



11 Απριλίου 2019

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Αγαπητή κ. Κουτσελίνη,

Θέμα : Σχόλια επί της Έκθεσης της Εξωτερικής Επιτροπής Αξιολόγησης για τα προγράμματα


- (1) Learning in Natural Sciences and Environment (Master)
- (2) Learning in Natural Sciences and Environment (Ph.D.)

Σε συνέχεια των Εκθέσεων Αξιολόγησης των πιο πάνω Προγραμμάτων Σπουδών, το Πανεπιστήμιο Κύπρου εκφράζει την ευαρέσκεια του στο Φορέα ΔΙΠΑΕ και ειδικότερα προς τα μέλη της Επιτροπής Εξωτερικής Αξιολόγησης (ΕΕΑ), για το άρτιο και αντικειμενικό έργο που έχουν εκπονήσει κατά τη διάρκεια της επίσκεψής τους.

Η διαδικασία αυτή μπορεί να χαρακτηριστεί ως άκρως παραγωγική και εποικοδομητική, αφού τόσο τα σχόλια όσο και οι εισηγήσεις της Επιτροπής συμβάλλουν στη βελτίωση της ποιότητας και της ανταγωνιστικότητας των προγραμμάτων.

Επισυνάπτονται τα σχόλια που αφορούν τα πιο πάνω προγράμματα.

Με εκτίμηση,


Καθηγητής Τάσος Χριστοφίδης
Πρύτανης

ΚΟΙΝ :

Καθ. Ειρήνη – Άννα Διακίδου, Αντιπρύτανης Ακαδημαϊκών Υπ., Πρόεδρος Επ. Εσωτερικής Ποιότητας
Πρόεδρο Τμήματος Επιστημών της Αγωγής

ΔΔ/ΧΕ



Master Degree

Learning in Natural Sciences and Environment

Letter of response

This letter of response aims at addressing the queries raised by the evaluation committee of our Master's degree, titled "Learning in Natural Sciences and Environment". Needless to say, we are really grateful for the constructive feedback we received and we would like to thank the committee for the evaluation. It was truly an honour to have such a group of outstanding scholars evaluating our master's and Ph.D. programmes. It is apparent that the evaluation we received is of high merits and very valuable for improving our programmes.

Right below we provide a table in which all the queries for changes of the evaluation committee (left column), as well as our responses to these queries (right column) are provided. The committee's queries were copied directly from the evaluation report.

Committee's queries	Our responses
Effectiveness of teaching work & Organization of teaching work	
The new specialization in Environmental and Sustainability Education, given its inclusion of non-formal learning settings, might benefit from excursions and Environmental and Sustainability Education design work in close cooperation with practice (Environmental Education Centers, Zoos, Botanical Gardens, Museums, etc.). There was some discussion about the place of learning in practice within the program. On the one hand, exposure to practice and the designing, implementing and evaluating of educational activities in situ can enhance students' motivation and learning tremendously; on the other; it does require a	R1. We acknowledge the significance of giving students the opportunity to engage in designing, implementing and evaluating educational activities in situ. Thus, we decided to add this aspect in two of our courses of the Environmental and Sustainability Education (ESE) specialization. Specifically, in the courses EDU 657 and EDU658 the following activities will be added: a) A week-end training in a mountainous environmental education centre,

<p>lot of organizing and effective support mechanisms which might negatively affect program effectiveness. The Committee only encourages the teaching staff to reflect on this question to determine whether a closer connection of the Master's to practice is desirable or not. Within the Learning in Natural Sciences specialization, a similar conversation might take place.</p>	<p>b) One courses' meeting in the urban environmental education centre of Athalassa, in Nicosia.</p> <p>For the Learning in Natural Sciences (LNS) specialization, we decided not to proceed with any additions on in situ practice, since the candidates entering the programme have already in situ experience. Our in-service teachers work in public or private schools, whereas our pre-service teachers had in situ experience during their undergraduate studies, in public or private schools, through the school experience program.</p>
<p>The need to consolidate the resources in one place on the new campus, sooner rather than later, needs flagging. Should this not happen within the next few years, it might negatively affect efficiency and create frustration and continued uncertainty, which ultimately undermines program effectiveness as well</p>	<p>R2. This is an issue that concerns most of the University's departments. Hence, the council and senate of the university has set it amongst its top priorities. The goal is to gather all departments at the new campus the soonest. The university has repeatedly been requesting the expedition of the construction of the new campus, including the building of the Faculty of the Social Sciences and Education, which will host our programme. It is upon the Cyprus government to offer the necessary funds for this to happen.</p>
<p>As we discuss later in the report, the new specialization will benefit from a more distributed expertise and shared responsibility in this area among the teaching staff so that there is less dependency on the associate professor who is leading the specialization and on the hiring of visiting professors.</p>	<p>R3. If the ESE specialization succeeds in attracting a significant number of students within the next couple of years, the department will consider hiring a new academic. For the time being, and until ESE shows signs of sustainability, the department has assigned to ESE a visiting professor post.</p>
<p>Furthermore, considering the student numbers and the workload of staff, it might be more effective in the future to expand the core joint program of the Master's by reducing the number of elective courses by integrating some of the content of the specialized elective courses in the core and merging some of the elective courses. This would increase the student numbers in the remaining elective courses and reduce the workload of teaching staff.</p>	<p>R4. Given the DIPAE (CYQAA) regulations, two specializations should differ in more than 50% of their courses, in order to be considered as separate specializations. This means that it's impossible for the moment to expand the core joint program.</p>
<p>Teaching</p>	

