

**Blended Learning and the  
Professional Development  
issue for  
teachers in Technical-  
Vocational Education**

**by: *Styliani Molasioti,  
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***CONFERENCE IN: Quality in Blended  
Learning***

**Blended Learning Quality-Concepts Optimized  
for Adult Education**

**Málaga: August, 27 - August, 29 2015**



# The issue of this article

- *Since the decade of '70s, teachers' training became a crucial factor\* in **educational change**.*
- *More or less, this is achieved when **adult trainers become adult learners** and then, they transfer **newly attained skills** in their own classroom.*

\*Hargreaves, A. (1994). Changing teachers, Changing Times. London: Cassell.



- *Contemporary thought introduced blended learning in order to ensure **equal educational opportunities**, along with **professional development** for educators, by enriching instructional modality with **digital tools**.*



- *Although numerous papers have been written about **life-long learning** and even more research has been conducted in the field of **blended learning** at higher level education, or tertiary institutions, or campus-based universities, very little work has been done aimed at **in-service vocational training** for teachers.*



- *In this issue, the question is how well we can incorporate **criteria** and **dimensions** of quality measurements that apply to blended learning in a curriculum of a faculty, in the non-formal courses for teachers.*



- *This article envisages, to clarify in some extent, how the **needs** and the **special characteristics** of adult trainees who are, at the same time, tutors in an institution, apply in praxis with their learning face-to-face **educational necessities** and their distance web-based **instructional pace** and how all those parameters affect the **Blended Learning quality result.***



- *For this reason, a research has been conducted, in a group of 18 **teachers** in secondary Vocational Training who **attended lessons, by blended mode, in a short-period technical seminar**, transforming a ready-made survey-instrument\* regarding the disparateness of such a learning environment.*

\*Blended Learning Toolkit' is a free, open resource for educational institutions interested in developing or expanding their blended learning initiatives. Retrieved by: <https://blended.online.ucf.edu/evaluation/resources/survey-instruments/>



# The research hypothesis

- The research hypothesis was based on a grid of data from an extended range of international bibliography about **adult learners' needs, preoccupations and characteristics**, about teachers' development, **vocational educators' aspects** and of course about **blended learning potential**.



# The research hypothesis

Researchers' community seems to be, at a large extent, confident for things like:

- Adult learners seem to **appreciate** well-prepared, clear presentations.
- Adult learners are **more experienced** and...
- have **limited time** in class lessons.

Moreover:

- Teachers are **concerned** about the **quality of their profession**.



Researchers' community seems to be, at a large extent, also confident that:

- As blended learning is a broader concept, it encompasses a wide set of applications and e-media which transform training in a more flexible method\*.

\*Anderson, J., (2005). IT, e-learning and teacher development, Shannon Research Press.p.4.



Researchers' community seems to be, at a large extent, also confident for :

- Blended learning **increases** participation and facilitates interaction and cooperation between trainers and trainees.
- Blended learning appears to be **well-suited** to the needs of the life-long learners\* and ...
- as blended learning fosters creation it differentiates **instructional pace**.

\*Dabbs, L., Blended Learning: We Are All New Teachers (2012) Retrieved by:  
<http://www.edutopia.org/blog/blended-learning-getting-started-lisa-dabbs>



- In the research participated teachers from three different schools, who applied voluntarily to a seminar about CAD designing, organized by the Prefecture of Thessaloniki.
- The training was held by using specialized software tutorials, videos, internet accessing, on-line manuals, exercises and 35 hours in-school-workshops in School's Computer Lab, from 21<sup>st</sup> of January to 27<sup>th</sup> of February 2015.



# The questionnaire

- A ready-made survey-instrument\* was found closer to our case.
- So we proceeded by taking into account the known heterogeneity of such a learning environment that exists in the secondary educational system of Greece.

\* Blended Learning Toolkit' is a free, open resource for educational institutions interested in developing or expanding their blended learning initiatives. Retrieved by:  
<https://blended.online.ucf.edu/evaluation/resources/survey-instruments/>



# What did we take into account?

- Nowadays, at least for vocational education in Greece, the teachers' educational development is accomplished with in-school short-term seminars, in an optional basis, as it is absolutely **voluntary** for every teacher to enroll in those courses.
- Besides, it is common ground the **topics** to be upon-demand by teachers themselves.
- **Tutors** in such seminars, are well-qualified trainers who come from the teachers' cluster and thus, they are likable.



# What did we take into account?

- Those who serve for many years in Technical-Vocational Education in the secondary level are more or less *competent practitioners*\*. They have a good pedagogical, organizational and technical, theoretical expertise and their needs are focused to integrate experiences in more specific practical skills, which sometimes have to do with cutting edge computerized technology that they could **directly implement** in their laboratory work with their students.

\*Schoen, D. (1983). The reflective practitioner: how professionals think in action. New York: Basic Books.



# What did we take into account?

- So, teachers need well-organized, concentrated, explicit seminars which should be designed **under their constraints**.
- Tutors also who would be “external factors” couldn’t fulfill the **adult learners expectations** because of lack of an appropriate targeting\*
- So, taking into account teachers’ attitudes could mitigate the fiscal and pedagogical **challenges** and **deficiencies** in such programs\*\*.

