

Schools 4.0 Innovation in Vocational Education

The project Schools 4.0 aims at changing the national and European policies in Education and in all VET schools throughout Europe with a proven pedagogical tool. The project also intends to build a framework for rethinking pedagogical practices and identifying the changes to be made to move from a 19th-century school to a 21st-century one.

A lot of work has been carried out by project partners in the development of the E-Book with the most successful practices from partners, based on collaborative action research. The E-Book will demonstrate how the 21st century schools define the teaching and learning processes, the construction of each student's life project, scientific knowledge (content to be taught) and what technologies can be used to enhance the learning process, this is to say how to integrate and use critically the resources and technological tools, in different pedagogical contexts, in order to develop the curriculum of autonomous, flexible, and contextualised form and the teaching process based on learning based on integrative projects, are the basis of the innovative reference.

The COVID-19 pandemic has caused an unprecedented sanitary crisis impacting all sectors of economy and society, in general, in all European countries (and around the world) including the Education and VET Systems. This has caused challenges to the way vocational education and training is provided demanding from schools a very quick adjustment to this new online mode of working reality. Notwithstanding the impact of COVID-19, partners of the Schools 4.0 project have made progresses in the development of the E-Book and in the promotion of the project.

This issue of the newsletter aims at capturing some of the key activities carried out by partners between the months of April and November 2020.



The project named **"Schools 4.0 - Innovation in Vocational Education"**, was born from a set of 5 vocational schools belonging to the Network of Schools with Vocational Education guided by researchers from the department of CEDH - Center for Human Development Studies that, informally, organised reflection meetings on the paradigm shifts that must exist in vocational education in order to prepare young people to meet the challenges of the 21st century and whose items are outlined in the 2020 Strategy.

These Reflection Works have given rise to concerns and proposals aiming solutions that should be tested and which were shared with some international partners (the case of Denmark and Greece), and it was concluded that there was a need to draw up a verifiable document, above all transferable, and that most vocational schools in Europe could adopt with a success guarantee concerning the change.

It is expected that a framework will be created to rethink pedagogical practices and identify the changes to be introduced in order to move from a nineteenth-century school to the twenty-first century "School 4.0" capable of responding to the current challenges of Vocational Education at European level.

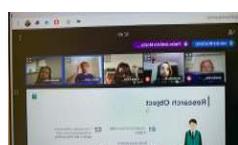
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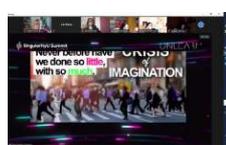
**RAUL DÓRIA:
OFFICES &
SERVICES IN PORTO**
RAUL DÓRIA



**PRESENTATION OF
GOOD PRACTICES
FOR THE IO AND
RESULTS
APPLICATION**
EPATV



**15TH CONGRESS OF
THE PORTUGUESE
SOCIETY FOR
EDUCATION
SCIENCE**
EPATV



**DIAVIMA TO THE
SINGULARITYU
GREECE SUMMIT
2020**
DIAVIMA



**INSIGNARE AT
EFVET
WORKSHOPS 2020**
INSIGNARE



**TUTOR/MENTOR/
COUNSELLOR
SYSTEM AT KBC
KOGE BUSINESS
COLLEGE**

Raul Dória - Professional School of Commerce, Offices and Services in Porto

On March 13, 2020, the entire Raul Dória Vocational School was put to the test by having to enter total confinement where students and teachers were forced to adapt quickly to a new type of education: distance learning...

The school organised its distance learning plan, dividing learning between synchronous classes, asynchronous classes and autonomous work. This division of learning proved to be fundamental in the adhesion of students in the long-term, since it allowed to diversify the type of work, as well as to bridge the existence of a teaching entirely based on overly expository synchronous classes, which contradicts the essence of professional education.

