and communication are fostered as learners work in a corporate environment.

Digitalisation as the key to future viability

Digitalization plays a key role in this concept, complementing both the modular structure and the practice-oriented learning. Digital learning platforms provide trainees with access to high-quality materials and enable location-independent learning. Virtual simulations help to understand complex agricultural processes, while digital tools such as data analysis software and drone technology are integrated directly into training. This not only

fosters the digital skills of the students but also prepares them for the demands of an increasingly technology-driven world of work.

Cross-sectoral training for broader skills

Another important aspect is cross-sectoral training, which integrates skills from other areas such as technology, renewable energies and data analysis. This enables students to develop a broader range of skills and better adapt to the changing demands of the labour market. For example, sustainable technologies such as resource-efficient processes or the use of renewable energies are incorporated into the modules. This interdisciplinary approach promotes innovation in agriculture and contributes to the sustainable transformation of the sector.

Mentoring for personal support

To further support the personal and professional development of trainees, a mentoring program is integrated into the training. Experienced professionals or older apprentices support the students and help them to overcome both professional and personal challenges. This mentoring strengthens the apprentices' self-confidence and reduces the dropout rate, while also promoting social integration. The mentors not only impart technical knowledge but also values such as sustainability and a sense of responsibility, which are essential for modern agriculture.

Promoting green and soft skills

The concept is rounded off by the targeted promotion of green and soft skills. Students acquire the skills needed for a sustainable economy and successful personal development. These include regenerative agricultural practices, resource conservation, communication, conflict management and problem solving. These skills are not only taught in the modules but also applied and deepened in practical everyday work.

Conclusion: A coherent, future-oriented system

This holistic concept combines all approaches into a coherent system that revolutionizes the vocational training of practically talented apprentices. It offers flexible, practice-oriented and future-oriented training that meets both the individual needs of learners and the requirements of modern, sustainable agriculture. The combination of a modular structure, practical learning, digitalisation, cross-sector skills, mentoring and the promotion of green and soft skills not only strengthens the personal development of learners, but also makes a decisive contribution to solving global challenges such as the shortage of skilled workers, digitalisation and sustainability.

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