



VET Teachers for the Future

*– Professional Development
Certificate Programme*

Cohort 1

**in Häme University of Applied Sciences (HAMK) &
Tampere University of Applied Sciences (TAMK)**

Finland

2015



VET Teachers for the Future – Professional Development Certificate Programme
Cohort 1
in Häme University of Applied Sciences (HAMK)
& Tampere University of Applied Sciences (TAMK)
Finland 2015

Seija Mahlamäki-Kultanen (edit.)

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Index

Preface and Acknowledgements	4
Summary in Portuguese	6
Greetings from the Ambassador of Brazil	8
Wishes of success for the VET Teachers for the Future programme – and especially to the most important partners in this endeavor; the teachers!	10
VET Teachers for the Future as a pilot for continuing and expanding cooperation in teacher training between Brazil and Finland.....	12
Greetings from the Ministry of Education and Culture.....	14
Greetings from HAMK.....	16
Greetings from TAMK.....	18
Brazilian Federal Institutes of Education, Science & Technology – identity under permanent construction.....	20
The VET Teachers for the Future – Professional Development Certificate Programme Description	26
Graduates	29
Teacher trainers	45
Summary of the evaluation of the programme	52





Seija Mahlamäki-Kultanen

Dean
Häme University of Applied Sciences (HAMK),
School of Professional Teacher Education



Preface and Acknowledgements

Professores para o Futuro programme started in the year 2012 from Brazilian and Finnish ministerial level initiatives. Mutual interest led quickly into action. The programme became a reality and the first cohort of Brazilian teachers from Federal institutes landed in Finland, Hämeenlinna and Tampere, to start their studies in HAMK and TAMK.

The programme targets educational innovation and knowledge sharing between the countries. Learning and the transfer of ideas from any country to another needs careful consideration, deep insight and inquiry. For sure, the first cohort can be called a pioneering endeavor. Reflective discussions in several groups and much research on it has already been published. Evaluation accompanied the process from the very beginning to make the programme fit even better the needs of the participants and their Federal institutes in such a diverse country as Brazil.

Acknowledgements

This publication includes greetings from several important actors but it is not at all inclusive. There are many to mention and thank! The Ministry of Education and Culture, Brazil, Setec and CNPq and their professionals have trusted on us and given us their full support. Below is the list of our Brazilian partners and the wide learning networks, institutions and neighborhoods in Finland who have provided memorable moments and meaningful learning experiences for the programme participants. The staff of HAMK, TAMK and HAAGA-HELIA, including their degree programmes, gave their best and learned themselves along the process. And of course, our deepest gratitude belongs to the Brazilian teachers who became acting Professores para o Futuro and our dear alumni!

I am grateful for being part of this and leading the programme.

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Ministério da
Educação



Our partners in the programme:



HÄMEENLINNA
The World Capital of Sibellus

- Seminaari primary school
- Luolaja primary school
- Ahvenisto secondary school
- Kauriala upper secondary school



THE CITY OF TAMPERE

- Aleksanterin koulu, primary school
- Sammon keskuslukio, upper secondary school

yrittäjäskyliä @TAM



Kiipulan
ammattiopisto



y-kampus

PROAKATEMIA

RUUKKI

SSAB

KIERTOKAPULA



Carolina Corado da Silva Oliveira

Teacher from VET 1 cohort
Instituto Federal de Educação,
Ciência e Tecnologia do Rio Grande do Norte



Summary in Portuguese

O Programa Professores para o Futuro é uma iniciativa entre Brasil e Finlândia com o intuito de promover o compartilhamento de inovações em Educação entre os dois países. Promovido pelo Núcleo Estruturante da Política de Inovação (NEPI) da Secretaria de Educação Profissional e Tecnológica (SETEC) do Ministério da Educação e Cultura (MEC) em conjunto com as Universidades de Ciências Aplicadas HAMK, TAMK e HAAGA-HELIA e com o apoio do Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), o programa capacitou professores da Rede Federal de Educação Profissional, Científica e Tecnológica (RFEPCT) tendo as práticas e metodologias finlandesas como seu cerne.

Considerando que a Educação Global é um desafio para todos os envolvidos, a internacionalização é uma tendência que está presente nas instituições finlandesas como um dos pilares de seu desenvolvimento. Essas possuem modelos e práticas educacionais mundialmente reconhecidos por seu êxito. Os professores participantes foram imersos por cinco meses no sistema educacional finlandês e em suas práticas centradas no estudante, voltadas ao desenvolvimento de competências e pautadas de acordo com as especificidades de cada área do conhecimento.

A implementação dos projetos desenvolvidos e seus resultados com o retorno dos professores ao Brasil evidenciaram que o Programa Professores para o Futuro alcançou dimensões além das inicialmente previstas. Tornou-se uma cooperação multifacetada entre Brasil e Finlândia, na qual os profissionais de ambos os países passaram a compartilhar experiências, organizar grupos de pesquisas e colaborar em iniciativas comuns. Essas colaborações almejam o desenvolvimento regional, conectam as Instituições de Ensino ao Setor Produtivo Local, e promovem a integração e fortalecimento da RFEPECT. Ademais, dados referentes às Avaliações Parcial e Final corroboram o êxito das colaborações entre professores brasileiros e finlandeses, a satisfação alcançada com o desenvolvimento profissional e com a aplicação, no Brasil, de metodologias em que o estudante é o foco do processo ensino-aprendizagem.

Assim, o Programa Professores para o Futuro se mostra como um caminho exitoso para conectar Brasil e Finlândia, aliando suas competências em integrar Educação, Ciência, Tecnologia e Setor Produtivo para fomentar o desenvolvimento de inovação institucional.





Norton de Andrade Mello Rapesta

Ambassador of Brazil to Finland (2011–2015)



Greetings from the Ambassador of Brazil

The VET – Teachers for the Future is, undoubtedly, one of the most important and most promising initiatives of the educational cooperation between Brazil and Finland. The harmonic dialogue between theory and practice offers greater opportunities to stimulate and improve multidisciplinary competences, since the results of the interaction with the environment can be more easily seen and understood from different perspectives.



This training opportunity, in renowned Finnish educational institutions, offers to teachers and researchers from Brazil precious tools to inspire the solid development of their respective fields of knowledge, when they return to Brazil. This Programme, therefore, will surely continue to produce successful stories, as well as to promote the constant self-improvement – professional and personal – of teachers and students, strengthening even more the cooperation between both countries.





