

SHORT TERM SCIENTIFIC MISSION (STSM) SCIENTIFIC REPORT

This report is submitted for approval by the STSM applicant to the STSM coordinator

Action number: 15221

STSM title: Examining the Gap between Science Research and Teaching among Teachers Activities at Faculty for Sport and Physical Education at University of Montenegro

STSM start and end date: 24/03/2019 to 03/04/2019

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PURPOSE OF THE STSM:

(max.200 words)

The goal of this STSM which I realized during my scientific mission included several *research sub-goals*:

- 1) Identifying the differences in relation with writing, research, learning and teaching activities according to teacher's experience and professional progression from an early career researcher (pre-doctoral, 1-7 years post-doctorate and/or 1-7 years higher education experience), consolidator (7-12 years higher education experience and/or 7-12 years post-doctorate) and expert (more than 12 years education experience);
- 2) Identifying the differences between teachers who did achieve and teachers who didn't achieve success, effectiveness, and productivity across the four areas of research, writing, teaching, and learning (e.g. significant scientific references in international journals);
- 3) Examine the teacher's self-esteem in their researching results in the quality of their lectures.
- 4) Identifying the single most important factor that has contributed to teacher's success as a researcher, writer, teacher and learner, then the most difficult challenges during career experience, and advice for early career colleague based on previous experience;
- 5) Explore what institution can and/or should execute to support strength and/or productivity in each of the four fields of writing, research, scholarship, and instruction.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSMS

(max.500 words)

I have settled for the scientific mission at The Faculty for Sport and Physical Education at The University of Montenegro because of facts that this institution is noted progressive results in the last decade in the field of sports sciences. These results related to the high-rank position of their scientific journals and successful organizing annual scientific conferences. I assumed these results are based on big capacities from younger teacher's resources and it seems this higher education institution (HEI) represented an ideal place for this type of researching. I expect that obtained results can help in developing good practices in a similar Western Balkan environment. Data collection was combined with the two standardized tools for a survey: 1) the questionnaire and 2) interview with teachers. The first tool - the questionnaire included six sections of questions about researching, administrative and teaching obligations: 1) participant information, 2) centralized supports the institution, 3) writing, 4) research support, 5) teaching support, 6) professional learning support: initial and continuing professional development.



From another side, second one tool for this research included the interview with teachers which would last approximate about half an hour each. The interview included some questions about researching, administrative and teaching obligations. This instrument consisted of giving their explanations about: the single most important factor that has contributed to their success in 4 mentioned areas, about their challenges and the way of managing that challenge, professional demeanor and pieces of advice for early career colleague. Respondents included all available teachers from The Faculty for Sport and Physical Education at The University of Montenegro, from early career researcher to an expert teacher.

I have done several research tasks during this mission such as: 1) set up protocol for the research process and preparation of the questionnaire, translation from English to Serbian (Montenegrin) language and created online survey that was forwarded to all teachers (N=23, 18 male and 5 female teachers), 2) conducted the interviews with teachers from different stages of their proficiency (N=6, 2 from from early career researcher, 2 from consolidator, and 2 from experts), and 3) Data analyzing and presenting the preliminary results.

DESCRIPTION OF THE MAIN RESULTS OBTAINED

A Sample of respondents from the questionnaire was not proportional balance among teachers regarding teacher's experience and professional progression (early career researcher – 47.8%, consolidators 21.7% of respondents, and experts – 30.4% and). According to writing, research, teaching and learning competencies, short description of sample of respondents described by themselves seemed to be: writing - 61.1% think about self as successful writer of academic manuscripts than 39.1% of teachers considered themselves at something lower level in this competencies; researching - about 50% of the respondents describe yourself as good researcher, and another half of the respondents describe yourself as not good in research competencies; teaching – 87.0% think about themselves like good teaching competencies, learning – 95.7 considered themselves as excellent human resources in learning competencies. These results showed us that the average respondent thinks about yourself as more teacher than a researcher in everyday academic life.

The first research goal consisted of an analysis of statistical indicators which showed that there weren't differences among teachers in the writing process and providing writing support from the early career stage of expert teachers. The early career researchers see lack of formal writing training (18.2%) as a significant barrier in academic writing, as well as other workloads (e.g. teaching, admin - 54.6%) and lack of time generally (45.5%). Also, findings from the consolidator's results showed more obligations in the administration (60%) and lack of time generally (60%). From another side, only 14.3% of experts considered these kinds of obligations as barriers. It's evident that the early career researcher and consolidators have more obligations and overload in the context of administration. Obtained results about impact on motivation of teachers to write showed that the most important factors for academic writing at an early career level represented by desire for sharing the work (63.7%), passion for discipline (81.9%), the wish to be recognized in the field (72.8%), and the wish to advance careers (81.8%). Subsequently, it's evident that these aspects of motivation during the time decreased. Thus, at consolidators level, these indicators showed lower results such as the desire for sharing the work - 60%, passion for discipline – 60%, the wish to be recognized in the field (40%) and the wish to advance careers (60%). Also, at the expert level, these indicators desires for sharing the work – 57.2%, passion for discipline – 57.2%, the wish to be recognized in the field (28.6%) and the wish to advance career (28.6%). The best way for leading to effectiveness and success in writing, based on experiences from all career stage levels, showed the relevance of workshops (above 60%), mentoring (above 70%), relevant literature (above 80%), English language support (above 85%), and editor corrections (above 70%).