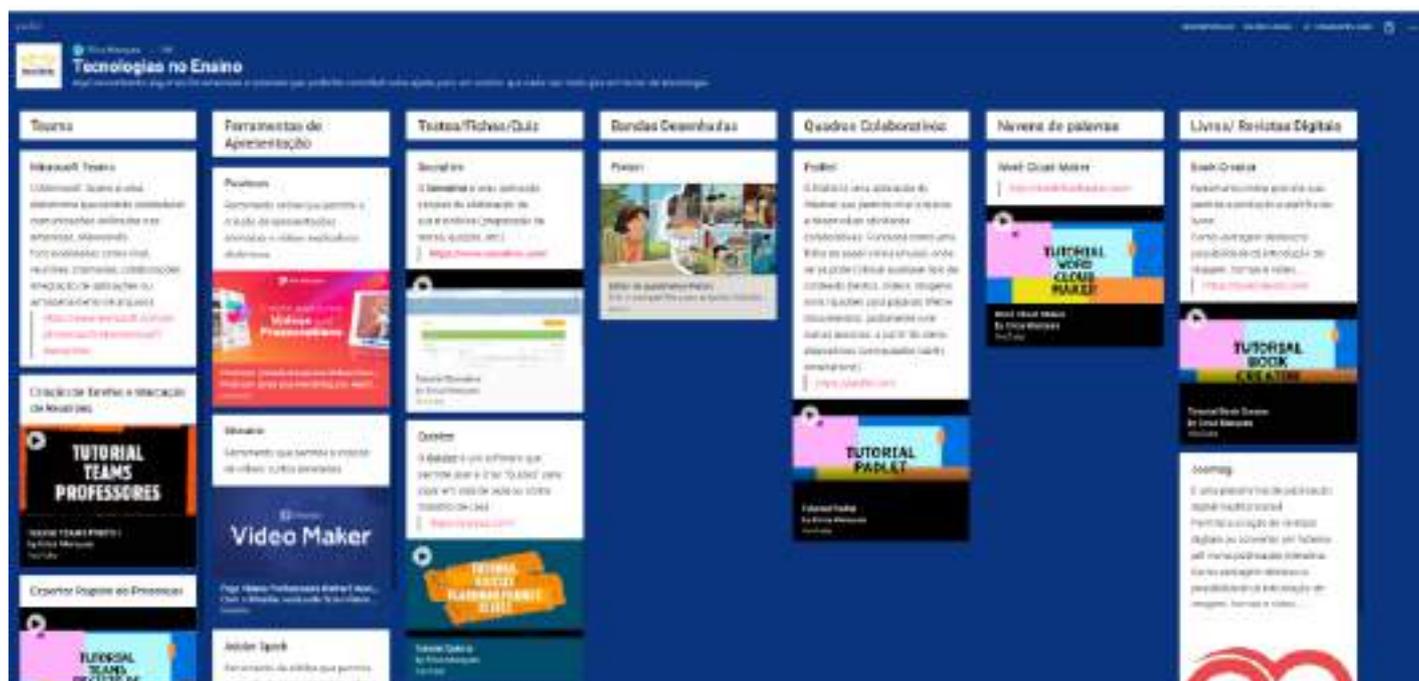
Initially, synchronous classes took place using the Zoom platform. The initial meetings were exciting and we quickly realised that we needed to see each other's faces. There was space to see our students, siblings, parents, and even their pets! The relationship of proximity that characterises us was once again established.

Within two weeks, all students and teachers had access to a new platform: Microsoft Teams, all that

remains to be done is the fact that not all students have access to computers. In this sense, the school provided computers, thus meeting the conditions to continue classes.



From March until today, many platforms were used in distance learning: Zoom, Microsoft Teams, Socrative, Quizziz, Geogebra, Desmos, Video Editor, Edmodo, Pixton, One Note, etc. The path was not easy and only recently the school has created a wall where all teachers can access the various tools and respective tutorials that have been created by a teacher for several months. The mural can be consulted [at this link](#).