Jari Luoto

Ambassador of Finland to Switzerland,
Liechtenstein and the Holy See
(Ambassador of Finland to Brazil 2010–2014)



Wishes of success for the VET Teachers for the Future programme

**– and especially to the most important partners in
this endeavor; the teachers!**

An Ambassador of Finland working in Brazil will naturally receive enquiries and request for information on a broad range of topics concerning Finland. But there is certainly one issue that raises above all of the others when it comes to the frequency of requests; how come Finnish education is such a success story? The interest is understandable, not only in Brazil, but elsewhere as well, as good education is now considered as one of the most important assets of any country.

On numerous occasions I was asked to speak about Finnish education in seminars, training sessions and conferences, as well as in meetings with members of the parliament. Confessing the limitations of my professional knowledge on education and training, our Embassy in Brasília soon started to cooperate with the Finnish Ministry of Education of Finland and, most importantly, also with some educational institutions to find ways of building meaningful contact between Finland and Brazil in the field of education. Soon we were happy to host delegations and visits from Finland focusing on education, with a good variety of actors and institutions. One of the delegations was led by the Minister for Education of Finland, Ms. Krista Kiuru, which enabled us to agree on cooperation at the highest level, between the Governments of Brazil and Finland.

The really important links were built at the local level, with extremely motivated experts coming to Brazil and meeting with counterparts, mapping together the possibilities of starting practical cooperation. The education of teachers was soon pinpointed as one of the most promising fields of cooperation. Fruitful contacts were established and the Embassy could only be proud of the work done by the educational institutions like Häme University of Applied Sciences (HAMK), Tampere University of Applied Sciences (TAMK) and HAAGA-HELIA University of Applied Sciences with their newly found Brazilian partners.

I am convinced that while there is no ready-made recipe for a well-functioning educational system that could be copied from one country to another, there are many opportunities to learn from best practices and methods and from the successes and failures of others. With skillful institutions and individuals you are able to tailor-make successful training programs. In this HAMK, TAMK and HAAGA-HELIA have succeeded with their VET Teachers for the Future programme, which has proven to be a success with Brazilians teachers.

Sometime ago, while travelling on a flight on my next posting after Brazil, I picked up an in-flight magazine and came across a many-paged article about the VET programme. Instantly I felt heartwarming gratitude for all of those persons in Brazil and Finland that helped get the educational cooperation off the ground and flying. With this gratitude in mind I want to wish the best possible success for VET, and all the individuals and institutions working with the programme. These wishes for success are naturally extended to the most important partners in this endeavor; the teachers.



Markku Virri

Ambassador of Finland to Brazil (2014–)



*VET Teachers for the Future
as a pilot for continuing and
expanding cooperation in
teacher training between Brazil
and Finland*

Iwould like to salute all Brazilian teachers who have taken part in the VET – Teachers for the Future programme. This programme and all the talented and motivated teachers have brought to Finland not only Brazilian joy but also many new insights and expertise. Thank you for choosing Finland!

I would also like to thank the Finnish and Brazilian institutions, as well as the Brazilian Ministry of Education, making this cooperation possible. Without Häme, Tampere and HAAGA-HELIA universities of applied sciences' hard work and thorough planning of the programme with the Brazilian Ministry, this pilot would not have been the success that it is. Also, the supportive role of the sending institutions, the Federal Institutes around Brazil, is of crucial importance.

The VET Teachers for the Future programme is a wonderful example of a genuinely common project where both sides reach together something more than they would ever have done alone. The programme started as a pilot programme in the area of vocational training but today VET Teachers for the Future is already about much more than training of Brazilian teachers inspired by the model at the Finnish universities of applied sciences. Today, the programme is all about multifaceted cooperation between the Brazilians and the Finns who are sharing experiences, working in joint research groups, writing research articles together etc.

The first two groups of Federal Institutes' teachers (around 70 teachers) have now stayed first in Finland after which they under the programme implement in Brazil in their respective institutions the ideas they have found interesting in the Finnish way of teaching. The programme is already bringing mutual gains and enrichment to the Brazilian and Finnish institutions and vocational teachers. Therefore, I very much hope that the programme will institutionalize and continue in the future, in order to reach more and more teachers and possibly other staff of the Federal Institutes – also those who might not have the possibility to travel to Finland for an exchange period.

I also hope that the potential, which the programme has to expand to other areas, such as reaching Brazilian teachers at the basic education level and other teachers through a more institutionalized teacher training center, could become a reality in the future. In any case, we should not stop dreaming and working together to make our Brazilian-Finnish collaboration continue prospering in the future!





Jaana Palojärvi

Director for International Relations
Ministry of Education and Culture in Finland



Greetings from the Ministry of Education and Culture

On behalf of the Ministry of Education and Culture in Finland, it is a great pleasure for me to congratulate all the creators, implementers and participants in the VET Teachers for the Future programme. The achievements to date are notable and may there be many more fruitful years to come.



The programme has helped build strong bridges between Brazil and Finland – two countries on a very different scale in size and each virtually at opposite ends of the globe. This alumni publication is strong evidence of how the programme is impacting both Brazil and Finland. Well-educated and motivated teachers play a crucial role in high-quality education. Finnish teachers are generally very highly respected professionals and distinguished members of society. To our great pleasure, Finnish teachers and teacher training have attracted much international interest. Internationalisation is strongly present in the daily activities of Finnish higher education institutions.

The VET Teachers for the Future programme is one of the most innovative programmes in this field. It has been instrumental in helping to form Friends of Brazil in Finland, and we are pleased to see that there are growing numbers of Friends of Finland in Brazil too. Good education, inspiring teaching and our shared joy of learning connects people and nations in a beautiful and sustainable way.





Pertti Puusaari

Rector, CEO
Häme University of Applied Sciences (HAMK)



Greetings from HAMK

During the last two years we have had an excellent possibility for organisational development and internationalization, institutional professional growth and also for the unforgettable personal experiences.

Warm thanks to you, Brazilian students of the VET Teachers for the Future programme.



In HAMK we consider global education as a huge opportunity but also a challenge. Co-operation with foreign cultures and “global understanding” are necessary in our time and situation. What could be a better way to do that than communication and reflection with colleagues – who will be as friends after some months. The challenges are mostly related to economic resources. We would like to do much more and even better than today. However, we believe that our dreams, our common dreams, will be realized one day. I have a deep feeling that we are working together with the global project of education. We want to build a better world by educating both children, young people and adults.

