

Research Article**APPLYING THE SWISS MODEL IN THE VOCATIONAL EDUCATION SECTOR IN THE UNITED ARAB EMIRATES*****Dr. Mohamad S. Bleik**

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Abstract

Objective: The study aims to find out the interplay between dual education, cultural computability and vocational education effectiveness in the UAE, with a specific focus on the collaborative impact of dual education practices that has involved vocational institutions, research entities, industrial firms and education administrations departments. **Methodology:** The study has used correlation analysis to examine the relationship between key factors including dual education adaptation, cultural compatibility, institutional support, UAE vocational education, and vocational education effectiveness. Data were collected from 299 participants and statically significance was set at $p < 0.05$. **Results:** The findings have shown positive correlation between dual education adaptation, cultural compatibility, and UAE vocational education with vocational education effectiveness in the UAE. However, institutional support demonstrates a negative relationship with the vocational educational effectiveness. **Discussion:** The study highlights the benefits of dual education in preparing learners for the workforce, emplacing collaboration among institutions, research entities, industrial firms and education administration departments. **Conclusion:** Study highlights the importance of dual education and cultural compatibility in vocational education effectiveness within the UAE. The study emphasize the importance of fostering collaborative relationships among stakeholders for better vocational education outcomes and calls for further research on institutional support dynamics.

Keywords: Dual Education, Cultural Compatibility, Vocational Education, Economic Development, Student-Centered Approach, Swiss Model, Workforce Preparation.

INTRODUCTION

The UAE government prioritizes human resource development to replace expats with trained UAE Nationals. A mission was conducted to examine the UAE's technical and vocational education system and explore potential enhancements. The researcher provided advice on long-term and short-term goals, instructor training programs, curriculum development, educational materials, pedagogical techniques, career counselling, and collaboration with business, industry, and labor (H. Unterbrunner, 1987). The influence of vocational interests on students' choice of Baccalaureate School, Vocational Education and Training, or Federal Vocational Baccalaureate in Switzerland, revealing significant predictors for all tracks, despite school variables and social background (Jüttler *et al.*, 2021). The study reveals weak collaboration between Swiss schools and training companies, with few links and no formal strategies, and suggests the need for more effective strategies to bridge the gap between school and workplace learning (Sauli, 2021). The study explores persistence intention in vocational education and training programs, revealing positive effects of occupational self-efficacy and perceived fit during training, and indirect effects of anticipated fit and self-efficacy post-education, and social integration in the workplace (Findeisen *et al.*, 2022). Swiss apprenticeships are enhanced by effective verbal and nonverbal communication between experienced professionals and apprentices, exploring the importance of language-in-interaction in practical training methods (Filliettaz, 2010; Filliettaz *et al.*, 2015). The relationship between job satisfaction, administrative empowerment, and organizational commitment among academic staff in Palestinian universities.

Results show that enhancing administrative empowerment can improve performance and increase staff confidence, leading to positive behaviors like decision-making and strategic planning. The innovative vocational education environments, student retention and attrition factors, and vocational degrees in early childhood educator training facilitate higher education pathways (Papier, 2023). Swiss vocational education's unique structure, staff training, and high professional standards could serve as a valuable guide for China's reform efforts in vocational education (Yang, 2022). The impact of technology on society and companies necessitates a comprehensive approach to vocational education and training (CVET) that effectively incorporates technology's influence on work (Beer & Mulder, 2020). The study analyses the potential application of the Swiss vocational education system in the UAE addressing the gaps in contributing towards global and UAE specific discourse on vocational education.

THEORETICAL FRAMEWORK**Transfer of Innovation**

The theory explains the complex methods used in accepting and doing successful school improvements from one place to another; the idea comes from studying education. It knows that what works great in one place can be moved to another because of differences like culture, school rules and situation (Kwon, 2020). The Swiss model works with the UAE's social, financial and culture factors. This is important for it to be used in educational work training in the UAE. The transfer of innovation theory explored how to successfully implement the educational improvement across different contexts, despite the cultural, regulatory, and situational differences. Although the particularly relevant in vocational education and training where strategies needs to be customized based on the regional

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needs. Although by addressing social, financial and cultural factors, educators can successfully integrate the Swiss models in to the UAE's educational framework.

State of the Art and Theoretical Frame:

The UAE's vocational educational system is understudied, with the limited research. Comparing the UAE's current state with the Swiss model that can help to identify the areas for improvement. With the help of analysis this can help stakeholders understand the feasibility and challenges of implementing the Swiss model, guiding the strategic decision-making and policy development in vocational education and training.