The culmination of all this path came to us through an invitation to participate in the contest "Tell us your story", within the scope of a European project, entitled Mind the Gaps - Media Literacy Towards Youth Social Inclusion, an ERASMUS+ KA2 project which aims to contribute to the promotion of equal opportunities for young

people in situations of social vulnerability through the development of skills in the field of digital literacy and is coordinated by Educational Research and Intervention Center (CIIE) / Faculty of Psychology and Educational Sciences, University of Porto (FPCEUP), bringing together partners from Bulgaria, Spain, Norway, and Turkey.

The students of Raul Dória quickly got to work! Some made simulations using Tik Tok, others made comics and other short videos. However, how would we compile everything in one work? Back to school dictated the success of video, which resulted in a great recognition for our students and for our school through two honourable mentions. The video can be found [at this link](#).

Presentation of Good Practices for the IO and results of their practical application

Due to the present situation related to the Covid 19 pandemics, the partners of the project "School 4.0 - Innovation in Vocational Education" decided to take a meeting online in replacement of the project's event that would have taken place in Kefalonia during this week. The meeting took place via Skype and all partners involved in the project - EfVET; EP Amar Terra Verde; KOGE College; INSIGNARE; EP de Rio Maior; DIAVIMA; EP Raul Dória - were represented.



In opening remarks, Paula Fernandes, from EP Amar Terra Verde, presented the updates from the National Agency regarding the project. It is to

their agreement that the meeting in Kefalonia, hosted by DIAVIMA, can still take place next year, on May 20, 2021.

Next, partners responsible for the outcomes concerning Good Practices started their presentations, reporting the status of their work for the eBook resulting from the project. After each presentation, followed a moment of discussion about the progress of the work with comments from researcher Luísa Orvalho.

First, from DIAVIMA, Greece, Katerina Aravantinou-Fatorou made a presentation on how the pandemics affected the educational structure in Greece, pointing out obstacles and solutions found to overcome the problems identified. Next, Xrysa Kokkarida presented the contents for the Good Practice that will take part of the eBook. They present a good practice based on a multiple intelligences class plan. Then, Panagiotis Chatziplis talked about the teaching strategy used consistent with Howard Gardner's Multiple Intelligence and he referred some of the digital teaching tools used, namely Padlet, Glogster, Mindmup, Coggle, Wiki, among others.



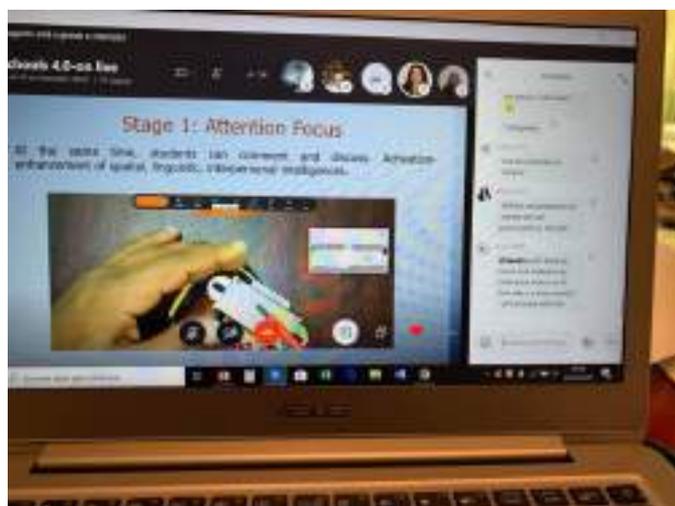
Second, from EP Raul Dória, Joana Macedo and Clara Lopes started their presentation on the work Good Practices related to the use of Geocaching. Joana presented the contents of the work done and steps followed. Next, Clara presented the website that resulted from the student's work on Traditional Stores.

Third, from KÖGE College, Gitte Dyrlov and Inge Jakobsen presented their Good Practice to be included in the eBook on Coaching and Mentoring students, an experience that they have been working on since many years in Köge College. They referred to the four stages that their system is built on: A - Peer to peer; B- Student Counseling; C- Tutoring/Mentoring by teachers; D- Work Placement coordinator.