<p>The teaching load, however, is very high which may hinder development of new types of courses with new content. The heavy teaching load may also have led to a situation that too many courses have similar structure and assessment methods (though, of course, different content). This naturally increases the effectiveness of teaching but taxes innovativeness in developing the courses..... . Our understanding is that measurements of teaching load do not include supervisions, which risks leading to some members of teaching staff having excessive commitments.</p>	<p>R5. Again, this is an issue that relates to hiring new personnel. Please see R3.</p>
<p>It could be beneficial if students' participation in planning courses and the curriculum could be more active than presently. Also, practices about how students are and can participate should be more transparent and based securely on organizational structure and practices.</p>	<p>R6. At the moment, no regulations of the UCY foresee the participation of students in the process of designing a course, or the curriculum. However, there is currently an ongoing discussion at the university about how students' evaluations (it is mandatory for all students to evaluate each course they attend) could be taken more formally into consideration for improving our existing courses. At our master's program level, all of our professors do collaborate and discuss with the students on how to adjust each course to their needs every semester. This has been happening for many years now, since people of different scientific backgrounds are entering our program (e.g., physicists, biologists, chemists, elementary school teachers, kindergarten teachers). Differentiation according to the needs of our students has always been a priority for us.</p>
<p>Teaching personnel</p>	
<p>The risk contained in the current situation is that the teaching staff, who are very capable and motivated, are working at their limit, because of a heavy teaching load and intensive research activity, and will have not the time needed to review and innovate new teaching developments.</p> <p>A well-planned recruitment strategy is needed to secure the future development potential of the current teaching and research group. Strategic plans regarding how competent researchers and teachers can advance in their careers are urgently needed.</p>	<p>R7. Again, this is an issue that relates to hiring new personnel. Please see R3.</p> <p>Additionally, we totally agree with the development of a recruitment strategy. It has been set as one of our main goals of this academic year.</p> <p>As for developing a strategic plan regarding how competent researchers and teachers can advance in their careers, the UCY is handling it centrally. Specifically, the UCY offers counselling services to our graduates on these issues. In addition, the alumni office brings our graduates in contact with our</p>

	<p>alumni in an attempt to share experience and to enter an active network of professionals, researchers, entrepreneurs and policy makers.</p>
<p>PROGRAM OF STUDY AND HIGHER EDUCATION QUALIFICATIONS Purpose and Objectives and learning outcomes of the Program of Study</p>	
<p>The overall purpose of the Master's as a whole has not been specified but the aims of its two specializations (the current 'Learning in Natural Sciences' and the proposed 'Environmental and Sustainability Education') are clear..... The program organizers might want to consider whether it is needed to formulate an overall purpose of the Master's as a whole or not.</p>	<p>R8. We totally agree with this suggestion. Therefore, we have written an overall purpose for our master's program, which reads as follows:</p> <p>"the Master's in Learning in Natural Sciences and Environment, seeks to develop the capacities of current and future educators in formal and non-formal settings to engage learners in concepts, issues and practices requiring an understanding of natural science, sustainability and the environment in a variety of contexts (e.g. primary and secondary education, museums, zoos, botanical gardens, outdoor and environmental education centers)".</p>
<p>Structure and content of the program of studies</p>	
<p>It seems surprising to us that a university in Cyprus that sees itself as international and research-based allows Master's students to graduate without having undertaken a thesis, other than in exceptional circumstances.</p>	<p>R9. Up to date the completion of a master's thesis was obligatory for our master's programme. However, we received continuous requests by potential candidates who were seeking to undertake a taught-based master's degree in an attempt to expand their knowledge in the domain rather than their research skills. Therefore, our new program was designed in a way that satisfies both needs. It is upon the candidate to decide whether s/he wants to undertake a thesis as part of their master's studies.</p> <p>It should be noted that for students seeking a Ph.D. degree it is obligatory to have undertaken a thesis during their Master's studies.</p>
<p>Should student numbers be on the low side, then it might be worth considering expanding the common core of the Master's and</p>	<p>R10. Given the DIPAE (CYQAA) regulations, two specializations should differ in more than 50% of their courses, in order to be considered as separate specializations.</p>

reducing the number of courses offered by integrating some	This means that it's impossible for the moment to expand the core joint program.
Quality assurance of the program of studies	
the program is physically spread over three different physical spaces (the staff offices, the old campus and the new campus) which does pose a risk to quality.	R11. Please see R2.
Management of the program of study	
It was noted that the office of the Program Director is too small adequately to host staff meetings.	R12. Please see R2.
The workload of staff is high and the hiring of new staff takes a lot of time and is dependent on decision making at the central level. This poses challenges for program management.	R13. Please see R3 and R7.
The innovative Environmental and Sustainability Education specialization is highly dependent on one staff member and on visiting professors which makes the specialization vulnerable. It would be good to have more staff members teach within the new specialization.	R14. The University of Cyprus will make a request to the government for new academic positions, since it is a state institution that solely depends upon governmental funding (see also R3 and R7). On the other hand, we have already established a practice for some of our courses in which visiting scholars from the local academic/educational community (e.g. policy-makers from the ministry of education, specialized personnel from the Pedagogical Institute of Cyprus, other academics from our university or other universities), who are related to formal or non-formal educational settings, offer lectures to our students.
International Dimension of the Program of Study	
It might prove helpful to have some courses taught in English, to attract non-Greek-speaking students. This should also be of benefit to native Greek/Cypriot speakers.	R15. For the time being the programme aims to cover the needs of the Greek-speaking community. However, the University is working on a plan for attracting non-Greek-speaking students, which is still under development. As soon as it is ready we will certainly take advantage of it, in order to attract non-Greek-speaking students. We acknowledge the fact that the attraction of