I want to congratulate you, our Brazilian students, for your most successful studies and the activities you have completed – marvelous promotion and positive publicity of Finnish education in Brazil!





Markku Lahtinen

Rector
Tampere University of Applied Sciences (TAMK)



Greetings from TAMK

Internationality is one of the three cross-cutting development themes in TAMK strategy. Its increase is pursued with many different means; student and staff exchanges, English study modules, foreign degree students, R&D projects, summer schools, intensive weeks, recruitments, acquisition and production of competences between strategic partners, and international paid education.



International paid education means participating in a competition where the competence of different countries and higher education institutions is compared with one another. Success demonstrates working life that TAMK's competence is up-to-date and even leads the way in some narrow fields. Customers encourage us to maintain our competence in a way that benefits all our operations.

It is important for Finland and TAMK to distribute their productive education competence internationally. As a small nation we can quantitatively meet only a fraction of the world's needs, and thus we have to work in areas where our competence unquestionably leads the way and has the greatest impact. By developing systems, curricula, methods, and pedagogical competence together with our customers we can help them achieve better education results on a larger scale than expected based on our size.

We thank you for the trust which the Brazilian Ministry of Education and you, the first-cohort students of VET Teachers for the Future programme, have shown to the Finnish universities of applied sciences by choosing us to your development partners. It has been our pleasure to witness how motivated you are to develop your pedagogical competence. We believe that you have learnt and found new aspects for your work as our teachers have from you. This is a good start to continue our cooperation.

Congratulations on passing your pedagogical studies in Finland!





Roberto Pereira Santos

Teacher from VET 2 cohort
Instituto Federal de Educação,
Ciência e Tecnologia do Espírito Santo



*Brazilian Federal Institutes
of Education, Science &
Technology*

– identity under permanent construction





“... for this it is necessary not only to enable the children of fortune’s disadvantaged with the essential technical and intellectual preparation, but also to make them acquire useful work habits, that will remove them from the idleness ignorance, school of vice and crime;...”

Excerpt from initial considerations of President Nilo Peçanha’s Decree 7566, in September 23th, 1909, which created Schools of Apprentices and Craftsmen.

In December 29th, 2008, the Brazilian Government created the Federal Network of Vocational, Scientific and Technological Education, integrated by Federal Institutes of Education, Science and Technology; Federal Technological University of Paraná; Federal Centres of Technological Education; Technical Schools linked to Federal Universities and, in 2012, also the Pedro II School. In all, 38 Federal Institutes (FIs) were created, grouping most of the Federal Centres of Technological Education and Technical Schools, including some of those originally linked to Federal Universities.

It is worthwhile looking at the history of vocational education in Brazil, in order to understand how the model evolved, and how it intends to answer society’s needs.

Workers’ education, in Brazil, began in colonization times, when the first apprentices were indians and slaves, who were allotted the hardest, and least noble tasks. From the 15th to 18th Century, a few institutions were created, designed to teach arts and crafts, but the technological development ceased when, in 1785, the Portuguese Crown banned all kinds of factories in Brazil. In 1808, when the Royal Family went to Brazil, D. John VI created the Factory School, designated to educate artists and craftsmen from Portugal.

Since 1906, there have been discussions related to the creation of industrial schools in Brazil, including a speech by President Afonso Pena, referring to vocational education as an important factor to support the growth of industry. In 1909, assuming the Presidency, after the death of Afonso Pena, Nilo Peçanha signed Decree 7566, which created 19 Schools of Apprentices and Craftsmen, aiming

to provide free primary vocational education. This is considered a cornerstone in the construction of vocational education in Brazil.¹

Schools have acquired successive new institutionalities, according to the historical moment. So, in 1937, at the beginning of an industrialization cycle, they changed to Vocational Lyceums, providing courses for all kinds of professions, but still at the primary level.

In 1942, following an education reform introduced by President Getulio Vargas and his Ministry of Education, Gustavo Capanema, their names were changed to Industrial and Technical Schools, providing education at the secondary level and linking them to the education system.²

In 1959, with investments on infrastructure and strengthening the base industry, they were changed to Federal Technical Schools, receiving administrative and pedagogic autonomy.

In 1978, three Federal Technical Schools (Paraná, Minas Gerais and Rio de Janeiro) were transformed into Federal Centres of Technological Education (CEFETs), in order to provide, secondary level vocational formation and higher education (Engineers and Technologists). Gradually other schools were changed into CEFETs, until 2008, when the existing system was transformed into the Federal Network of Education, Science and Technology, as described previously.³

Looking to the past, we observe that even changing their institutionality, the first principles – some kind of DNA – remained. No matter whether they are called Technical Schools or Federal Institutes, the link between education and the world of work is always present.

The world and their relations became more complex, and this complexity frequently requires strong actions in order to answer demands quickly. So, the law that created the Federal Network officially, not only recognized a new perception of vocational educa-

1 BRASIL. Centenário da Rede Federal de Educação Profissional e Tecnológica. Retrieved from http://portal.mec.gov.br/setec/arquivos/centenario/historico_educacao_profissional.pdf in 12Aug2015.

2 SUETH, J.C.R., MELLO, J.C., DEORCE, M.S., and NUNES, R.F. A trajetória de 100 anos dos eternos titãs: da Escola de Aprendizes Artífices ao Instituto Federal. Vitória: Instituto Federal do Espírito Santo, 2009.

3 Caldas, L.A. Fragmentos de uma história da Rede Federal de Educação Profissional e Tecnológica. In: Um passado vestido de futuro. Brasília: IFB, 2012.

tion, but also introduced a completely new paradigm of vocational education institutions in the country.⁴

According to the Law, Federal Institutes are institutions for higher, basic and professional education, multi curricular and multi campi, specialized in offering vocational and technological education in several modalities, based on conjugating technical knowledge and pedagogical practices. They are not Vocational Schools, nor Universities, because not only do they offer several levels of education, but also due to their purposes, there is an obligation in:

1. Developing vocational education as an answer to regional social and economic demands, specially referring to the use of applied research as a vector for the local development;
2. Linking several levels of vocational education, and between it and basic (propaedeutic) education, promoting the population's schooling ;
3. Qualifying themselves as Reference Centres, supporting the Science Teaching in public schools, and promoting continuous technical and pedagogical qualification to their teachers.