Following Köge College presentation, researcher Luísa Orvalho referred that the article "A firm push into the digital era", written by them to the EfVET newsletter on the project, should be part of the eBook.

Fourth, João Colaço from EP Rio Maior started his presentation. He talked about the status of their work for the eBook and presented some updates resulting from this transition period that Covid-19 brought. They have improved in school a way to follow the practical training using some digital tools. EP Rio Maior has created on TEAMS (an application by Microsoft) a dynamics to deal with work-based training. Through TEAMS, combined with class notebook, Google Forms, and the streaming device, it is possible to share all products and documents related to the practical training, as well as following the evaluation and assessment of the training experiences by all parts involved. This is a very interesting tool to make the follow up of students work during their internship periods.



Fifth, José Pegadas from INSIGNARE presented their work that focuses in on the Assessment Tool they use. This tool is built on the concept that the student is always in the center of the process. Each student has their own spread sheet, so assessment is made regarding students' own needs and respecting their own speeds, focusing on aspects such as areas of competence or communication. Next, they referred what they have accomplished using this tool, showing some results and evolution after the application of this tool.

Sixth, EP Amar Terra Verde presented their Good Practices based on the use of digital tools in the classroom. They presented the work developed

using QR codes, Padlet, and Socrative when teaching Maths, or the use of Cisco Packet Tracer and Schoology platforms when teaching technical subjects like Electronics or Multimedia, and the impacts the use of these good practices had on students' achievements.

Last, researcher Luísa Orvalho made some final comments on the development of the work, remarking that the outcomes of this project have gained even more relevance in this day and age due to the pandemics. She mentioned that this project will be presented at a conference this upcoming 16-18 July, resulting in important dissemination of the project.

Moreover, the final draft of Table of Contents for the eBook was discussed, and all partners agreed

on the distribution presented on it, as well as on the addition of a small chapter referring Good Practices resulting from the Distance Learning process during Covid-19 pandemics.

She also highlighted the importance of point 2 of the second part of the eBook, concerning Life Stories and personal narratives of VET students and other stakeholders.

All partners agreed to hand out the final versions of their contributions for the IO by 25 June, so that researchers Luísa Orvalho and Joaquim Azevedo can draw their final comments upon the work done.

The online meeting ended, and the meeting minute will be shared on the projects Google Drive folder.

Schools 4.0: Innovation in VET presented at the 15th Congress of the Portuguese Society for Education Science



The project Schools 4.0: Innovation in VET was presented at the 15th Congress of the Portuguese Society of Educational Sciences, which took place, online, through the Zoom platform, from 10 to 12 September, in the form of oral communication, in the thematic axis "Emerging themes in education", presented by Sandra Monteiro, Pedagogical Director of EPATV, and Luisa Orvalho, Consultant and Researcher of the referred project.

The Program can be consulted on the congress website, on the eventQualia platform, and the distribution of oral communications by the various sessions is available in the PDF available on this same page.



The communication SPCE20-25249 corresponding to the disclosure of the project was made at the Communications Session - SC A9 - on September 10, 2020 (see power point at this link) and can be found in the book of abstracts (pp. 461-463).



“Shaping the future of VET” is the guiding question that this transnational project seeks to answer in a continuous cycle of reflection, anticipation, and action, following a methodological strategy of the Appreciative Inquiry - Cycle 5D, and the guidelines of the quality management stem (QMS), in line with the European EQAVET framework.



Navigating the uncertainties of time and social space, dealing with ambiguities and complexities, cooperating and working as a team, partners are building an innovative theoretical-practical framework (IO) that aims to help different VET

operators and internal and external stakeholders to rethink and identify the changes to be introduced in pedagogical, organisational, and evaluative practices, which allow the transition from the current traditional school to a 21st century school: the SCHOOL 4.0.