	non-Greek-speaking students could enhance the sustainability of our program in the future.
Connection with the labor market and the society	
It might be worthwhile to invite people from society and the labor market to join periodically in a program management meetings, to assess whether the program still adequately prepares students for their future careers, and to gather feedback regarding trends and concerns, and to discuss possible implications for the design of the program. This would make the program responsive to societal changes	R16. Despite the fact that such a practice is not included in the regulations of the UCY, we have been following this practice for many years.
RESEARCH WORK AND SYNERGIES WITH TEACHING	
Research teaching synergies	
However, the main obstacle now hindering such development is that the facilities (e.g. computers, MBL equipment and applications) do not allow the implementation of such approaches at full scale. Also, the structure of teaching spaces does not allow the implementation of innovative ideas of computer-supported collaborative learning.	R17. This issue will be resolved as soon as we receive back our two under renovation labs (i.e., The physics education lab and the ESE lab). It is anticipated that the two labs will be ready for use by this coming semester (Fall 2019).
ADMINISTRATION SERVICES, STUDENT WELFARE AND SUPPORT OF TEACHING WORK	
Administrative Mechanisms	
All are clearly under considerable time pressure, feel they are constantly 'on-call'	R18. The department agrees and the department chair has already requested new/additional administrative personnel.
Infrastructures / support	
Because teaching and research are connected, and there is already good synergy, teaching laboratories should also be equipped with facilities which allow flexible monitoring of learning and learning groups. At present, the infrastructure does not adequately support realization of the best and most novel ideas the teaching staff have produced through research..... The fact	R19. It is expected that the renovated labs will resolve all these issues, since they will be equipped with new furniture and equipment, including smartboards, sensors for fieldwork and other cutting-edge ICT tools. The renovated labs are expected to be ready this coming September (Fall 2019). In addition, an effort will be made to have all of our master's and Ph.D courses at the old

that teaching takes place in two separate campus areas is also problematic	campus, where our renovated labs are situated.
Financial Resources	
Presumably this model will be mirrored with the advent of the new Master's program, and hence we have no concerns about the adequacy of funding. However, this does raise questions concerning the surplus. Is this simply allocated to the University's running costs for facilities etc.? The situation with the Doctoral program is the converse, with the running costs being significantly more than the income. The question that arises here is where does this subsidy come from? Bringing these two points together forces us to ask if the Master's program is in effect subsidising the PhD program, and if so what the rationale for this might be.	R20. According to the regulations of the university, both our master's and Ph.D programmes are under the same financial account and the budget is distributed according to the needs of each programme by the co-ordinators of the programmes. It should be noted that the programmes are 100% supported financially by the state, and the students' fees are used for supporting the students themselves (e.g. conference's participation, scholarships, short-term employment) and not for sustaining the programmes per se.
CONCLUSIONS AND SUGGESTIONS OF THE EXTERNAL EVALUATION COMMITTEE	
1. Inevitably, the fact that the University of Cyprus is moving to a new campus causes problems for Departments that have not yet moved..... learning on the Natural Sciences and Environment Programs requires modern, high-quality and well-resources laboratories. At present these are not available..... The existing laboratories and cramped, do not facilitate group discussions and collaborative practical work and the equipment is not consistent with the quality of the Department as a whole	R21. Please see R2 and R19.
2. ... the number of staff working on the Natural Sciences and Environment Programs is relatively small..... The addition of a new member of staff on the Program would have a number of other advantages. Such a person would be bound to bring in new ideas as to how Master's students might be taught and assessed, would help attract more external funding and would provide additional expertise for PhD supervision and such things as continuing professional development for schools.	R22. Please see R3 and R7.

3. It might prove helpful to have some courses taught in English, to attract non-Greek-speaking students.	R23. Please see R15.
4. We recommend that some of the courses presently envisaged as lying within the two specializations are instead made core courses within the program.	R24. Please see R4.
5. At present it is not intended that either specialization will have any field. We consider this to be a mistake for a number of reasons. First, it simply does not make sense for a Master's course with a specialization on Environmental and Sustainability Education not to have a mandatory field trip ...	R25. Please see R1.
6. The program could benefit from a fresh look at the assessment arrangements. To what extent are examinations necessary at Master's level?	R26. The program follows the regulations set by the UCY concerning post-graduates studies. Final exams are obligatory, unless you receive a special permission by the senate for running another form of evaluation.
7. It might be good to invite people from society and the labor market to join periodically in a program management.....	R27. Please see R16.
8. we would encourage a culture in which study leave is used by staff for learning from excellent practice in other universities	R28. We have been taking advantage of this possibility since the establishment of our programme, and we will certainly continue doing so in the future.
9. Despite the great success of the Department, it might benefit from drawing up a five-year strategic plan, if such a plan does not already exist. Such a plan could discuss how the Department wants to be seen internationally. Are there areas of research not currently undertaken that should be and, conversely, are there areas of research from which the Department might withdraw?	R29. Given that the UCY is the only state university offering degrees in education, the plan is to offer to the society/government, programs that are required for a smooth provision of education, across subjects and across K-12, in Cyprus.
10. Across the University, we suggest that some sort of workload management system is introduced that gives fair consideration to the relative time requirements of teaching (including supervision), research and management....	R30. We totally agree with this suggestion. Our department will take the lead for proposing a change in the university's algorithm for calculating an academic's workload.
Evaluation rubric/questionnaire	

<p>1.1.2 Our comment here is not that numbers are too high, but potentially the converse. The minimum number stated for a given course was five students, and more typically 7 to 10. However, in our view low numbers should generally be avoided as this reduces opportunities for group work, project work and student learning.</p>	<p>R31. We are aware of the possible limitations that a small number of students could pose to the teaching and learning process. Therefore, our intention is always to create audiences of 10-15 students which we believe is the ideal number for a post-graduate course. However, even in the cases that this was not possible, we managed to create a proper environment for group work, team presentations, common projects and peer interactions. Please also note that other students from our other Master's programs, such as the Master's in Mathematics Education, register to our courses. As a consequence, we rarely have less than 10 students per course.</p>
<p>1.1.3.6 It was not clear to us that students had sufficient opportunities for 'participation in the procedures for improvement of the educational process'. The students we spoke to made reference to Program Representatives but it was not clear if there were formal and informal processes in place to support their involvement and evidence of their contributions. Further, the rationale for the choice of students for us to speak to was not clear, and notably one was a Post-Doctoral student employed in the Department. Conventionally, the Program Representatives would have been selected (with others) to meet an Evaluation Panel.</p>	<p>R32. At the moment, no regulations of the University of Cyprus foresee the participation of students when designing a course, or the curriculum. However, there is ongoing discussion at the university on how students' final evaluations of a course could be taken more formally into consideration for improving the existing courses.</p> <p>The participation of students in the meeting with the Evaluation Committee was asked on a voluntary basis; hence, no purposeful selection process was followed. An invitation was sent to our programme's students, but their personal or professional obligations restricted them from joining the evaluation process.</p> <p>The invitation was also sent to recently graduated students because they are the ones that usually have a better understanding/view of the programme. The post-doctoral student, who joined the discussion session with the evaluation committee, was a recent graduate of our program and a recent employee of the programme; thus, a person having a thorough picture of our programme. It should be noted that this person joined the session on a volunteer basis.</p>
<p>1.1.4.1 The existing laboratory teaching facilities are limited and generally dated which is in stark contrast to the new facilities in developments on the new campus.</p>	<p>R33. Please see R2 and R19.</p>
<p>1.1.4.3 In terms of infrastructure, our concerns relate to the need for students to</p>	<p>R34. In order to alleviate this problem, we have made arrangements for all of our post-</p>