LITERATURE REVIEW

Contemporary Framework of the Swiss Vocational Education System: Implementation and Structure

Since 1980, UAE's Vocational Education (VE) has been a significant economic catalyst, reducing unemployment through skilled workers (Raji, 2019); Higher Colleges of Technology, Abu Dhabi Vocational Education and Training Institute (ADVETI), Abu Dhabi Polytechnic, NIVE, and Fatima College provide vocational education (Shouk, 2023). The Abu Dhabi local government is promoting vocational education (VE) through the Emirates Skills initiative led by ACTVET. VE is free for UAE citizens, and in 2023, the government launched NAFIS, a program to employ UAE nationals in the private sector with subsidized salaries and up-skilling options (Hourani *et al.*, 2019). This initiative aims to increase employment rates through skilled vocational graduate students. UAE vocational students start their education in VE from Grade 10 through STS or ATHS. Graduates receive accredited certificates, CAA qualifications, and locally recognized certificates from NQC and MoE. ADVETI, UAE's largest educational institution, focuses on skills development for diplomas or higher degrees (Gallagher, 2019; Kippels & Ridge, 2019). The UAE government funds all vocational programs and institutes, including teaching costs, equipment, workshops, raw materials, and transportation (Mishrif *et al.*, 2023). The Vocational Education and Training Awards Council (VETAC) in UAE governs vocational education and training (VE) through quality assurance, standards maintenance, and vocational award validation (Marimo, 2020). In 2023, Abu Dhabi adopted an Apprenticeship program, requiring students to spend 30% in institutes and 70% in workplaces. Companies can choose weekly, monthly, or yearly training options (Shouk, 2023).

H¹: UAE Vocational Education significantly contributed to the effectiveness of the vocational education ($p < 0.05$).

Effectiveness of Vocational Education

In the globalized age, education must equip individuals with intellectual prowess, creativity, and self-reliance, combining academic and life skills orientations to develop students' intellectual abilities and real-world skills (Kholifah *et al.*, 2020). The current focus is on modernizing general and vocational education through a gradual shift in the content, methodology, and administration of educational practices (Kamasheva *et al.*, 2016; Zhuravlova *et al.*, 2021). With the help of the Swiss model in vocational education, the trainers

can combine classroom learning with on-the-job training and provide students with a comprehensive and practical skill set (Findeisen *et al.*, 2022). Originating in Switzerland, this model was used to prepare individuals for industrial needs. However, this has involved collaboration among businesses, government entities and educational institutions (Kammermann, 2010; Sander & Kriesi, 2019). The UAE government is promoting vocational education to develop technical and professional skills in young Emiratis, despite offering various educational options from early childhood to tertiary level, despite a low adoption rate of technical vocational education and training (Raji, 2019). The United Arab Emirates employs the strategy of promoting and encouraging students to pursue technical and vocational education and training (TVET) as a means to enhance the employability skills of its citizens (Hojeij & Al Marzouqi, 2023). By adopting vocational education, students gain practical job experience through internships, industrial placements, work-integrated programs, and vocational bachelor and master degrees, either before or during their higher education (Böckerman *et al.*, 2019; Oswald-Egg & Renold, 2021).

Adaptation of Dual Education Approach

Dual vocational education, which aims to attain economic, social, and personal objectives, has considerable promise. Implementation of vocational education systems is limited in many countries, but it is crucial for future generations to acquire essential skills for corporate employment, public affairs, and personal growth (Kravchenko *et al.*, 2020). Within the vocational track, students have the option to choose either the "dual system", which combines practical training at a firm with theoretical study in a vocational school, or a full-time school model. Approximately 80% of Swiss teenagers within the vocational track opt for the dual model; however, in the context provided, VET denotes the dual system. In all, there are around 230 apprenticeships that may be classified into 32 occupational domains (Becker & Glauser, 2018; Jüttler *et al.*, 2021). The purpose of dual training is to address the limitations of traditional training methods and bridge the gap between theory and practice, education and production. It aims to enhance the quality of training for skilled workers by considering the requirements of employers within new organizational and diverse training frameworks. The dual form of education involves cooperation between businesses and social partners, a legislative framework for vocational education quality, in-service training, qualified production personnel, and institutional research for quality improvement (Homeniuk & Nagayev, 2023; Kalenskyi *et al.*, 2023).