This lack of identity with preexistent models had generated some conflicts, considering that no other institution in the country had been prepared to answer specific demands from FIs. The metrics used to assess teachers' work in universities, for example, are not appropriate for teachers from FIs, once they work in completely different contexts. On the other side, the high expansion observed from 2009 has filled FIs with new teachers, most of them graduated in traditional universities. It was natural that, in the absence of another model, they tried to adapt their activities with the reference they have.

In the last 12 years, Brazil has advanced in social policies, and FIs became important agents in changing social and economic reality, no matter whether they are located in a large or small city. Relationships extrapolate the education sphere, extending articulated actions to several areas, as Agriculture; Culture; Work and Employment; Social Development; Health; Industrial Development; Energy; Communications; Science, Technology and Innovation;

4 BRASIL. Ministério da Educação. Instituto Federal: concepção e diretrizes. 2009.

Environment; Sports; Tourism; National Integration; Women's Policies; Racial Equality Policies; Human Rights; External Relationships; and Small and Medium Enterprises. In all actions, the original DNA is seen.

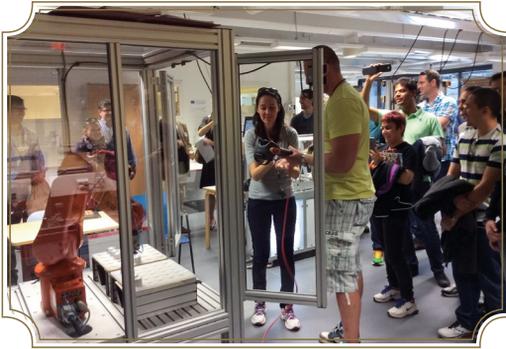
In this context, the Brazilian Ministry of Education, through the Secretary of Vocational and Technological Education, has developed a specific strategy to align FIs with the country's growing plans. It involves points as enhancing FIs image close to the productive sector, linking them to the concept of "innovative institution", supporting them in their contribution to local development, prospecting for innovation management models and qualification of teachers following recognized international standards. None of these points are alone; they play balanced roles to accomplish the aims of FIs, as conceived.⁵

One of the most important set of actions refers to the teachers' qualification. As mentioned, the number of teachers has grown substantially since the expansion process occurred. As a reference, in 1909 there were 19 schools in the country. Until 2002, this number grew to 140 units. Since then, 422 new units were constructed and the teachers' number has grown to approximately 30.000 in 2014.⁶

It is recognized that technical and vocational education has a fundamental role in reducing poverty and recovering economic and sustainable development. Thinking to the future, the effective action of teachers in this education segment is strictly related to the country's success in its economic and social progress. In 2014, 60 teachers from FIs went to Finland, where they participated in the Vocational Education Training (VET) Programme, in a cooperation strategy between Brazil and Finland. One of the aims is that this group of teachers can multiply and disseminate the knowledge and good practices to others, throughout the Federal Network. This is one way to develop teacher competences in order to qualify FIs as Reference Centres for the qualification of teachers from public systems, and promote life long learning in society.

5 BRASIL. Ministério da Educação. Secretaria de Educação Profissional e Tecnológica. Núcleo Estruturante da Política de Inovação. Apresentação dos institutos federais: agenda da inovação. 2014.

6 BRASIL. Ministério da Educação. Secretaria de Educação Profissional e Tecnológica. Núcleo Estruturante da Política de Inovação. Apresentação dos institutos federais. 2014.



"The most meaningful learning experience in this programme was the possibility of being inside a class with the teachers and students, seeing the magic happening."





Carita Prokki

Director, Business Operations
Tampere University of Applied Sciences (TAMK)



Maaret Viskari

Manager, Global Education
Häme University of Applied Sciences (HAMK),
School of Professional Teacher Education



The VET Teachers for the Future

– Professional Development Certificate Programme Description

The VET Teachers for the Future – Professional Development Certificate is a continuing education programme for higher education and vocational teachers. It is competence-based and multidisciplinary by nature, and tailored for teachers of various subject fields who wish to learn how to develop their pedagogical expertise. The latest research results and best practices of the global benchmark, which is the Finnish VET and professional education, are tested and contextualised to meet the needs in Brazilian Federal Institutes of Education, Science & Technology. The par-

ticipants are immersed in the Finnish education system and become familiar with applied learning, teaching in English and subject-specific project skills. The focus of the programme is competence-based, student-centered pedagogy and learning in the world of work.

The two phases of the programme aim at training teachers to become well-versed in pedagogy, but also guide their organizations in a paradigm shift from teacher-centered to student-centered operational and leadership model. The second phase of the programme concentrates on the practical application of the newly learned methods in the local learning environments. Each participant produces a development plan in collaboration and under the guidance of our Finnish experts, and in cooperation with the home institution.

The creation of professional networks in Finland and between the participants provide a framework for the future development in such fields as agriculture, food processing, automotive industry, biotechnology, construction, creative economy, renewable energy, health and wellbeing, educational technology, information and communication technologies, and technologies for sustainability. The programme has already proved to be an avenue to connect Finnish and Brazilian businesses, educational institutions and other organizations.

The quality assurance of the programme is based on the audited QA systems of the Finnish Universities of Applied Sciences and emphasizes constant and cooperative developmental evaluation. The QA system involves multiple programme components and concentrates on what impact the programme brings to each participants' teaching competences, professional career development, and to the home institution and region.

The method of quality assurance is based on systemic data analysis and consistent dialogue with the participants and encompasses the whole period of the programme starting from the selection of the participants and ending in the creation of a professional alumni network.





VET Teachers for the Future Cohort 1 teachers have created professional networks with both the Finnish universities of applied sciences and their staff (HAMK, TAMK & HAAGA-HELIA) and the Brazilian colleagues from the Federal Institutes. This fruitful collaboration will carry on to the future and manifest itself in different forms such as joint projects, research and mobility schemes.