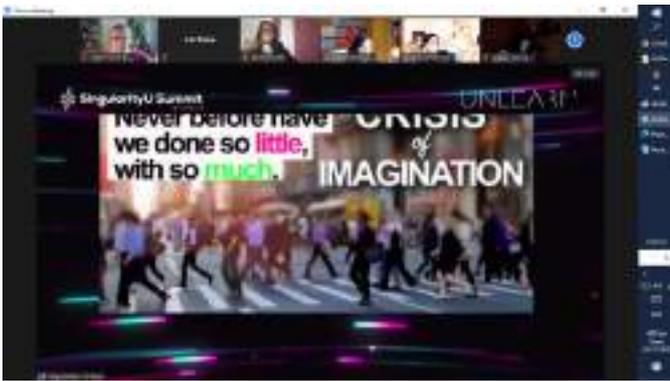
In this reconceptualisation of the school and the operationalisation of skills for 2030, the different partners used and tested new digital tools, and interactively built and evaluated new environments as well as teaching and learning strategies oriented towards change, which they consider to be “Good Practices” on “How should a VET be that prepares students for industry 4.0?” These scenarios describe alternative development paths for European VET in the 21st century, creating conditions for certifying qualifications in learning outcomes in line with the European EQAVET framework.

The full article, published in the Proceedings of the XV Congress, will be available soon.

DIAVIMA to the SingularityU Greece Summit 2020

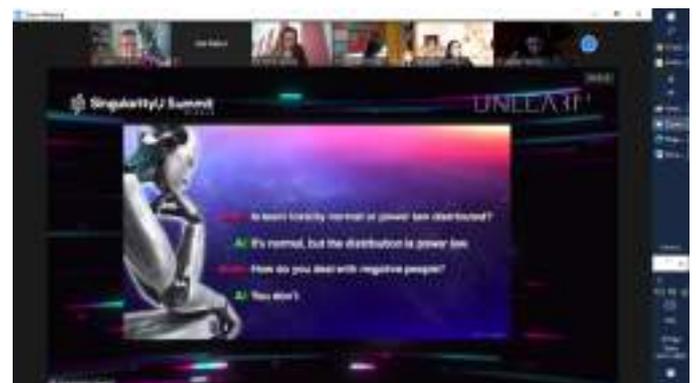
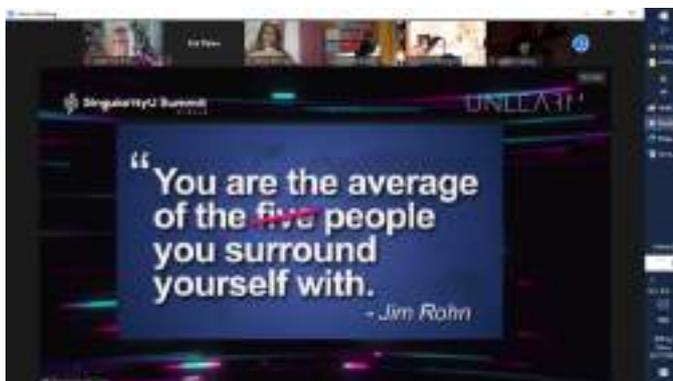
Singularity University refers to a global community using exponential technologies to tackle the world’s biggest challenges empowering individuals and organisations with the mindset, skillset, and network to build breakthrough solutions that leverage emerging technologies like artificial intelligence, robotics, and digital biology.