H²: There is a significant positive relationship between the adaption of the dual education approach and the effectiveness of vocational education ($p < 0.05$).

Cultural Compatibility

The Swiss model implementation in the UAE vocational education sector required an assessment of cultural compatibility. However, this has involved understanding societal attitudes towards vocational education, workforce dynamics and cultural perceptions. According to the study by Al Hammad, the societal attitude through findings has been observed in which interview experts expressed that students and staff mobility in the UAE found challenges for VET Finnish providers. This has included a lack of international

strategy, low social value, and government support. Low wages and availability of bilingual trainers (Al Hamad, 2020). Whereas, in other studies there was a research-based learning approach has been adopted in Abu Dhabi for male students who were disengaged from formal learning. However, results have shown that the approach has been perceived as beneficial for both students and teachers. With 90% of students showing improvement in test scores, this has suggested that VEDC was effectively engaging the students and positively generating an impact on skill sets as well as in academic achievement (Al-Olaimat, 2012). The learning culture, including its structures and members' attitudes, values, and beliefs, significantly influences apprentices' socialization and preparation for the labor market (Barabasch & Keller, 2020). Educational groups have found that instructors lack a comprehensive grasp of students' requirements in developing cultural awareness, both of their own culture and other cultures (Sauli, 2021). Whereas, for vocational training, it is important to create a culture where students can enhance their skills according to their skill requirements (Barus *et al.*, 2021). For adopting vocational education while conducting training, societal values were essential in accepting the standards and principles in a society, aiming to improve it through everyday life, encompassing cultural ideals like honesty, diligence, helpfulness, and humility (Nargiza, 2022).

H³: Cultural compatibility significantly influences the effectiveness of vocational education ($p < 0.05$).

Institutional Support

The UAE's educational institutions are utilizing e-learning, m-learning, and distant learning methods, which have a positive impact on student performance, with institutional support playing a crucial role (Nuseir *et al.*, 2022). Neoliberalism has significantly influenced education systems, particularly in the UAE, as it has led to a shared approach among commercial and government sectors (Kirk, 2010). Higher education was now seen as a financial investment in a nation's economy, with graduate employability now focusing on alignment with job prospects. This shift has led to the inclusion of personnel, policies, curriculum, and financing in both government and private sector institutions (Abounasr, 2022). Saudi Arabia plans to boost technical and vocational education, reduce public school spending, and privatize universities to attract investors. The education institutions were expected to double in value due to population growth, educational initiatives, and changing consumer views (ALSHAREEF, 2023). The rhetoric of teachers in Swiss vocational education has a significant impact on students' decision-making, perpetuating social inequities and affecting their practical choices (Delay, 2022; Kogler *et al.*, 2023). UAE has settled with the policies in order to enhance the skillset of the students where they have shared different programs based on vocational and technical learning (Alnaqbi, 2016; Massouti *et al.*, 2023). The integration of entrepreneurial skills into technical vocational education and training has the potential to stimulate innovation and generate job opportunities in Abu Dhabi, UAE (Neusuess, 2020). The UAE's faculty employs a student-centered approach, with variations based on gender, expertise, and vocational education certifications (McMinn *et al.*, 2022). Financial assistance is crucial for educational institutions to provide necessary facilities and resources for children with special educational needs. School administrators should prioritize providing a budget that meets their needs to enhance inclusivity. However,

research shows that private schools in the UAE lack the funds to offer the necessary facilities and services for students with special needs. This highlights the need for new inclusive legislation and the need for more special education teachers (Anati, 2013; Khaleel *et al.*, 2021). In UAE, Policy proposals include a comprehensive database, standardized licensing, and understanding labor market needs to ensure students receive training in essential fields (Owais *et al.*, 2020).

H⁴: Institutional support does not have a significant impact on the effectiveness of vocational education ($p > 0.05$).

METHODOLOGY

The methodology employed in the study considered quantitative, focusing on collecting and analyzing the numerical data to address the research objectives. A sample size of 299 respondents from UAE was selected to participate in the study.

Quantitative Approach

The quantitative approach allowed for the systematic collection and analysis for data providing the insights in to the prevalence, frequency and relationships among variables of interest. Although in this study quantitative method were utilized in measuring different aspects related to the transferability of the Swiss vocational education model to the UAE context.

Data Collection

Data collection engaged with the responses from 299 individuals presenting different stakeholders that was engaged in vocational education and training in the UAE.