<p>commute between three locations, taking time and limiting the potential of the development of a sense of learning community.</p>	<p>graduate courses take place in the 'old' campus, where all of our labs, including the renovated ones, are situated.</p>
<p>1.1.10 Whilst we gained the impression that good mentoring processes are in place, this appeared not to be 'taken into consideration for the calculation of academic workload'. Indeed, it did not seem to be the case that there was any standard rubric for calculating workload, leaving us with concerns that there were limited opportunities to consider what an appropriate and equitable workload might be. Plainly, all staff were working far more than their contractual hours.</p>	<p>R35. We share committee's concerns for a more proper way of calculating personnel's workload. Our department supports the reform of The UCY's algorithm for calculating an academic's work load and time allocation across different duties (managerial, educational and research duties).</p>
<p>Note, additionally:</p> <p>α) the expected number of Cypriot and International Students in the program of study.</p> <ul style="list-style-type: none"> - Enrolment on the Masters in Natural Sciences – annually, 20 students. - Planned enrolment on the Masters in Environmental and Sustainability Education – annually, 20 students. <p>β) the countries of origin of the majority of students.</p> <ul style="list-style-type: none"> - Most of the International Students are from Greece. No other demographic information was provided. <p>γ) the maximum planned number of students per class-section.</p> <ul style="list-style-type: none"> - This was stated as 20. 	<p>R36. For the moment the programme aims to cover the needs of the Greek speaking community (see also R15). Therefore, it is expected that the origin of the potential students will be mainly from Cyprus and Greece.</p> <p>According to the UCY's policy for quality in postgraduate studies, the number of 20 students per year was set as the upper limit.</p>
<p>1.2.1 and 1.2.2 Whilst the methodology seems to be generally suitable, there does seem to be a generally conventional and homogenous approach taken across courses. All seemed to be written to a standard structure and mostly with a similar assessment mix</p>	<p>R37. Some of our courses appear to have a rather similar structure, but in reality they do not. Each one of them has different focus/scope/objectives, different content (e.g., reading materials) and assignments (e.g., critical discussion of articles related to the course at task, group projects, projects that involve interactions with students). The assessment might appear to be similar, which could be attributed to the fact that final exams are obligatory for all courses at the UCY. In any case, we would make a greater effort to</p>

	differentiate among courses as much as possible.
1.2.4. the assessment mix is limited and heavily examination-focused, leading us to wonder first about the use of formative feedback processes, and secondly about the lack of acknowledgement that (a) examinations favor certain learners above others, and (b) that this may not be developing and testing skills needed for employment.	R38. According to the UCY's regulations, a final written exam is obligatory for all courses, and count for at least 50% of the final grade. On the other hand, our assessment schema includes other alternative types of assessment, which possibly are more proper, given the nature of our courses, such as small group projects, critical review of scholar papers, peer assessment and projects that involve interactions with students.
1.3.9. We feel we must note that this is a normative question with which we must take issue. The wording suggests that teaching is of secondary importance to research, something which we expect would surprise and disappoint students. Indeed, the term 'teaching load' suggests this. However, as noted above, total academic workload is undesirably high, and it is probable that this may contribute to a lack of innovation in teaching practices and alternative forms of assessment. A related factor is that the students are, in our experience, over-assessed and a reduction in this should have a positive impact on staff workload	R39. As we have pinpointed above, both the 'academic workload' and part of the students' methods of assessment are regulated by university rules (see R38).
1.3.10. ... it is clear that (a) the staff complement has been stable for some years, (b) certain courses, and the proposed new specialization in Environmental and Sustainability Education, depend on few or even a single member of staff. This is not a robust model. We urge consideration of some form of succession planning, which might potentially include the employment of a new lecturer to ease some of the workload issues noted above.	R40. Please see R3 and R7.
2.2.5. and 2.2.7. Whilst the core and option courses seem appropriate, the latter are within a narrow band of education relating to the natural sciences. This is of course in turn narrow with regard to broader educational theory. Although this is the case for the existing Master's program, this is likely to be a more significant issue for the proposed new specialization in Environmental and Sustainability Education, which	R41. The idea behind the LNS program and the selection of its courses was to have a well-focused program on how learning evolves in the context of the natural sciences. Thus, the relatively "narrow" focus was purposeful. In the case of the ESE programme, this suggestion appears to be a better fit since it has a wider scope. Thus, the hiring of new personnel is one of our future goals (see R3).