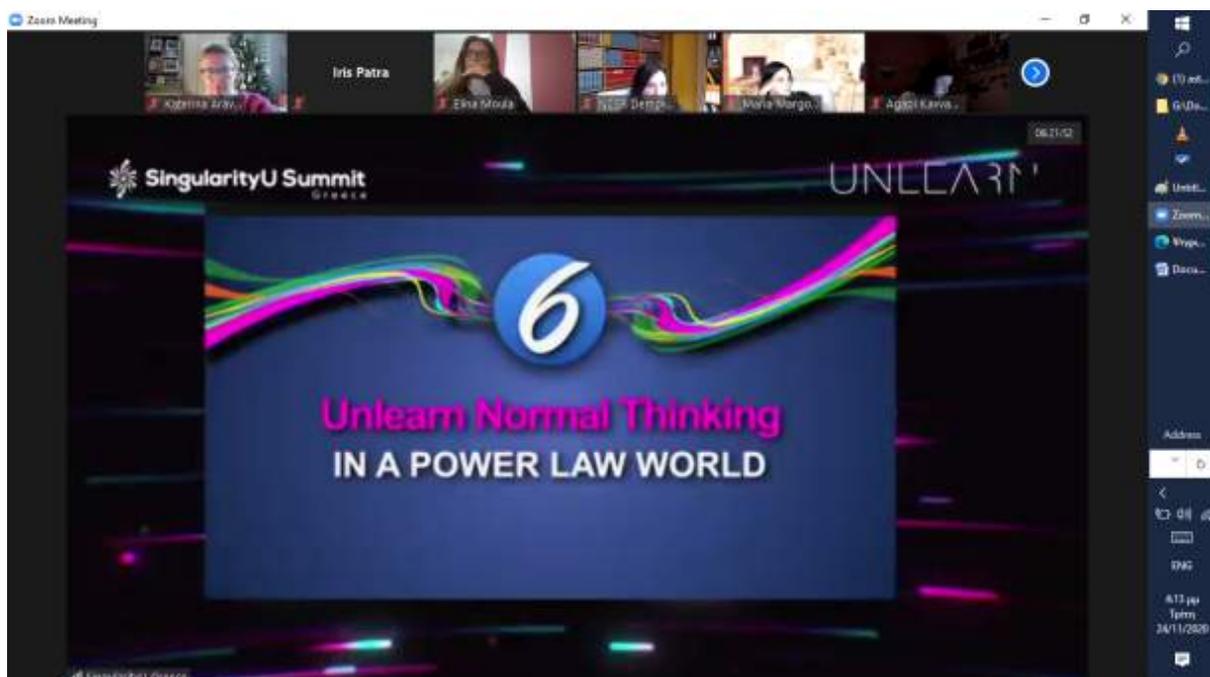
4.0, how the COVID-19 pandemic has brought faster and violently the digitisation of education while not a single education system was prepared for it, the importance of the term edutainment (education and entertainment) as a creative means to transform information into knowledge and familiarise humans with robots, education reform focusing on knowledge, discovery, ambidexterity, unlearning, experimentation and “future of work”, sharing ideas, thoughts, fears and perspectives.

DIIVIMA team member Katerina Aravantinou Fatorou participated to the online Summit of SingularityU 2020, which took place on 23 and 24 of November 2020, being awarded by the venue with an Impact Ticket for a second time.



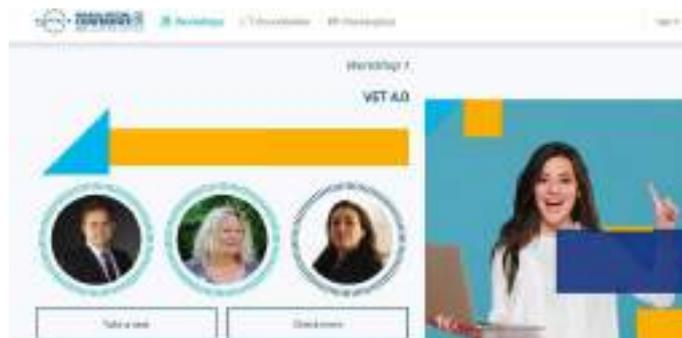
Due to the dramatic changes in the whole world in 2020 the urge of UNLEARN has become the main goal in order for the countries, the educational institutions and the individuals to adapt to the new reality. That's why the results of the SIVE 4.0 will have an impact that will be applied today, not in the near or far future.

During the DEEP DIVE sessions of the second day, I discussed with professors from the Silicon Valley about the future of education referring to the SIVE



INSIGNARE at EfVET Workshops: A reflection on how to teach and how to learn in 4.0 era

INSIGNARE was present in EfVET Workshops last November "COVID-19 Beyond 2020: A New Generation of VET?" sharing experiences on the impact this pandemic brought on educational institutions. Carina Oliveira, CEO of INSIGNARE's Schools, was Rapporteur on Workshop 2 whose subject theme was VET 4.0.