Data Analysis

Quantitative data has gathered the data by using statistical techniques to identify the patterns, trends and associations relevant to the research objectives. Frequency Analysis, Correlation analysis and Regression analysis has been done in order to analyze the relationship among the variables to draw the conclusion from the data.

QUANTITATIVE ANALYSIS

Our study examined into different factors of vocational education in the UAE, gathering perceptions from respondents on effectiveness, educational approaches, cultural alignment, institutional support, current state, gender considerations and industry involvement. Results indicated that the positive views on effectiveness (mean score: 4.15), adaptation of the dual education approach (mean score: 4.20), and cultural compatibility (mean score: 4.15), suggesting these aspects are well-received. Institutional support also garnered favorable feedback (mean score: 4.14). However, respondents have also expressed the concerns about the current state of the vocational education in the UAE (mean score: 1.25), highlighting areas for improvement. Gender education (mean score: 2.03) and the industry's role (mean score: 1.60) were perceived as relatively less crucial. These insights offer valuable guidance for enhancing vocational education strategies and policies in the UAE, emphasizing the need for targeted improvements in certain areas while capitalizing on existing strengths.

Frequency Analysis

		Effectiveness of Vocational Education	Adaptation of Dual Education Approach	Cultural Compatibility	Institutional Support	UAE Vocational Education	Education	Industry
N	Valid	299	299	299	299	299	299	299
	Missing	0	0	0	0	0	0	0
Mean		4.1527	4.1973	4.1513	4.1360	1.2533	2.03	1.60

Regression Analysis

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.504 ^a	.254	.244	.21390	.254	24.989	4	294	.000	.895

Correlation Analysis

In examining the key factors related to the vocational education in the UAE, our correlation analysis based on the responses from 299 participants has shown noteworthy insights. Notably, the effectiveness of the vocational education demonstrated a positive correlation with the adaption of the dual education approach ($r = 0.453$, $p < 0.01$), underscoring a perceived effectiveness associated with the successful implementation of the educational model. Furthermore, a positive correlation emerged between the effectiveness of the vocational education and cultural computability ($r = 0.379$, $p < 0.01$), emphasizing the significance of the cultural association in improving the vocational education outcomes. Although the institutional support exhibit a weak negative correlation ($r = -0.074$, $p > 0.05$), suggesting that perceived effectiveness is not significantly influenced by institutional support. Additionally, our study has been identified positive correlation between the state of the vocational education in the UAE and both the adaption of the dual education approach ($r = 0.392$, $p < 0.01$) and cultural computability ($r = 0.281$, $p < 0.01$), emphasizing the interconnectedness of these factors. Although these findings provide the valuable insights into the relationships shaping the vocational education in the UAE, apprising the future research policy and considerations in the field.

Regression Analysis

The regression model predicting the UAE vocational education effectiveness has shown moderate fit, accounting for 25.4% of the variance. Also, the model significance is reinforced through significant r square change with the value of 0.254 and F change value that is 24.98 with no substantial autocorrelation in residuals.

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.573	4	1.143	24.989	.000 ^b
	Residual	13.452	294	.046		
	Total	18.025	298			

The regression model comprised the incorporating dual education approach, cultural compatibility, institutional support, and UAE vocational education as predictors has shown statistically significant in exploring UAE vocational education effectiveness variability ($F = 24.989$, $p < 0.001$). This has suggested that at least one predictor has shown a significant impact on the effectiveness of vocational education. Further, the model's ability to explain the variance has also supported the regression sum of squares (4.573) being a significantly higher value than the residual sum of squares considering (13.452).

The regression analysis has included the factors considering the effectiveness of vocational education as the dependent variable. The constant term is 1.953 ($p < 0.001$), which has shown the expected effectiveness when all predictors are zero. The adoption of a dual education approach has shown a positive and substantial impact ($Beta = 0.325$, $p < 0.001$), suggesting that as the adoption of a dual education approach increases, the perceived effectiveness of vocational education also rises.

Coefficients						
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.953	.318		6.131	.000
	Adaptation of Dual Education Approach	.295	.054	.325	5.430	.000
	Cultural Compatibility	.183	.050	.210	3.690	.000
	Institutional Support	.014	.049	.015	.277	.782
	UAE Vocational Education	.116	.065	.100	1.777	.077

a. Dependent Variable: Effectiveness of Vocational Education

Similarly, cultural compatibility has shown a positive influence ($Beta = 0.210$, $p < 0.001$), exploring the importance of aligning vocational education with the cultural context for enhanced effectiveness. Further, institutional support exhibits a negligible impact that is ($Beta = 0.015$, $p > 0.05$), which has indicated that institutional backing does not significantly contribute to the effectiveness of vocational education. Lastly, the UAE Vocational Education has also shown a positive trend ($Beta = 0.100$, $p = 0.077$), suggesting that at a potential influence on effectiveness.