VET Teachers for the Future
– *Professional Development*
Certificate Programme

Cohort 1

**in Häme University of Applied Sciences (HAMK) &
Tampere University of Applied Sciences (TAMK)**

Finland

2015 Graduates





Ana Jaimile da Cunha

Instituto Federal de Educação,
Ciência e Tecnologia do Tocantins

Development work title:

PBL Applications



Alexandre Roberto de Souza Correia

Instituto Federal de Educação,
Ciência e Tecnologia do Sertão Pernambucano

Development work title:

A Strategy to Increase Students' Motivation and
Decrease Dropout Rates on Computer
Programming Courses in a Brazilian Public Institute
of Education and Technology



Angela Kwiatkowski

Instituto Federal de Educação,
Ciência e Tecnologia de Mato Grosso do Sul

Development work title:

Quantification of bioactive compounds
in fruits pulp and its effects on processing simulation



André Fernando Uébe Mansur

Instituto Federal de Educação,
Ciência e Tecnologia de Fluminense

Development work title:

Entrepreneur Social Network applet
Development plus Pedagogical Approaches



Carlos Frajuca

Instituto Federal de Educação,
Ciência e Tecnologia de São Paulo

Development work title:
Logistics Technician Curriculum



Carolina Corado da Silva Oliveira

Instituto Federal de Educação,
Ciência e Tecnologia do Rio Grande do Norte

Development work title:
Developing strategies for teacher training using
ICTs and student centred approaches
& Sciences & CLIL: boosting the use
of English in the classroom



Christiano Santos Rocha Pitta

Instituto Federal de Educação,
Ciência e Tecnologia do Paraná

Development work title:

Learning from research:
engagement of students through
research in agriculture



Daniel Coelho Ferreira

Instituto Federal de Educação,
Ciência e Tecnologia de Fluminense

Development work title:

PBL Applications



Diogo Pereira Bezerra

Instituto Federal de Educação,
Ciência e Tecnologia do Rio Grande do Norte

Development work title:

PBL Applied in the Discipline of Analytical Chemistry
with the Project of Monitoring of the Water Quality



Domingos Sávio Soares Felipe

Instituto Federal de Educação,
Ciência e Tecnologia do Ceará

Development work title:

Directing the Federal Institutes
for Regional Development



Fábio de Paula Santos

Instituto Federal de Educação,
Ciência e Tecnologia de São Paulo – Sede Salto

Development work title:

Spreading programming:
how to apply Project Based Learning and
Student Centred Learning to engage students
and community in computer programming



Fernando Santana Pacheco

Instituto Federal de Educação,
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Development work title:

A Game for Electronics



Giann Mendes Ribeiro

Instituto Federal de Educação,
Ciência e Tecnologia do Rio Grande do Norte

Development work title:
Student autonomy and collaboration



Hilton Lopes Galvao

Instituto Federal de Educação Ciência
e Tecnologia do Norte de Minas Gerais

Development work title:
Educational administration
and educational environments



José Pinheiro de Queiroz Neto

Instituto Federal de Educação,
Ciência e Tecnologia do Amazonas

Development work title:

Educational administration
and educational environments



Marcelo Costa Pinto e Santos

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Development work title:

Directing the Federal Institutes
for Regional Development



Maristella Gabardo

Instituto Federal de Educação,
Ciência e Tecnologia do Paraná

Development work title:
Student autonomy and collaboration



Paulo Henrique Rocha Aride

Instituto Federal de Educação,
Ciência e Tecnologia do Amazonas

Development work title:
Educational administration
and educational environments



Pedro Barbosa de Souza Feitoza

Instituto Federal de Educação,
Ciência e Tecnologia de Brasília

Development work title:

The challenges of inter-disciplinarity:
a proposal of continuing education
under the Federal Institute of Brasília



Regina Lucia Pelachim Lianda

Instituto Federal de Educação,
Ciência e Tecnologia do Sudeste de Minas Gerais

Development work title:

Characterization of honey by phenolics
compounds profile, by HPLC, and antioxidant
potential evaluation, research and learning
process supported by PBL Methodology



Ricardo Correia Miguez

Colégio Pedro II

Development work title:

Assessment and Curriculum in
the upper secondary school setting



Rodrigo Silva Duran

Instituto Federal de Educação,
Ciência e Tecnologia de Mato Grosso do Sul

Development work title:

Teaching programming
to young vocational students



Rodrigo Sislian

Instituto Federal de Educação,
Ciência e Tecnologia de São Paulo

Development work title:

Assessment and Curriculum
in the upper secondary school setting



Suzana da Hora Macedo

Instituto Federal de Educação,
Ciência e Tecnologia de Fluminense

Development work title:

PBL Applications



Suzy Pascoali

Instituto Federal de Educação,
Ciência e Tecnologia de Santa Catarina

Development work title:

Educational administration
and educational environments



Vicente Pereira de Barros

Instituto Federal de Educação,
Ciência e Tecnologia de São Paulo

Development work title:

Project based learning: a discussion
inside a Physics teacher's training course



Vitor Quadros Altomare Sanches

Instituto Federal de Educação,
Ciência e Tecnologia de Mato Grosso do Sul

Development work title:

Domestic biodigester:
utilization of organic waste produced
at home in the generation of combustible gas



The Ambassador of Brazil to Finland, Mr. Norton de Andrade Mello Rapesta came to meet VET Teachers for the Future Cohort 1 teachers during their mid-term seminar.



"The best part of the programme was visiting schools/ organizations in Finland, interviewing students and teachers from Finnish schools. Through these activities we got a grasp on Finnish educational system and culture, as well as have a better understanding on our challenges in Brazil."

VET Teachers for the Future
– *Professional Development*
Certificate Programme

Cohort 1

**in Häme University of Applied Sciences (HAMK) &
Tampere University of Applied Sciences (TAMK)**

Finland

2015 Teacher trainers





Brian Joyce, MAODE (Open) has worked as a Lecturer (English language) at Häme University of Applied Sciences (HAMK) since 2006. Before HAMK he has wide experience in language training and teaching in different levels (primary, higher education, adult/continuing education) e.g. at Open University UK, private language school all over Finland and at Summer Universities in Finland. He also has strong experience in marketing and management of educational courses and development of education.



Essi Ryymin, Dr., is an educational researcher and pedagogical developer who works as a Principal Lecturer at Häme University of Applied Sciences, School of Professional Teacher Education. She has over 15 years of experience in academic, corporate, and governmental institutions in educational RD&I, educational change, professional development, information society and digitalization, pedagogical change, team dynamics and pedagogical leadership, teaching, coaching and international affairs. At HAMK besides lecturing, she leads Global Education Research & Development -team, which designs new research-based training concepts in collaboration with international partners.