The Fourth Industrial Revolution is now underway and nobody knows exactly what it really means and how far its impact will extend. Industry 4.0 is not just about a particular technology. It is about doing business and its performance, catching up with and gaining competitive advantage. This concept must begin at school, not just using new technologies but especially new pedagogy. This is why many schools are involved in projects like Schools 4.0. How to teach and how to learn in 4.0 era.

The next challenge is how to find pragmatic and effective ways to make educative products and deliver learning methods even better - and thus generate broad added value for teachers and students and create a sustainable competitive edge.

This opens up opportunities for organisations to reflect on key challenges. Schools deal with a fast changing world and are now keen on having the best approach on Values and Attitudes. This pandemic brought 2 concepts along with the 4.0

questions: In old normal Cooking, welding, house building, ... can be only taught in physical world (with the teacher or instructor), but in new normal: Those subjects can be taught via eLearning solutions, but not in the same way as before.

Covid is a horrible virus and it has a lot of negative effects on people and countries, but also provides an opportunity to reform things quickly. Some examples: We wouldn't have a large scale test how to use eLearning solutions in VET. We wouldn't have had a change of attitudes towards teleworking. We wouldn't have got a boost of new skills of teachers (concerning eLearning). It wouldn't be possible to invest in eLearning solutions in such a short time. We wouldn't have been so interested in the relationship between teaching and learning outcomes. All these things have been done because we hadn't other possibility.



Teaching has not been interrupted at any school level in most European countries, several teaching methods has been tested after March 2020. In VET is unlikely that we would go back to the former teaching model, the best parts are returned but all kind of hybrid models are now "the new normal".

The tutor/mentor/counsellor system at KBC

At Køge Business College we have since the 1990s professionalized our tutor/counsellor/mentor system in order for the students to complete their education, but also to get knowledge about where our students need extra attention both as to personal issues as well as career planning and school and educational matters. We have interviewed internship coordinator, Michala Duvier, tutor, Marie Galting and student counsellor, Merete Nødgaard about their job at KBC and how they may help the individual student.

Michala Duvier, Internship Coordinator



KBC's Internship Coordinator, Michala Duvier, focuses both on students and companies. Michala tries to show the students all the possibilities they have when they want to apply for an internship in a company. Every January KBC hosts an internship event where students and companies meet and the companies tell about themselves and how it is to work for their company in order to inspire the students to apply for an internship. The internship coordinator also provides individual mandatory coaching with the students to be sure that each one has a plan regarding their further education. To help the companies, Michala Duvier guides and helps with legislation, forms and contracts and she also helps matching the student with the right company, so both the student and the company feel they get the information and guiding from KBC they need.

[Watch the interview here!](#)

Merete Nødgaard, Student Counsellor



Some of the advantages of the student counsellor/mentor system at KBC is that when students have specific issues either personal or academic ones, they have the opportunity to talk to a student counsellor. After talking with them, if the counsellor believes the students need extra help, they are then assigned a mentor. The mentor may help the student with themes such as getting up in the morning, structuring the school day, homework, handing in written assignments, anxiety or a diagnosis which often causes challenges in the daily life of the student. With this mentor system, KBC has decreased the student dropout rate and hereby students will have better opportunities on the labour market when they complete a vet education.

[Watch the interview here!](#)

Marie Galting, Tutor



Since the 1990s, KBC has had a tutor/student arrangement where each class has a tutor who is responsible for coaching and tutoring sessions both as to education and student motivation but also about more personal issues. The tutor concept is good for the student with special issues but also for students who need to focus on career options and educational matter and need to speak to a person who can guide them through specially organised tutoring sessions.

[Watch the interview here!](#)

Partnership

Escola Profissional Amar Terra Verde (EPATV)

Escola Profissional Amar Terra Verde (EPATV) is a vocational school that was created in 1993 from a tripartite agreement between 3 town halls: Amares, Terras do Bouro e Vila Verde. Nowadays, it is a private institution under the supervision of the Ministry of Education.