DISCUSSION

The findings of the study offers valuable insights into the state of vocational education in the UAE and its potential alignment with the Swiss vocational education model. The UAE is enhancing its vocational education through dual education approaches, in line with the National strategy for vocational education and training, despite marginally affecting effectiveness (Ministry of Education, 2022). The positive relation between the effectiveness of vocational education and the adaption of the dual education approach that has highlighted the importance of incorporating practical, on-the-job training on combining classroom instruction with real-world work experience, highlighting the potential applicability in the UAE. Additionally the significant positive relationship

among the effectiveness of vocational education and cultural compatibility emphasize the need for aligning educational practices with societal values and beliefs (Tan, 2024). The findings have suggested that the integrating cultural considerations into the vocational education curriculum and training methods could enhance their effectiveness and relevance towards students' needs and aspirations. The UAE's vocational education effectiveness is significantly influenced by teachers' views on school leaders' selection and development strategies, indicating a strong desire for improved standards and expert engagement (David & Abukari, 2020).

Dual vocational education systems can enhance economic development and social goals, but harmonious integration of education and training at institutional and corporate levels is crucial (Kravchenko *et al.*, 2020). The UAE's faculty typically adopt a student-centered approach, with variations based on factors like gender, and vocational credentials (McMinn *et al.*, 2022). However, the negligible impact of institutional support on the effectiveness of vocational education warrants further exploration. While institutional backing is crucial for providing necessary resources and infrastructure it appears that other factors such as pedagogical approaches and cultural alignment have more direct influence on educational outcomes. The finding suggests that while institutional support is necessary it might not be sufficient determinant of vocational education effectiveness on its own.

UAE's vocational education effectiveness is marginally improved through collaboration, positive image, logistics partner selection, and teacher training reforms. Cultural compatibility, gender equality, and culturally relevant content can enhance outcomes. Finnish vocational education providers face challenges in transmitting training, requiring collaboration, positive models, and structured programs (Al Hamad, 2020). UAE vocational education positively impacts cultural compatibility, enhancing enterprising characteristics among students, with females showing better improvement and males showing the greatest improvement in risk-taking characteristics post-learning (Yasin & Khansari, 2021). The efforts to develop teaching materials for deep learning activities in the UAE to promote culturally responsive teaching practices (Ashencaen Crabtree, 2010). The Swiss vocational education system's ultimate goals must be addressed prior to initiating any improvements (Dubs & technologie, 2006). Swiss higher education policy is undergoing a shift towards geographical reorganization, with the federal government playing a more active role in this process (Perellon, 2003). The UAE government is introducing computer-aided learning programs to improve vocational education, but their effectiveness is evaluated, highlighting challenges in implementing these programs, which offer commercial benefits and contribute to societal improvements (Raji, 2019). Academic expatriates in the UAE have a high level of cultural competency and adaptability, which tends to improve with both experience and age (Fenech *et al.*, 2020). UAE students' vocational interests remain consistent across all grade levels, with female students prioritizing equal opportunities with male colleagues (Nassar & Anajjar). The UAE's remittances and foreign exchange business culture significantly impact job performance, attitudes, and behavior of workers, regardless of their nationality or culture (Cherian *et al.*, 2021). Industrial education enhances vocational students' social skills, preparing them for human-robot competition in the Industry Revolution 4.0 era by improving their adaptability and communication

abilities (Eliyasni *et al.*, 2019). The Diploma Three Study Program in TVET has been upgraded to an Applied Bachelor, enhancing the quality of vocational education in Indonesia and preparing students for the fourth industrial revolution (Putra *et al.*, 2022). The integration of sustainable development principles into technical and vocational teacher training programs can significantly improve social well-being and promote community growth (Hashim *et al.*, 2023). Vocational secondary schools promote collaborative learning, enhancing students' creative thinking and collaborative work skills and preparing them for successful careers in science and technology (Ntobuo, 2021). In UAE, there was not much increase in the institutional efforts for the vocational programs as they were working on it exploring and enhancing more programs.