When we talk about differences in research support, we can conclude that there were no significant differences in research support among teachers at the different career stage level, except one variable which considered mobility and working internationally. These competencies were evident contribute to serious development for this institution in the last decade in organizing reputable scientific conferences in the field of sports sciences, and three scientific journals which have reached a high-rank position in Sport Sciences. Further, it can be noticed that teachers at all career stage levels, emphasized the relevance of intrinsic motivation (above 80%), institutional demands (above 80%), desire to progress the discipline (above 80%), recognition by the institution (above 90%), lifelong learning (above 60%) and desire to improve the quality of teaching (above 90%). Mobility and opportunity to travel and working internationally is closely related with early career researcher where 81.9% see this kind of opportunity as an important step in the further research career development (20% and more then consolidators and expert teachers). Also, it's evident and interesting that consolidators noticed the lowest level of motivation to be an effective and successful researcher in all variables about motivation. Research collaboration is intensive between international (65.2%), then national collaborators (39.1%). Also, results explained that the higher level of the studies

increasing the opportunity for being the part of collaborations with their teachers (undergraduate – 26.1%, master level – 34.8%, doctoral – 56.5%, and postdoctoral students – 52.5%). The main support for all researchers comes from attending research-oriented events (conferences, seminars, etc.) – about 70%, release time to conduct research (60.9%), and presenting the research results at international events (56.5%). In teaching support among teachers at the different career stage level, there were some significant differences. Getting results about differences in teaching support development noticed significantly better position for early career researchers. During the earlier period, when consolidators and experts started with an academic career, we can ascertain that academic job was more focused on teaching than research competencies. It was expected that teaching competencies could be developed without central support by the university. Therefore, before 10 or 20 years ago, institutions in HEIs in Western Balkan countries, as well as The University of Montenegro as one of the youngest Universities in this region didn't carry much about teaching support. That is a reason, why revealed the significant differences in this aspect. Nowadays, it's evident that the organizational climate at The University of Montenegro and The Faculty for Sport and Physical Education has recognized the importance of teaching support. Likewise, the major number (above 80%) of early career researchers considered good conditions to develop teaching competencies (initial teacher training, institutional support, etc.). The observed differences among teachers related to teaching support calculated in variables team-work and awards and recognition. Namely, in these two variables, early career researchers confirmed a better position compared with expert teachers.

The second research goal was identifying the differences between teachers who did achieve and teachers who didn't achieve success, effectiveness, and productivity across the four areas. The significant differences in the teacher's side who did achieve success comes from the creative atmosphere and ambiance of support of other colleagues (especially by mentor) in the research who were warmly welcomed and opened up the possibilities for them to go further. After that, it seems that all the most depended on their desire and progressive work. Also, they emphasized the importance of many seminars organized by the Ministry of Education. Lastly, many of teachers who made success point out their multidisciplinary interests during the whole process of education, as well as the importance of creativity and ingenuity in contributing to success in publishing in SCI scientific journals.

Examination the relations between the teacher's self-esteem in their researching results in the quality of their lectures was the third research goal. Based on impressions of above 80% of respondents, all respondents showed high relations of experiences in teaching on a national and international level with research practices. Thus, at all levels of career stage, teachers strongly agreed and agreed that researches inform their teaching practices (100%), motivates the pursuit of research (95.5%) and building rapport with students represent an important part of teaching (86.4%). Lastly, it's interesting that when we ask about desired support to the teacher in the context of the teaching, support, that major of respondents requires many conditions related to capacities for better realization of research projects. It's a fact about strong teaching-research relations among teachers at this University. Therefore, this research confirmed that strengthen the self-esteem of teachers covered by researching results which can determine the quality of their lectures.