<p>conventionally would draw on a broader base in the social sciences as well as the natural sciences.</p>	<p>In the meantime, we will implement this wider scope through the use of visiting professors, who have different background and research interests than us, and through our already established practice of local keynote speakers/professionals (e.g., academics from other Cyprus universities, policy makers, and ministerial officers).</p>
<p>2.2.5 We regard the opportunities for academic development to be high – especially concerning knowledge and a range of academic and core cognitive skills. However, in considering the potential career options for graduates, few of whom will become academics, we concluded that providing a greater range of practical learning opportunities would be of great value.</p> <p>We do note the policy and strategic orientation of the program, but have also been made aware that the future career destinations of students include teaching (in schools, environmental centres and charities). However, the lack of practice elements and teaching-related opportunities is striking. In our view it is not adequate to assume that even if a graduate has a teaching degree, they would not profit from such experiences. Perhaps, more significantly, as students from non- teaching backgrounds are recruited, practice-based experiences should be essential for their development.</p> <p>Further, with regard to the proposed Master’s in Environmental and Sustainability Education, some practical environmental education opportunities would provide opportunities for skill development and an understanding of the field, its culture and practises. Such opportunities might be developed through a course or courses (carrying academic credits) and/or support for placements or practicums. Outdoor pedagogies are barely mentioned in the course descriptors, and yet these require skills at least as subtle and complex as for teaching in a classroom, and are a facet of education increasingly recognised and researched internationally for its significance student learning. Given the focus of the</p>	<p>R42. Please see R1.</p>

<p>proposed new specialization in particular, this seems like a significant omission</p>	
<p>Note the expected number of students who will be studying simultaneously at another academic institution, based on your experience so far, regarding students who study simultaneously in the programs of your institution.</p> <ul style="list-style-type: none"> - No information provided. 	<p>R43. According to UCY regulations this is not feasible. No student is allowed to study at the same time in two different institutions in order to pursue two different degrees.</p>
<p>2.3.2.3. As above (see e.g. Section 1.1), the students seemed unsure of these arrangements.</p>	<p>R44. Please see our responses for section 1.1</p>
<p>2.4.7. As above in Sections 1.1, 2.3 etc.</p> <p>In the case of practical training, note:</p> <ul style="list-style-type: none"> - The number of credit units for courses and the number of credits for practical training - In which semester does practical training takes place? - Note if practical training is taking place in a country other than the home country of the institution which awards the higher education qualification <ul style="list-style-type: none"> - No information provided. 	<p>R45. This does not apply in our case.</p>
<p>3.1.3. The laboratories we visited were (as indicated above) less good than we had expected and at odds with the high reputation of the program and staff. We do realize that two of the present laboratories are in the process of being refurbished.</p>	<p>R46. Please see R2 and R19.</p>
<p>4.2.5 and 4.2.6. Whilst we have noted that these are excellent, we wish to point out that the focus on English language-based texts and materials brings limitations, both in terms of failing to acknowledge the growing body of high-quality work in the Greek language and its influence on the perceptions of students (which suggest that all such work is indeed in English and predominantly from English-speaking nations). A determined policy to acquire and promote work in the Greek language would begin to address this</p>	<p>R47. While a growing and enthusiastic community of Greek speaking science education and ESE researchers exists, the publications in Greek are usually scarce and of less quality because the science education community is rather small and the paper contributions very few. Of course, our students have many opportunities to meet and interact with our colleagues from Greece and Cyprus, through national conferences in Greece or Cyprus. In addition, most of our visiting professors are from Greece.</p>

<p>4.3.1. Funding of the program seems adequate. However, we have concerns that the income from the existing Master's program (according to the fee structure) is approximately half the expenditure. Conversely, the running costs of the PhD program are significantly more than the income. Consequently, we have concerns that the Master's program is in effect subsidising the PhD program.</p>	<p>R48. Please see R20.</p>

Co-coordinator:

Zacharias Zacharia, Professor

Chair of the Department:

Leonidas Kyriakides, Professor

April 10, 2019



PhD Degree

Learning in Natural Sciences and Environment

Letter of response

This letter of response aims at addressing the queries raised by the evaluation committee of our PhD's degree, titled "Learning in Natural Sciences and Environment". Needless to say, we are really grateful for the constructive feedback we received and we would like to thank the committee for the evaluation. It was truly an honour to have such a group of outstanding scholars evaluating our master's and Ph.D. programmes. It is apparent that the evaluation we received is of high merits and very valuable for improving our programmes.

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Committee's queries	Our responses
Effectiveness of teaching work & Organization of teaching work	
Although the resources available, both human and material, are spread across the city in three different places, they are available and of high quality. Some of the laboratories are in need of expansion and improvement but this is being addressed. The need to consolidate the resources in one place on the new campus, sooner rather than later, needs flagging. Should this not happen within the next few years, it might negatively affect efficiency and create frustration and continued uncertainty, which ultimately undermines program effectiveness as well.	R1. This is an issue that concerns most of the University's departments. Hence, the council and senate of the university has set it amongst its top priorities. The goal is to gather all departments at the new campus the soonest. The university has repeatedly been requesting the expedition of the construction of the new campus, including the building of the Faculty of the Social Sciences and Education, which will host our programme. It is upon the Cyprus government to offer the necessary funds for this to happen.