Conclusion

Dual education and cultural compatibility both have shown significant results as this has generated a positive relationship with vocational education by connecting vocational institutions, research centers, industrial firms, and education administration departments to cultivate engineering talent. It contributes towards economic development and societal goals through fostering professional identity and giving flexibility to apprentices. In the UAE, a student-centered approach was influenced by gender and vocational credentials that have enhanced vocational development in UAE. The Swiss model is a dual-track approach that combined theoretical learning with practical experience, preparing students for the workforce through practical learning experiences.

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Conflict of Interest

Author declares no conflict of interest

REFERENCES

- Abounasr, H. (2022). Neoliberal Globalization, Education Policies and Strategies Adopted in Science Curriculum Reform in the United Arab Emirates: A Case Study Based on the Views of Ministry of Education Stakeholders University of Liverpool].
- Al-Olaimat, M. A. (2012). The Effectiveness of Task-Based Language Learning Approach in Teaching English as a Second Language to the Students at the Vocational Education Development Centre in Abu Dhabi, UAE The British University in Dubai (BUiD)].
- Al Hamad, M. (2020). Exporting Finnish vocational education and training to the United Arab Emirates: Opportunities and challenges.
- Alnaqbi, S. K. A. (2016). Attitudes towards vocational education and training in the context of United Arab