Irma Kunnari, M.Ed. (Ph.D. Candidate in Educational Psychology) works as a Principal Lecturer, pedagogical developer and teacher educator in Häme University of Applied Sciences, School of Professional Teacher Education. She has over 20 years of experience in organizing, implementing and evaluating pedagogical development processes, where organizational development and teacher learning are intertwined. She is specialized in curriculum development work, empowering and student-focused learning methods, holistic guidance practices of professional growth, collaborative learning and creating authentic learning environments. Current research interests are related to educational innovation, team teaching and team learning, pedagogical well-being, resilience and collective efficacy.



Jouni Enqvist, Ph.D., works as a Principal Lecturer at Häme University of Applied Sciences, School of Professional Teacher Education. His research and development efforts focus on online learning and teaching (e.g. the DIANA model) and, more recently, especially on the integration of mathematics, natural sciences and IT in learning and teaching in the field of technology.

Simo Uusinoka, M.Ed., works as a Principal Lecturer at Häme University of Applied Sciences, School of Professional Teacher Education. He has expertise in special needs education and he has worked several years as a special teacher in basic and upper secondary education, a principal in vocational education and a teacher trainer in university and university of applied sciences. Simo's motto is: *"There's a crack in everyone, that's where the light comes in"* (Leonard Cohen)



Irmeli Lignell, M.Ed., works as a Principal Lecturer at Häme University of Applied Sciences, School of Professional Teacher Education. Her main activities and responsibilities are teacher training, special needs education, pedagogy, research and developing work as well as continuing education. She has 30 years' experience in education in many levels from early childhood, basic education to higher education. Her main skills and experiences are students' welfare in education areas, teacher training (Vocational education and training), special needs education, continuing education, social media learning, education strategies, individualized approaches in Vocational education, adult education and pedagogy and cooperative working.



Helena Aarnio, Ph.D, Lic. A. (Psych.), works as a Principal Lecturer at Häme University of Applied Sciences, School of Professional Teacher Education. Her research and development efforts have focused on interaction as well as learning and guidance in various operational environments, with dialogical learning, guidance and counselling as her areas of expertise. She took part in the international DIALE project (Dialogical Learning) as a specialist and developer of methods for dialogical learning, guidance and knowledge creation. This development continues now in DIAMEE project.



Katja Rönkkönen, Lic. Sc. (Econ.), M.A. (Educ.), works as Head of degree programme at Häme University of Applied Sciences, School of Professional Teacher Education. She is the teacher responsible for the International Professional Teacher Education (IPTE) programme, where VET Teachers for the Future program's students visited as well as had joined study projects together with the IPTE students. Professionally she is interested e.g. in the internationalization of curriculum.





Mervi Friman, Ph. D. (Educ.), works at Häme University of Applied Sciences (HAMK) as a Head of Strategy Management. Her earlier career consists Quality Management and teaching of Professional Ethics. Her research interests focus on moral problems in higher education, ethics in teaching and learning, and professional ethics.



Virve Kenttä works at Häme University of Applied Sciences (HAMK) as a Quality Assurance Planner and is responsible for the development of the quality assurance system at HAMK. Virve believes that quality assurance happens in concrete everyday actions and through acknowledging that the quality of each individual's work constructs the quality of the organization – Each of us is meaningful!



Vesa Tuomela works at Häme University of Applied Sciences as a Lecturer in Entrepreneurship and Business Administration. He is also a Development Manager in HAMK's Business Point, which offers business services for companies. Vesa says that his passion is to help students to unlock their entrepreneurial self. *"Experimenting, failing, learning and repeating effectual cycle is happiness!"*



Sari Hanka works at Häme University of Applied Sciences as Head of Business Services. Work based learning is her pedagogical approach and business model canvas and workshops are the most important working tools for her. She believes that every day she usually learns something new and there are so many interesting people and things all around her. She says she is like Alice in Wonderland.

Sisko Mällinen, Dr., works as a Principal Lecturer at Tampere University of Applied Sciences (TAMK), Vocational Teacher Education. She has worked over thirty years in VET Education and approximately ten years in VET Teacher Education. Apart from teaching, her work includes pedagogical curriculum and e-learning development.



Mark Curcher works as a Director in the 21 St. Century Programme at Tampere University of Applied Sciences (TAMK). He is an international educator with more than 25 years of experience, he has worked in a range of institutions in the UK, Middle East and now in Finland. Originally a teacher of finance and economics, for the last 6 years he has worked in teacher education and professional development. He has a particular interest in online and distance education.



Henri Annala works as a Principal Lecturer & International Coordinator at Language Centre & Social Services, Tampere University of Applied Sciences (TAMK). He has worked 6 years in VET Education. His work consists of teaching professional English and Swedish in a range of different fields and coordinating international affairs. His professional interests lie in collaborative e-learning and student motivation.



Mikael Juntunen, works as a Principal Lecturer, co-founder, coach at Tampere University of Applied Sciences (TAMK). He is the co-founder and manager of an entrepreneurial place for university students, graduates and alumniees. The created and founded Entrepreneurship Campus is located in Tampere University of Applied Sciences and it has been developed in the past few years. All services and coaching is focused on various topics of entrepreneurship. As a principal lecturer as well as managing the campus Mikael coaches start-up businesses, different kind of teams and individuals on a day-to-day basis. Pedagogical methods which are used in the Entrepreneurship Campus are based on the ideology of coaching instead of traditional teaching. One role of the Entrepreneurship Campus and Mikael inside the university is to coach staff members to be able to make pedagogical choices that support this coaching ideology.





Perttu Heino, PhD, works as an R&D director at Tampere University of Applied Sciences (TAMK) and is responsible for the research, development and innovation activities for TAMK. The scope of his work covers technology, health, forestry, business studies, art, media and pedagogy studies.



Aki Korpela, Dr., works as a Principal lecturer in Electrical engineering at Tampere University of Applied Sciences (TAMK). He has almost 20 years of educational experience in the fields of electromagnetics and renewable electrical energy technologies. He had his dissertation on electromagnetic design of superconducting magnets in 2003, and since then his research has concentrated on the promotion of higher learning in higher engineering education.



Sami Suhonen, D.Sc. (Tech.), works as a Principal Lecturer and Head of Physics Department at Tampere University of Applied Sciences (TAMK), School of Industrial Engineering. He has worked over fourteen years in engineering education. He is in charge of departmental management in physics, coordinating physics studies and developing curricula in collaboration with engineering degree programs. His current interests are in development of online and blended learning, activating methods and flipped classroom.