Teaching	
<p>The teaching load is very high which may hinder development of new types of courses with new content. Adjusting the overall workload would give better opportunities to develop and implement new, innovative courses which have more diverse ways to promote learning and which use more diverse assessment methods. The teaching staff are clearly capable and motivated to do this if they are given enough time. Our understanding is that measurements of teaching load do not include supervisions, which risks leading to some members of teaching staff having excessive commitments. The selection of courses can be done so that it supports the research dine for PhD theses.</p>	<p>R2. We also acknowledge the need for hiring at least one more academic to serve the needs of our master's program. Thus, we have already requested, as a program, new personnel from our department. Given that, no position has been granted to our department from the university yet, we will resolve the issue by inviting visiting professors. Furthermore, we share committee's concerns for a more proper way of calculating personnel's workload. Our department supports the reform of The UCY's algorithm for calculating an academic's work load and time allocation across different duties (managerial, educational and research duties).</p>
Teaching personnel	
<p>The risk contained in the current situation is that the teaching staff, who are very capable and motivated, are working at their limit, because of a heavy teaching load and intensive research activity, and will have not the time needed to renovate and open new directions in developments of teaching.</p> <p>It seems that new recruitments and a well-planned recruitment strategy is needed to secure the future development potential of the current teaching and research group. Strategic plans of how competent researchers and teachers can advance in their careers are urgently needed.</p>	<p>R3. Again, this is an issue that relates to hiring new personnel. Please see R2.</p> <p>Additionally, we totally agree with the development of a recruitment strategy. It has been set as one of our main goals of this academic year.</p> <p>As for developing a strategic plan regarding how competent researchers and teachers can advance in their careers, the UCY is handling it centrally. Specifically, the UCY offers counselling services to our graduates on these issues. In addition, the alumni office brings our graduates in contact with our alumni in an attempt to share experience and to enter an active network of professionals, researchers, entrepreneurs and policy makers.</p>
<p>PROGRAM OF STUDY AND HIGHER EDUCATION QUALIFICATIONS Purpose and Objectives and learning outcomes of the Program of Study</p>	
<p>Quality assurance of the program of studies</p>	
<p>The quality and availability of the laboratories and access to the newest, top-notch infrastructure on the new campus will</p>	<p>R4. Please see R1.</p>

<p>need to improve in the future as at the moment the facilities are being renovated and the program is physically spread over three different physical spaces (the staff offices, the old campus and the new campus) which does pose a risk to quality.</p>	
<p>Management of the program of study</p>	
<p>The workload of staff is high and the hiring of new staff takes a lot of time and is dependent on decision making at the central level. This poses challenges for program management.</p>	<p>R5. Please see R2 and R3.</p>
<p>International Dimension of the Program of Study</p>	
<p>It might prove helpful to have some courses taught in English, to attract non-Greek-speaking students. This should also be of benefit to native Greek/Cypriot speakers. To strengthen the international dimension, the Committee suggests that summer schools are organized, which can attract top academic scholars, as well as students, from around the world.</p>	<p>R6. For the time being the programme aims to cover the needs of the Greek-speaking community. However, the University is working on a plan for attracting non-Greek-speaking students, which is still under development. As soon as it is ready we will certainly take advantage of it, in order to attract non-Greek-speaking students and scholars. We acknowledge the fact that the attraction of non-Greek-speaking students and scholars could enhance the sustainability of our program in the future.</p>
<p>Connection with the labor market and the society</p>	
<p>It is important that PhD students participate in international conferences, e.g. EARLI, ESERA, to network. This could be rewarded within a credit-based scheme. For some PhD students, opportunities to assist in undergraduate, graduate level of other teaching are valuable and we strongly encourage the further development of these opportunities.</p>	<p>R7. Opportunities for participation in conferences (with all the expenses covered) are always available for our graduate students. We encourage participation in the ESERA summer school for which again we cover the expenses. Also, opportunities are provided each semester for some of our PhD students to participate as teaching assistants in undergraduate courses.</p>
<p>RESEARCH WORK AND SYNERGIES WITH TEACHING</p>	
<p>Research teaching synergies</p>	
<p>The research focus of the teaching staff is primarily in three core areas: Learning in Science; Science and Technology Education; Environmental and Sustainability Education. There is already now synergy between groups working in these areas, but</p>	<p>R8. The Programme will continue to be based on the good synergy between the academics working in the areas of Learning in Science, Science and Technology Education, Environmental and Sustainability Education, as well as with colleagues</p>

<p>a strategic plan to increase this in research, and between research and teaching, would be beneficial in both conceptual development and instrumental terms. The Program could make more extensive use of the expertise of researchers in other parts of the Department of Education.</p>	<p>working in other areas, such as research design and methodology, curriculum design, educational leadership, etc, which are teaching courses in our programme, participate in advising and evaluating committees, etc.</p>
<p>At present, the synergy between research and teaching is very good, and would be excellent if the teaching program had access to better laboratory resources and computer facilities equipped with modern visualization applications. Also, the renovation of teaching spaces and laboratories is necessary to allow the development of teaching, so that the research-based knowledge produced by the teaching staff can be utilized to best effect. Such developments would be equitable and in line with the investment in facilities for other departments on the new campus.</p>	<p>R9. This issue will be resolved as soon as we receive back our two under renovation labs (i.e., The physics education lab and the ESE lab). It is anticipated that the two labs will be ready for use by this coming semester (Fall 2019).</p>
<p>However, the relatively extensive teaching and other responsibilities may make it difficult for the staff to find time for visits of longer duration, which may be beneficial in the development of teaching skills and approaches.</p>	<p>R10. Please see R2.</p>
<p>ADMINISTRATION SERVICES, STUDENT WELFARE AND SUPPORT OF TEACHING WORK</p>	
<p>Administrative Mechanisms</p>	
<p>All are clearly under considerable time pressure, feel they are constantly ‘on-call’, and frequently work over their contractual hours.</p>	<p>R11. The department agrees and the department chair has already requested new/additional administrative personnel.</p>
<p>Infrastructures / support</p>	
<p>Because teaching and research are connected, and there is already good synergy, teaching laboratories should also be equipped with facilities which allow flexible monitoring of learning and learning groups. At present, the infrastructure does not adequately support realization of the best and most novel ideas the teaching staff have produced through research..... The fact that teaching takes place in two separate campus areas is also problematic</p>	<p>R12. It is expected that the renovated labs will resolve all these issues, since they will be equipped with new furniture and equipment, including smartboards, sensors for fieldwork and other cutting-edge ICT tools. The renovated labs are expected to be ready this coming September (Fall 2019). In addition, an effort will be made to have all of our master’s and Ph.D courses at the old campus, where our renovated labs are situated.</p>