- Emirates: a proposed framework. *International Journal of Business and Management*, 11(1), 31.
- Alshareef, N. (2023). How Institutional Investors' Alternative Funding and Investment Opportunity Impact Education System? The Case of Saudi Arabia.
- Anati, N. (2013). The pros and cons of inclusive education from the perceptions of teachers in the United Arab Emirates. *International Journal of Research Studies in Education*, 2(1), 55-66.
- Ashencaen Crabtree, S. (2010). Engaging students from the United Arab Emirates in culturally responsive education. *Innovations in Education and Teaching International*, 47(1), 85-94.
- Barabasch, A., & Keller, A. (2020). Innovative learning cultures in VET—'I generate my own projects.'. *Journal of Vocational Education & Training*, 72(4), 536-554.
- Barus, I. R. G., Simanjuntak, M. B., & Resmayasari, I. (2021). Reading literacies through evieta-based learning material: students' perceptions (Study Case Taken from Vocational School—IPB University). *Journal of Advanced English Studies*, 4(1), 15-20.
- Becker, R., & Glauser, D. (2018). Vocational education and training, vocational baccalaureate or academic high school? An empirical analysis of social selective transitions to upper secondary education in the German-speaking part of Switzerland. *Swiss Journal of Sociology*, 44(1), 9-33.
- Beer, P., & Mulder, R. H. (2020). The effects of technological developments on work and their implications for continuous vocational education and training: A systematic review. *Frontiers in psychology*, 11, 918.
- Böckerman, P., Haapanen, M., & Jepsen, C. (2019). Back to school: Labor-market returns to higher vocational schooling. *Labour Economics*, 61, 101758.
- Cherian, J., Gaikar, V., Paul, R., & Pech, R. (2021). Corporate culture and its impact on employees' attitude, performance, productivity, and behavior: An investigative analysis from selected organizations of the United Arab Emirates (UAE). *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 45.
- David, S. A., & Abukari, A. (2020). Perspectives of teachers' on the selection and the development of the school leaders in the United Arab Emirates. *International Journal of Educational Management*, 34(1), 56-69.
- Delay, C. (2022). Youngsters' choices within the field of vocational education in French-speaking Switzerland: The interplay of institutional influences, peer-group and habitus. *Journal of youth studies*, 25(1), 116-135.
- Dubs, R., & technologie, S. O. f. d. l. f. p. e. d. l. (2006). *An appraisal of the Swiss vocational education and training system*. hep Berne.
- Eliyasni, R., Kenedi, A. K., & Sayer, I. M. (2019). Blended learning and project based learning: the method to improve students' higher order thinking skill (HOTS). *Jurnal Iqra': Kajian Ilmu Pendidikan*, 4(2), 231-248.
- Fenech, R., Bagnant, P., & Abdelwahed, I. (2020). Cultural learning in the adjustment process of academic expatriates. *Cogent Education*, 7(1), 1830924.
- Filliettaz, L. (2010). Guidance as an interactional accomplishment practice-based learning within the Swiss VET system. *Learning through practice: Models, traditions, orientations and approaches*, 156-179.
- Filliettaz, L., Durand, I., & Trébert, D. (2015). Learning through verbal interactions in the workplace: The role and place of guidance in vocational education and training. *Francophone perspectives of learning through work: Conceptions, traditions and practices*, 279-301.
- Findeisen, S., Jüttler, A., Neuenschwander, M. P., & Schumann, S. (2022). Transition from school to work—Explaining persistence intention in vocational education and training in Switzerland. *Vocations and Learning*, 15(1), 129-154.
- Gallagher, K. (2019). *Education in the United Arab Emirates*. Berlin: Springer. doi, 10, 978-981.
- H.Unterbrunner. (1987). Technical and Vocational Education and Training (Serial No. FMR/ED/STE/87/132 United Nations Educational, Scientific and Cultural Organization Paris, 1987).
- Hashim, S., Zain, N. Z. M., & Zahir, N. Z. M. (2023). Cultivating teachers' creativity towards education for sustainable development (esd) in technical and vocational education and training (TVET). *Journal of Nusantara Studies (JONUS)*, 8(2), 157-181.
- Hojeij, Z., & Al Marzouqi, A. (2023). Emirati female students pursuing Technical and Vocational Education and Training (TVET): Perceptions from the UAE. *International Journal of Training Research*, 21(1), 36-56.
- Homeniuk, D., & Nagayev, V. (2023). Dual Educational System of Professional Training of Future Skilled Workers. Advances in Design, Simulation and Manufacturing VI: Proceedings of the 6th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange, DSMIE-2023, June 6–9, 2023, High Tatras, Slovak Republic-Volume 1: Manufacturing Engineering,
- Hourani, R. B., Litz, D. R., & Jederberg, S. (2019). Perceived value of the Abu Dhabi Educational Care Centre for enhancing juvenile education within the spectrum of social justice: confronting challenges. *International Journal of Leadership in Education*.
- Jüttler, A., Schumann, S., Neuenschwander, M. P., & Hofmann, J. (2021). General or vocational education? The role of vocational interests in educational decisions at the end of compulsory school in Switzerland. *Vocations and Learning*, 14, 115-145.
- Kalenskiy, A., Gerliand, T., Kravets, S., Homeniuk, D., & Nagayev, V. (2023). Dual Educational System of Professional Training of Future Skilled Workers. In *Design, Simulation, Manufacturing: The Innovation Exchange* (pp. 369-378). Springer.
- Kamasheva, Y. L., Goloshumova, G. S., Goloshumov, A. Y., Kashina, S. G., Pugacheva, N. B., Bolshakova, Z. M., Tulkibaeva, N. N., & Timirov, F. F. (2016). Features of vocational education management in the region. *International Review of Management and Marketing*, 6(1), 155-159.
- Kammermann, M. (2010). Job or further training? Impact of the Swiss Basic Federal Vocational Education and Training (VET) Certificate on the careers of low achieving young people. *Education+ Training*, 52(5), 391-403.
- Khaleel, N., Alhosani, M., & Duyar, I. (2021). The role of school principals in promoting inclusive schools: a teachers' perspective. *frontiers in education*,
- Kholifah, N., Sudira, P., Rachmadtullah, R., Nurtanto, M., & Suyitno, S. (2020). The effectiveness of using blended learning models against vocational education student learning motivation. *International Journal*, 9(5), 7964-7968.
- Kippels, S., & Ridge, N. (2019). The growth and transformation of K–12 education in the UAE. *Education*