Timo Nevalainen works as a Principal Lecturer in Degree Programme in Entrepreneurship and Team Leadership at Tampere University of Applied Sciences (TAMK). He has worked in vocational higher education since 2007 and has during that time been involved in coaching in the fields of ICT, entrepreneurship and teacher education, among other, as well as taken part in e-learning development. He is currently working on his PhD thesis on teamwork and coaching in vocational higher education.

Ari Jussila, M.A. (Educ.), works as a Principal Lecturer at Tampere University of Applied Sciences (TAMK), Vocational teacher education. He has worked about thirty years in VET Education and approximately five years in VET Teacher Education. His interests are guidance counselling and competence-based qualifications.



Pirjo Jaakkola, Lic. Tech., works as a Head of Teacher Education at Tampere University of Applied Sciences (TAMK), Vocational teacher education. She is in charge of TAMK Vocational teacher education. She has 25 years of teaching experience in engineering education including education management. She has worked as mentor for vocational teacher students. Prior to teaching she worked in the Finnish Chemical and Energy industry in engineering design, research as well as management.

Kai Hintsanen, MSc, works as a Principal Lecturer at Tampere University of Applied Sciences (TAMK). He has a vast experience in project management, both in higher education and international business. He has been awarded the Project Management Teacher of the Year title in Finland.

Katri Aaltonen, Ph.D., works as a Principal Lecturer at HAAGA-HELIA University of Applied Sciences, School of Vocational Teacher Education. She has extensive experience in education on several educational levels in Finland. Her expertise areas are teaching methodology, teaching and learning in various environments and competence assessment. She has done research on teachers' pedagogical knowledge base and practical theories, which affect the ways teachers actually work in schools.



Päivi Aarreniemi-Jokipelto, D.Sc., works as a Principal Lecturer in e-learning and international affairs at HAAGA-HELIA University of Applied Sciences, School of Vocational Teacher Education. She graduated from the Computer Science department of Helsinki University of Technology in 2007, where she worked several years. Her expertise areas are e-learning, m-learning, social media in learning context, educational technology and learning via iDTV. She was in charge of the "Foundations of E-learning in the 21st century learning" module of the VET Teachers for the Future programme.





Lasse Heikkilä

External evaluator



Summary of the evaluation of the programme

Introduction

This report is the final evaluation of the first VET Teachers for the Future – Professional Development Certificate programme organized in collaboration with three Finnish higher education institutions: Häme University of Applied Sciences (HAMK), Tampere University of Applied Sciences (TAMK) and HAAGA-HELIA University of Applied Sciences. The programme was tailored for the needs of Brazilian Ministry of Education (MOE) and was initiated in the autumn of 2014, with 27 participants from 18 different Brazilian Federal Institutes. The initial training period of five months was conducted in Finland. After this period, the participants returned to their institutes in Brazil for a four-month period to implement a development plan in their local context.



This report is based on the results of a final feedback questionnaire collected from the participants combined with the results of the mid-term feedback questionnaire completed after the initial Finnish period. For quality assurance purposes, the comparison reveals inconsistencies, which are identified in this report. The final feedback questionnaire questions were mainly identical with the mid-term feedback questionnaire with a few inapplicable scaled questions omitted. In addition, the latter part of the final feedback questionnaire included questions regarding the practical implementation of the new pedagogical methods, which are analyzed in later research.

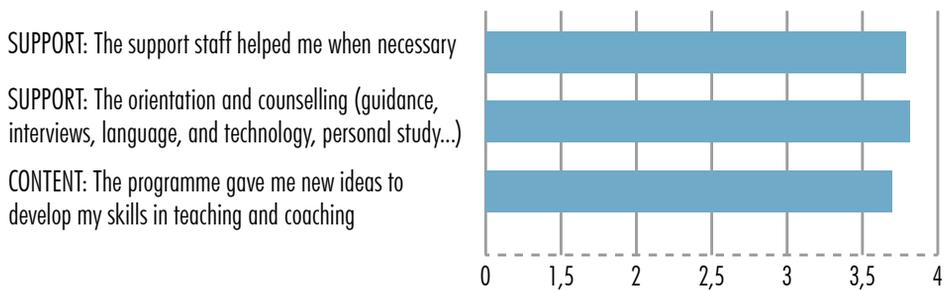
Eighteen of the 27 participants answered the final feedback questionnaire, which is satisfactory compared with the 22 answers gained from the mid-term feedback questionnaire. This report does not distinguish between the universities of applied sciences. All of the scaled questions comprised a scale of one to four, with one corresponding to “Strongly disagree”, two to “Somewhat disagree”, three to “somewhat agree” and four to “Strongly agree”. The charts and quotations presented in this report are based on the final questionnaire.

Summary of the feedback

In terms of participant satisfaction the programme has been very successful. In both of the feedback questionnaires, the overall satisfaction was about 3,5 – 3,6 in a scale of one to four; with a slight increase towards the latter questionnaire. Practically everyone who answered the questionnaires would recommend the course to their colleagues. In addition, the participants felt that the programme met their personal needs and the needs of their organization, meaning that in terms of participant feedback the programme has been successful. In general, the main areas of positive and negative experiences were the same across the programme. This indicates that the return to Brazil and the consequent intentional changes to the institutions’ pedagogical or organizational practices has not caused any significant problems or challenges for the participants.

According to the feedback, the most positive aspects of the programme have been the development of the participants as teachers and the immersion in the Finnish (educational) culture, the visits to local schools and enterprises and the support for the participants by the Finnish staff. The questions regarding support gained an average score of 3,8 – 3,9 in the scaled questions. Good support has also fostered the learning process of the participants.

Support & participant learning experience



Many participants mentioned that they have developed as teachers during the programme. With the school visits and introduction to Finnish education being mentioned several times as good learning experiences, it seems the general structure of the programme has supported this development really well. Some participants also brought up, without being explicitly asked to do so, how the educational culture and new methods are compared to the current educational culture in Brazil. This could signal that participants have independently developed ideas on how to implement the new approaches in their own environment and how to improve the Brazilian educational culture in practice, given that there is enough support from their home institutions.

“Visiting schools/organizations in Finland, interviewing students and teachers from Finnish schools and studying at the UAS. Through these activities we got a grasp on Finnish educational system and culture, as well as has a better understanding on our challenges in Brazil.”