Financial Resources	
<p>Presumably this model will be mirrored with the advent of the new Master's program, and hence we have no concerns about the adequacy of funding. However, this does raise questions concerning the surplus. Is this simply allocated to the University's running costs for facilities etc.? The situation with the Doctoral program is the converse, with the running costs being significantly more than the income. The question that arises here is where does this subsidy come from? Bringing these two points together forces us to ask if the Master's program is in effect subsidising the PhD program, and if so what the rationale for this might be.</p>	<p>R13. According to the regulations of the university, both our master's and Ph.D programmes are under the same financial account and the budget is distributed according to the needs of each programme by the co-ordinators of the programmes. It should be noted that the programmes are 100% supported financially by the state, and the students' fees are used for supporting the students themselves (e.g. conference's participation, scholarships, short-term employment) and not for sustaining the programmes per se.</p>
DOCTORAL PROGRAMS OF STUDY	
<p>Nevertheless, it would be useful to consider in more detail the role of empirical and fieldwork and how it can be built in to support the learning goals of the program. The role and structure of field studies (e.g. in schools, Field Studies Centers and museums) where research is conducted could also be better explained in the curriculum.</p>	<p>R14. We cover this aspect with the changes that we have introduced in the master's programme, as suggested by the evaluation committee. Specifically, empirical fieldwork has been added in the courses EDU 657 and EDU658. The fieldwork will be in the form of weekend long sessions in informal settings (Environmental Education Centres) and course meetings will be also held in the urban environmental education centre of Athalassa in Nicosia.</p> <p>For the Learning in Natural Sciences (LNS) specialization, we decided not to proceed with any additions on in situ practice, since the candidates entering the programme have already in situ experience. Our in-service teachers work in public or private schools, whereas our pre-service teachers had in situ experience during their undergraduate studies, in public or private schools, through the school experience program.</p>
<p>Doctoral students commonly participate in research projects coordinated by the teaching staff, and have opportunities to report their research in conferences and to participate in exchange programs. The role of these activities, and how they support the goals of the program could be described better and more transparently.</p>	<p>R15. By participating in research projects, international conferences, exchange programmes and summer schools (e.g. ESERA summer school), our doctoral students have the opportunity to:</p> <ul style="list-style-type: none"> - acquire funding for their own research study

	<ul style="list-style-type: none"> - develop appreciation and understanding of the international standards of educational research - acquire an integrate conception of current educational research - interact and collaborate with exemplar scholars outside the UCY.
<p>It would be valuable to provide more detailed information of the intent to develop graduate competences in other key areas as well as in academic research, as these are of course key to future employment opportunities.</p>	<p>R16. In synergy with our master's programme, the Ph. D. programme supports our students in developing competence in:</p> <ul style="list-style-type: none"> - designing and implementing educational research - designing and implementing educational (interdisciplinary) curricula - critically analysing educational policies and developing practical solutions to educational related problems. - leading transformations in educational policy and practice
<p>CONCLUSIONS AND SUGGESTIONS OF THE EXTERNAL EVALUATION COMMITTEE</p>	
<p>1. Inevitably, the fact that the University of Cyprus is moving to a new campus causes problems for Departments that have not yet moved..... learning on the Natural Sciences and Environment Programs requires modern, high-quality and well-resources laboratories. At present these are not available..... The existing laboratories and cramped, do not facilitate group discussions and collaborative practical work and the equipment is not consistent with the quality of the Department as a whole</p>	<p>R17. Please see R1 and R12.</p>
<p>2. ... the number of staff working on the Natural Sciences and Environment Programs is relatively small..... The addition of a new member of staff on the Program would have a number of other advantages. This is particularly the case for environmental and sustainability education. We would urge that a second member of staff with a specialization in environmental and sustainability education is appointed.</p>	<p>R18. Please see R2 and R3.</p>

<p>3. It might prove helpful to have some courses taught in English, to attract non-Greek-speaking students.</p> <p>It would be helpful to organize ‘summer schools’ (at the most appropriate time of the year), which we feel sure would attract both scholars and doctoral students.</p>	<p>R19. Please see R6.</p>
<p>4. There is particular value nowadays for doctoral students developing expertise in written and spoken academic English. We would encourage the Department to help its students develop these skills through practice at both writing and presenting in English.</p>	<p>R20. Most of the literature suggested to students in all the courses is in English and the opportunity of writing and presenting their thesis in English is provided. Furthermore, we encourage our students to participate in international conferences and summer schools to develop their expertise in written and spoken academic English.</p>
<p>5. The program could benefit from a fresh look at the assessment arrangements. To what extent are examinations necessary at PhD level? How can assessment be introduced that is assessment for learning? There could be greater variety in the structure of thesis. For instance, is it necessary for all thesis to have a formal set of research questions arrived at after an initial literature review?</p>	<p>R21. The program follows the regulations set by the UCY concerning post-graduates studies. Final exams are obligatory, unless you receive a special permission by the senate for running another form of evaluation.</p>
<p>6. To implement the above recommendations about strengthening the Program, we would encourage a culture in which study leave is used by staff for learning from excellent practice in other universities about Program structure, assessment and pedagogy. This should be entirely possible given the present provision for regular study leave.</p>	<p>R22. We have been taking advantage of this possibility since the establishment of our programme, and we will certainly continue doing so in the future.</p>
<p>7. Despite the great success of the Department, it might benefit from drawing up a five-year strategic plan, if such a plan does not already exist. Such a plan could discuss how the Department wants to be seen internationally. Are there areas of research not currently undertaken that should be and, conversely, are there areas of research from which the Department might withdraw?</p>	<p>R23. Given that the UCY is the only state university offering degrees in education, the plan is to offer to the society/government, programs that are required for a smooth provision of education, across subjects and across K-12, in Cyprus.</p>
<p>8. Across the University, we suggest that some sort of workload management system is introduced that gives fair consideration to the relative time requirements of teaching</p>	<p>R24. We totally agree with this suggestion. Our department supports the reform of the UCY’s algorithm for calculating an academic’s work load and time allocation</p>