The vocational school has around 800 students and 90 teachers and it is located in Vila Verde, a rural area in the north of Portugal, strongly low qualified and whose population struggles with social and economic problems, mainly due to unemployment, low formal qualifications, and life conditions. Included in the VET school, we have a Lifelong Learning and Adult Education Unit, especially dedicated to the Recognition, Validation and Certification of Skills since 2006 and with more than 40.000 hrs of training courses addressing adults (CVET). We also develop intergenerational activities, thinking about the students and their families, and literacy courses.

The vocational school - EPATV - is working on mobility projects since 1993 in partnership not only with European countries, but also with some other Portuguese speaking countries: Cape Verde, St. Tome & Principe, Mozambique, Guinea Bissau and Angola. We also work with students from Guinea Equatorial, Senegal, Libya. More recently, the school has hosted students from Brazil, Ukraine, Romania and from African countries. EPATV is a member of the European Association for the Education of Adults, the voice of non-formal adult learning in Europe and we're now involved in its vice-presidency. We're also members of APCEP - Portuguese Association for Lifelong Learning and ANESPO - National Association for Vocational Schools.

Escola Profissional de Comércio, Escritórios e Serviços do Porto - Associação Raul Dória

With 30 years of history, the Professional School Raul Dória has established itself as a reference institution in professional education, developing several projects related to traditional commerce and the city of Porto. At the moment, it has a wide range of companies with which it collaborates in curricular internships, promotes the search for the first job for young school graduates and develops projects that not only bridge the gap between theoretical and practical teaching, but also allow trainees to articulate the knowledge and skills acquired in the various disciplines.

Escola Profissional de Rio Maior (EPRM)

The Rio Maior Vocational School is part of the vocational education offer system regulated by the Ministry of Education and has as its main objective the educational and professional training of young people, anchored in the mission to prepare citizens with socio-professional competences adjusted to the labor world and to the characteristics of the society which they belong to. One of the priorities of the school's educational project is to provide students with a stimulating and motivating learning process allowing them to expand their horizons at the professional level, but also at a personal level.

European Forum of Technical and Vocational Education and Training (EfVET)

EfVET is a unique European-wide professional association which has been created by and for providers of technical and vocational education and training (TVET) in all European countries. Its mission is to champion and enrich technical and vocational education and training through transnational co-operation by building a pan-European network of institutions. EfVET represents directly the views of its members (187 from 31 countries) on VET issues to all the European Union Institutions and Bodies and responds to all appropriate consultation processes. EfVET offers a network of and for, professionals to foster connections between researchers, business people, and practitioners in Vocational Education and Training and lifelong learning.

INSIGNARE - Associação de Ensino e Formação

Insignare is a non-profit association, which has been working for more than 20 years in the areas of teaching and vocational training, under the supervision of the Ministry of Education. Within the varied range of vocational courses available, Insignare provides level 4 secondary education courses with both vocational and academic qualification. Moreover, it also provides vocational training through short courses for adults, thus promoting lifelong learning.

Kentro Dia Viou Mathisis “Diavima”

The Center aims to develop actions that promote lifelong learning and sustainable development. In this context, it organises and supports a variety of educational activities both conventional and distance (eg conferences, workshops, lectures, exhibitions, workshops, training seminars, Summer Universities etc.) aimed at the education and training of individuals and social groups and programs that contribute to the protection and sustainable management of natural and cultural heritage. He is also responsible for writing and publishing books, leaflets and educational materials in hard copy and digital form. It participates in European programs and collaborates with public and private bodies as well as with scientists from Greece and abroad.

Køge Business College

Køge Business College is a major regional educational Institution. In close collaboration with businesses and organisations, we develop educations, activities, projects etc. at all levels. We provide and distribute educations for all stages of lifelong learning on which the welfare of the society depends. Our focus is to provide knowledge and theory that our pupils, students and course participants can use in practice. Our college enables you to get the key to the future.