Response to fourth research question which considers revealing the most important factors to teacher's success as a researcher, writer, teacher, and learner, we analyzed based on information from interviews. Obtained results from interviews showed that the most important factor is a desire for success and the work which teachers have invested to achieve the planned goal. Further analysis showed that the quality of presentations and of lecturer of subject Research Methodology which contributes to the dissemination of student's interest or other audience, and pulled the "trigger" for further research interest for repetitions and creating some new research activities. At the same time, teachers point out one of the basic requirements in methodology such as to be persistent, that research works exactly as the project is designed, always process accurate data. This kind of doing provides that all that they learn/do during their research/writing becomes richer for one new knowledge, which they will most definitely need in further career development. Based on that, we can conclude that course of Research Methodology and Professor who teach, learn and motivate others from this area must be a very innovative, creative, charismatic person. These facts can contribute to better transfer of useful information in this field and affect the motivation of future young researchers to continue and improve their's planning research design. Also, one of the most important in all four areas, teachers emphasized the ability to accept new knowledge and dissemination with others. It is logical that the majority of teachers gave advice that is reflected in strengthening a clear desire for success and value and hard work that can be invested in order to achieve the set goal. Also, one should always bear in mind that an excellent relationship with other colleagues is something that is one of the most important factors in the whole process. It reveals that only well-networked scientists at the national and international level have a chance to be part of a good project, more interesting research, etc. It's clear that the intention is that scientists from the same or different scientific disciplines are becoming more and more networked with strong teamwork needs and that realization of future projects depends on international cooperation and time management. The main barriers in the process of academic growth were found several factors. In the first place, it was the misunderstanding of the social environment about the importance of scientific research. After that, respondents talked about the lack of time for adequate preparing of many subjects and

presentations for students. Namely, they talked about very difficult situation for the teacher, because sometimes at the same time they had twofold roles during the teaching process, the first one as introducing themselves in a new area, and the second one which requires presentation lectures to students without enough time for reading literature and deeper insights in a given field. Lastly, it was noticed lacking support by advisors and others and insufficient space for independent work and progress. As a conclusion of this research goal, it is logical that pieces of advice are reflected in everything mentioned in previous paragraphs. They must concentrate to work solely on strengthening a clear desire for success and value and hard work that will be invested in order to achieve the set goal. Everything else will come by itself, sooner or later, if they will consistently dedicate. Also, one should always bear in mind that builds a quality relationship with other colleagues which is one of the most important factors in the whole process. Likewise, pieces of advice for early career researchers about academic writing recommended by experienced colleagues are related to learning the methodology of writing, selection of quality mentors and advisors, learning from the best colleagues or experts from their environment and networking with other scientists from related disciplines and time management skills. All of these things must be done with ethical norms, with confidence in own work.

The last fifth research goal, identification of the most significant and effective research support which provided by institution showed that there were several ways of helping: postdoctoral studies, covering the costs of travel and registration fees for participation in scientific meetings, opportunities for using of cost-effective instruments, adequate advice, and inaccessible scientific databases of relevant journals and works. Further, comparison of teacher's opinions about initial and continuing professional development observed the only difference in the field of negotiating institutional systems and processes where teacher expert's rated these skills as very important compared to the other two groups of respondents. It's clear that this type of teachers is more mindful about these skills in professional learning support. Likewise, centralized support for teachers at this institution exists more to support research (78.3%) than teaching activities (39.1%), which may be expected because the career progress development is conditioned by success in research work. As main barriers in writing process teachers were recognized as other activities (43.4%), lack of time generally (39.1%), inadequate language skills (30.4%). Probably, centralized support can be better organized, with more rational time management for all teachers as part of effective research support.

FUTURE COLLABORATIONS (if applicable)

This STSM provides me to strengthen the cooperation with my Host and their team. Namely, we started our cooperation during his STSM mobility at my University of Novi Sad. He informed me about a very interesting Spring Training School of COST 15221 which held in Skopje in March 2019. I believe that this program helped me in improving my research competencies, especially in the section which considered „digging deeper“ - moving from findings, to initial data analysis, to the discussion. Also, I didn't realize any qualitative analysis yet (in my previous career) and with a basic knowledge from this training, I am encouraged to pay attention to this kind of methodology in this and my further researches. Likewise, my Host informed me about other opportunities in COST program. Generally, as a final result of that process, I successfully passed through one activity of training school and at this moment through this the scientific report of my STSM application I am planning to finish with second activity. It is very difficult for me to single out the most valuable aspect of this STSM mission. Of course, if I must select, they strengthened the research network connections, meetings with early career researcher stage, collaborators and expert colleagues and starting team-work with them, sharing this information with colleagues at my University about COST benefits. Generally, I was so thankful for great an opportunity that I had an opportunity to realize this scientific mission. Being a part of this COST action provides me better imagination and visualization what I need to be close to a high level in writing, researching, teaching, and learning. Now, I am promoting this program to many colleagues at my institution just in the same way how mine host involved me in many COST actions. I strongly believe that the results of this STSM mission can contribute to the achievement of the Action's objectives. Therefore, I agreed with my host and we are very interested to share these results with other members of COST action in the next international scientific conference. Thus, we will apply for the ITC grant and disseminate our results through the discussion with other colleagues which considered „digging deeper“. Also, I will promote these results to other colleagues at my university unit, and through mutual cooperation from The Host University continue on developing a draft version manuscript for the international journal. The final goal is a focus on establishing the bridge between both teaching and research activities as well as create a good practice for the other universities from the Western Balkan region.