(including supervision), research and management....	across different duties (managerial, educational and research duties).
Evaluation rubric/questionnaire	
1.1.2 Our comment here is not that in the taught course of the Doctoral Program numbers are too high, but potentially the converse. The minimum number stated for a given course was five students, and more typically 7 to 10. However, in our view low numbers should generally be avoided as this reduces opportunities for group work, project work and student-student learning.	R25. We are aware of the possible limitations that a small number of students could pose to the teaching and learning process. Therefore, our intention is to create audiences of 10-15 students which we believe is the ideal number for a post-graduate course. However, even in the cases that this was not possible, we managed to create a proper environment for group work, team presentations, common projects and peer interactions.
1.1.3.6 The students we spoke to made reference to Program Representatives but it was not clear if there were Doctoral Program representatives, and if so whether they have any involvement in feedback and review processes.	<p>R26. At the moment, no regulations of the University of Cyprus foresee the participation of students when designing a course, or the curriculum. However, there is ongoing discussion at the university on how students' final evaluations of a course could be taken more formally into consideration for improving the existing courses.</p> <p>The participation of students in the meeting with the Evaluation Committee was asked on a voluntary basis; hence, no purposeful selection process was followed. An invitation was sent to our programme's students, but their personal or professional obligations restricted them from joining the evaluation process.</p> <p>The invitation was also sent to recently graduated students because they are the ones that usually have a better understanding/view of the programme. The post-doctoral student, who joined the discussion session with the evaluation committee, was a recent graduate of our program and a recent employee of the programme; thus, a person having a thorough picture of our programme. It should be noted that this person joined the session on a volunteer basis.</p>
1.1.4.3 In terms of infrastructure, our concerns relate to the need for students to commute between three locations, taking time and limiting the potential of the development of a sense of learning community.	R27. In order to alleviate this problem, we have made arrangements for all of our post-graduate courses to take place in the 'old' campus, where all of our labs, including the renovated ones, are situated.

<p>1.1.10 Whilst we gained the impression that good mentoring processes are in place, this appeared not to be ‘taken into consideration for the calculation of academic workload’. Indeed, it did not seem to be the case that there was any standard rubric for calculating workload, leaving us with concerns that there were limited opportunities to consider what an appropriate and equitable workload might be. Plainly, all staff were working far more than their contractual hours.</p>	<p>R28. We share committee’s concerns for a more proper way of calculating personnel’s workload. Our department supports the reform of the UCY’s algorithm for calculating an academic’s work load and time allocation across different duties (managerial, educational and research duties).</p>
<p>Note, additionally:</p> <p>a) the expected number of Cypriot and International Students in the program of study.</p> <ul style="list-style-type: none"> - Enrolment on the PhD in Natural Sciences – annually, three students. <p>b) the countries of origin of the majority of students.</p> <ul style="list-style-type: none"> -Most of the International Students are from Greece. No other demographic information was provided. <p>c) the maximum planned number of students per class-section.</p> <ul style="list-style-type: none"> - This was stated as 20. 	<p>R29. For the moment the programme aims to cover the needs of the Greek speaking community (see also R6). Therefore, it is expected that the origin of the potential students will be mainly from Cyprus and Greece.</p> <p>According to the UCY’s policy for quality in postgraduate studies, the number of 20 students per year was set as the upper limit.</p>
<p>1.2.1 and 1.2.2 Whilst the methodology seems to be generally suitable, there does seem to be a generally conventional and homogenous approach taken across courses. All seemed to be written to a standard structure and mostly with a similar assessment mix</p>	<p>R30. Some of our courses appear to have a rather similar structure, but in reality they do not. Each one of them has different focus/scope/objectives, different content (e.g., reading materials) and assignments (e.g., critical discussion of articles related to the course at task, group projects, projects that involve interactions with students). The assessment might appear to be similar, which could be attributed to the fact that final exams are obligatory for all courses at the UCY. In any case, we would make a greater effort to differentiate among courses as much as possible.</p>
<p>1.3.9. We feel we must note that this is a normative question with which we must take issue. The wording suggests that teaching is of secondary importance to research, something which we expect would surprise and disappoint students. Indeed, the term ‘teaching load’ suggests this. However, as noted above, total academic workload is</p>	<p>R31. As we have pinpointed above, both the ‘academic workload’ and part of the students’ methods of assessment are regulated by university rules (see R30).</p>

<p>undesirably high, and it is probable that this may contribute to a lack of innovation in teaching practices and alternative forms of assessment. A related factor is that the students are, in our experience, over-assessed and a reduction in this should have a positive impact on staff workload.</p>	
<p>1.3.10. ... it is clear that (a) the staff complement has been stable for some years, (b) certain courses depend on few or even a single member of staff. This is not a robust model. We urge consideration of some form of succession planning, which might potentially include the employment of a new lecturer to ease some of the workload issues noted above.</p>	<p>R32. Please see R2 and R3.</p>
<p>Note the expected number of students who will be studying simultaneously at another academic institution, based on your experience so far, regarding students who study simultaneously in the programs of your institution.</p> <ul style="list-style-type: none"> - No information provided. 	<p>R33. According to UCY regulations this is not feasible. No student is allowed to study at the same time in two different institutions in order to pursue two different degrees.</p>
<p>2.3.2.3. As above (see e.g. Section 1.1), the students seemed unsure of these arrangements.</p>	<p>R34. Please see our responses for section 1.1</p>
<p>2.4.7. As above in Sections 1.1, 2.3 etc.</p> <p>In the case of practical training, note:</p> <ul style="list-style-type: none"> - The number of credit units for courses and the number of credits for practical training - In which semester does practical training takes place? - Note if practical training is taking place in a country other than the home country of the institution which awards the higher education qualification - No information provided. 	<p>R35. This does not apply in our case.</p>
<p>4.3.1. Funding of the program seems adequate. However, we have concerns that the income from the existing Master's program (according to the fee structure) is approximately half the expenditure. Conversely, the running costs of the PhD program are significantly more than the</p>	<p>R36. Please see R13.</p>

income. Consequently, we have concerns that the Master's program is in effect subsidising the PhD program.	
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