- in the United Arab Emirates: Innovation and transformation, 37-55.
- Kirk, D. (2010). *The development of higher education in the United Arab Emirates* (Vol. 74). Emirates Center for Strategic Studies and Research.
- Kogler, R., Vogl, S., & Astleithner, F. (2023). Transitions, choices and patterns in time: young people's educational and occupational orientation. *Journal of Education and Work*, 36(2), 94-108.
- Kravchenko, O. L., Borisyuk, I. Y., Vakolia, Z. M., Tretyak, O. M., & Mishchenia, O. M. (2020). Models of introduction of dual professional education.
- Kwon, S. (2020). How does patent transfer affect innovation of firms? *Technological Forecasting and Social Change*, 154, 119959.
- Marimo, A. (2020). *Comparing vocational education in India, South Africa and United Arab Emirates to develop guidelines for South Africa* North-West University (South Africa).].
- Massouti, A., Shaya, N., & Abukhait, R. (2023). Revisiting Leadership in Schools: Investigating the Adoption of the Dubai Inclusive Education Policy Framework. *Sustainability*, 15(5), 4274.
- McMinn, M., Dickson, M., & Areepattamannil, S. (2022). Reported pedagogical practices of faculty in higher education in the UAE. *Higher Education*, 83(2), 395-410.
- Ministry of Education, U. A. E. (2022). National Strategy for Vocational Education and Training. (<https://www.trade.gov/country-commercial-guides/ united-arab-emirates-education-and-training-sector-snapshot>).
- Mishrif, A., Karolak, M., & Mirza, C. (2023). The Nexus Between Higher Education, Labour Market, and Industry 4.0 in the Context of the Arab Gulf States. In *Nationalization of Gulf Labour Markets* (pp. 1-23). Springer.
- Nargiza, Y. (2022). Social and moral education of students and development of values. *Galaxy International Interdisciplinary Research Journal*, 10(1), 300-305.
- Nassar, Y., & Anajjar, A. Factorial validity evidences of the revised version of the emirati scale for vocational interests- (ESVI-R).
- Neusuess, V. L. (2020). An investigation of the factors influencing UAE nationals to undertake technical and vocational education. *Technium Soc. Sci. J.*, 9, 95.
- Ntobuo, N. E. (2021). Developing an It-based Jire Collaborative Learning Model Device for the Momentum and Impulse Materials to Elevate Senior High School Students' Learning Outputs. *JournalNX*, 7(09), 132-139.
- Nuseir, M. T., Aljumah, A. I., & El Refae, G. A. (2022). The Influence of E-learning, M-learning, and D-learning on the Student Performance: Moderating Role of Institutional Support. 2022 International Arab Conference on Information Technology (ACIT).
- Oswald-Egg, M. E., & Renold, U. (2021). No experience, no employment: The effect of vocational education and training work experience on labour market outcomes after higher education. *Economics of Education Review*, 80, 102065.
- Owais, A., Alabidi, S., Hatamleh, Z., & Hussein, E. (2020). Technical and Vocational Education and Training in the UAE. *International Journal of Emerging Technologies in Learning (iJET)*, 15(13), 264-288.
- Papier, J. (2023). Journal of Vocational, Adult and Continuing Education and Training, Volume 6, Issue 1 2023. *Journal of Vocational, Adult and Continuing Education and Training*, 6(1), 182-182.
- Perellon, J. F. (2003). The creation of a vocational sector in Swiss higher education: Balancing trends of system differentiation and integration. *European Journal of Education*, 38(4), 357-370.
- Putra, S. S. H., Jalinus, N., Ambyar, A., Syah, N., & Refdinal, R. (2022). Tinjauan peningkatan program studi diploma tiga menjadi sarjana terapan terhadap technical and vocational education training (TVET). *Ensiklopedia of Journal*, 4(2), 253-260.
- Raji, B. (2019). Significance and challenges of computer assisted education programs in the UAE: A case study of higher learning and vocational education. *Education and Information Technologies*, 24(1), 153-164.
- Sander, F., & Kriesi, I. (2019). Medium and long-term returns to professional education in Switzerland: Explaining differences between occupational fields. *Social inclusion*, 7(3), 136-153.
- Sauli, F. (2021). The collaboration between Swiss initial vocational education and training partners: perceptions of apprentices, teachers, and in-company trainers. *Empirical Research in Vocational Education and Training*, 13(1), 1-22.
- Shouk, A. A. (2023). UAE begins private-sector training scheme for 3,500 young emiratis, The National. . (Available at: <https://www.thenationalnews.com/uae/2023/09/25/uae-begins-private-sector-training-scheme-for-3500-young-emiratis/> (Accessed: 01 January 2024).).
- Tan, C. Y. (2024). Influence of cultural values on Singapore school leadership. *Educational Management Administration & Leadership*, 52(2), 280-303.
- Yang, R. (2022). *The Chinese idea of a university: Phoenix reborn*. Hong Kong University Press.
- Yasin, N., & Khansari, Z. (2021). Evaluating the impact of social enterprise education on students' enterprising characteristics in the United Arab Emirates. *Education+ Training*, 63(6), 872-905.
- Zhuravlova, Y., Kichuk, N., Zhuravska, N., Yakovenko, O., Zhytnyk, V., & Yashchuk, S. (2021). The problem field of professional (vocational) education: Innovations and ways to improve. *Studies of Applied Economics*, 39(5).