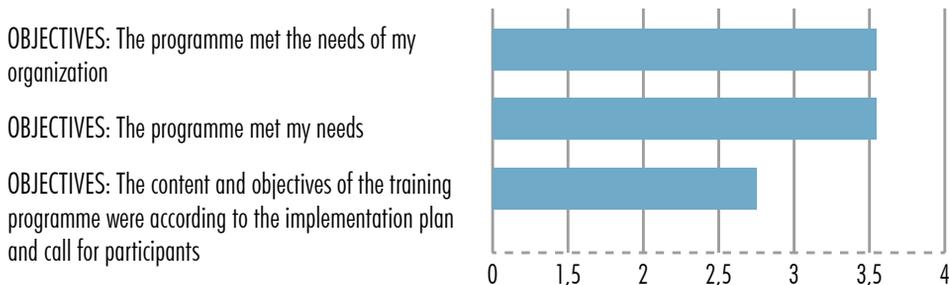
– Question: Which parts of the programme have been the best so far and why?

“Of course! Because this course is a good way to discuss the education in Brazil outside Brazil. The immersion was fundamental because we had focus to discuss the education in full-time.”

– Question: Would you recommend this course to your colleagues or others? Why/Why not?

The introduction to the programme before it began was seen as the most problematic aspect of the programme in both of the feedback questionnaires. According to feedback, the call for participants gave less emphasis on the teacher education than what the programme actually included. This meant that despite this the course was seen as a good learning experience by every participant who answered the questionnaires; a couple of participants felt that the contents of the programme were not what they originally expected. Even so, in the scaled questions the average scores to questions “The programme met my needs” and “The programme met the needs of my organization” were between 3,3 – 3,7. With the latter question there was a slight increase in rating between the two rounds of feedback.

Objectives



Some participants felt they would have liked to have been able to focus more on their research project and/or gained a deeper introduction into how applied research is being done in Finland. This might have also been caused by the difference between the call for participants and actual contents of the programme, but in general it seems that more emphasis on research should not be done at least at the expense of learning the new pedagogical methods, which gained proportionately more good feedback than there was critical feedback on the research projects.

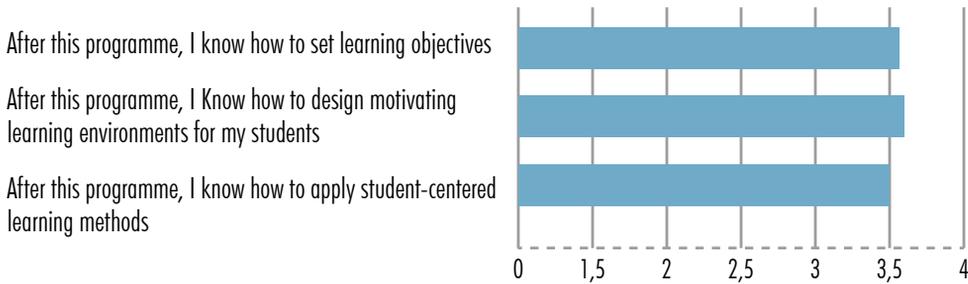
“My unexpected bonus was the cultural learning about Finland. It was very rich to me. My biggest problem item is related with the few time to learning more deeply and theoretically the philosophic foundations to Finnish education. I believe that we should discuss more this subject in the classes.”

– Question: Comparing “what you got from the course” with “what you expected to get from the course, before the course started”, what were the most unexpected “bonus items” and “problem items”?

The networks and contacts the participants made during the programme were seen as beneficial from the viewpoint of the projects of the participants, their professional interests in different fields and the implementation and future development of different educational methods and projects. There seems to be a slight difference in the expectations towards future collaboration and networking between the questionnaires. In the final questionnaire, over two thirds of the participants said they would continue collaborating either with some Finnish partners or with participants from other Federal Institutes, or that they had created useful professional networks while in Finland. However, despite this being a really good result, in the questionnaire following the Finnish period practically everyone felt that they benefitted from the networks and collaboration initiated in Finland. So, even though the expectations towards future collaboration were still very high, they seem to have diluted a bit during the period in Brazil. On the other hand, the plans for collaboration which were still ongoing in the final questionnaire seem to have developed to a more specific level over time.

In summary, after this programme the participants in general felt they have experienced strong professional development and are keen on implementing educational methods that focused on the student and are participatory and dialogical in nature. In addition e-learning and project- and problem-based learning were highly interesting topics for many.

Student-centered pedagogics



It seems this change in paradigm was not an easy transformation for all, however, since some hoped that at the beginning the introduction to new pedagogical approaches would have been more slow-paced or throughout, since the approaches were radically different from what the Brazilian teachers were used to. The difference in paradigm was also a cause for stress for some, with a few participants being worried they would not be able to bring the pedagogical methods to practice in Brazilian context in a long run, or that it would require a great deal of effort and/or support. The experiences of the participants on the practical implementation of the new pedagogical methods in Brazilian context are studied more thoroughly in later research.

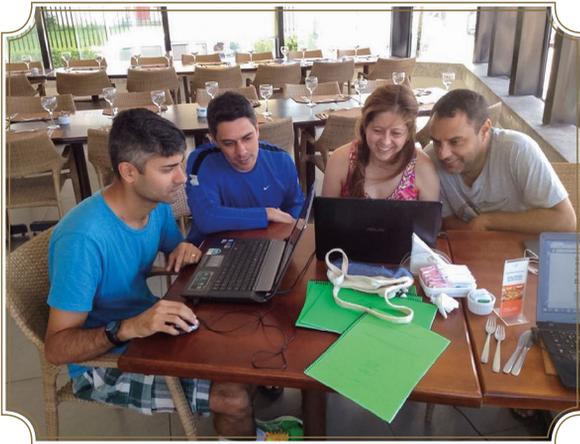
“It’s necessary to allow the teacher student of being aware of what will they see there and which is the approach, because it is very different from our usual and it make some to be a little lost.”

– **Question: Which parts of the programme need the most improvement and why?**

“Yes. This course clarified for me that I like being a teacher and that is the activity that I want to develop forever. And it gave me possibility of changing, making my life better and happier.”

– **Question: Has your teacher identity and pedagogical thinking developed? If so, please describe briefly how.**





"Today I understand that the teaching and learning should be student-centered. As well as research and development. I must offer more autonomy and independence to students and provide tools for them to develop their own knowledge."





“...before I thought I knew what my student should (and wanted) to study. And today, I think I got it only a few times.”