\*Lambert, L.(1989). The End of an Era of Staff Development, Educational Leadership., p. 78  
[http://www.ascd.com/ASCD/pdf/journals/ed\\_lead/el\\_198909\\_lambert.pdf](http://www.ascd.com/ASCD/pdf/journals/ed_lead/el_198909_lambert.pdf)

\*\*Garrison, D.R., Kanuka, H., (2004) Blended learning: Uncovering its transformative potential in higher education, in Elsevier ” Internet and Higher Education” 7, p.95–105.



The questionnaire was designed to collect the necessary information without tiring the participants. It consisted of four (4) pages with well organized structure in **English** and in **Greek**.

At the beginning of the first page there was a small text which explained to the participants why the research has been conducted.



# The survey instrument

## Blended Learning Environments Survey

Blended courses have some face-to-face class meetings, but also have some class sessions that are replaced with online instruction.

Please answer the following questions as clearly as you can by checking the box or filling the lines, having in mind that this survey can provide invaluable information through your feedback regarding experiences in training through a blended learning environment.

Η Υβριδική Μάθηση έχει κάποιες 'δια ζώσης' συναντήσεις, αλλά επίσης έχει και κάποιες ενότητες που αντικαθίστανται από εξ'αποστάσεως οδηγίες.

Παρακαλώ, απαντήστε στο παρακάτω ερωτηματολόγιο όσο το δυνατόν πιο ξεκάθαρα, τσεκάροντας στο αντίστοιχο κουτάκι ή γράφοντας την απάντησή σας στο αντίστοιχο κενό κατάλληλα, έχοντας υπ' όψη σας ότι αυτή η έρευνα μπορεί να παρέχει ανεκτίμητες πληροφορίες μέσω της ανατροφοδότησης που αφορά στην εμπειρία σας που αποκτάτε στην επιμόρφωση με υβριδικά περιβάλλοντα μάθησης.

### A1. Demographic Data

Institution/Σχολείο: \_\_\_\_\_ Course/Διδαστικό: \_\_\_\_\_

Age/Ηλικία: <30 \_\_\_ - 31-40 \_\_\_ -41-50 \_\_\_ -51-60 \_\_\_ >61 \_\_\_ Gender/Φύλο: A \_\_\_ @ \_\_\_

Marital Status/Όικογ. Κατ: Married /Παντρεμένος: \_\_\_ Single /Ανύπαντρος: \_\_\_

### A2. Prerequisite Knowledge

English Knowledge: Excellent \_\_\_ Very Good \_\_\_ Good \_\_\_ Not so Good \_\_\_ Poor \_\_\_

Computer Knowledge: Excellent \_\_\_ Very Good \_\_\_ Good \_\_\_ Not so Good \_\_\_ Poor \_\_\_

### B. Learning Preferences

Which training model do you prefer for educators who address to technicians?(Choose one)/Ποιον τρόπο επιμόρφωσης προτιμάς για εκπαιδευτικούς που απευθύνονται σε τεχνικούς; (Διάλεξε ένα)

B1 \_\_\_ Entirely face-to-face - Καθ' ολοκληρίαν δια ζώσης μαθήματα

B2 \_\_\_ Minimal use of the Web, mostly held in face-to-face format- Κυρίως δια ζώσης επιμόρφωση με ελάχιστη χρήση της εξ' αποστάσεως εκπαίδευσης

B3 \_\_\_ An equal mix of face-to-face and web content- Ισομερή κατανομή μαθημάτων δια ζώσης και εξ' αποστάσεως

B4 \_\_\_ Extensive use of the Web, but still some face-to-face class time- Εκτενή χρήση εξ' αποστάσεως με ελάχιστη χρήση δια ζώσης συναντήσεων

B5 \_\_\_ Entirely online with no face-to-face time- Καθ' ολοκληρίαν εξ' αποστάσεως

### C. Personal Learning Data

	Strongly agree 5	Agree 4	Neutral 3	Disagree 2	Strongly disagree 1
C1. I like learning process- Με ευχαριστεί η διαδικασία της μάθησης.					
C2. In my school years I had very good grades- Στα σχολικά μου χρόνια είχα πολύ καλούς βαθμούς.					
C3. In my school years I was a diligent student- Στα σχολικά μου χρόνια ήμουν επιμελής μαθητής.					
C4. I have strong time-management skills- Έχω άριστες δεξιότητες στο να διαχειρίζομαι τον χρόνο μου.					

	Strongly agree 5	Agree 4	Neutral 3	Disagree 2	Strongly disagree 1
C5. I am self-motivated to succeed in getting new skills for my job- Παρακινούμαι από μόνοι μου ώστε να αποκτώ νέες δεξιότητες για τη δουλειά μου.					

### D. Learning Choice

	Definitely 5	Possibly 4	Undecided 3	Not Possibly 2	Definitely not 1
D1. Mostly I choose, regarding in the topics not in the blended environment - Επέλεξα βασισμένος κυρίως στη θεματολογία και όχι στο υβριδικό περιβάλλον.					
D2. I choose based on the instructors, not the modality - Επέλεξα βασισμένος κυρίως στους εκπαιδευτές και όχι στη μέθοδο.					
D3. I prefer digital technology given in class, not at home- Με ευχαριστεί περισσότερο όταν μου παρέχεται η τεχνολογία μέσα στην τάξη και όχι στο σπίτι.					
D4. Blended learning minimizes typical in-class training hours because it improves self-training- Η υβριδική μάθηση ελαχιστοποίησε την επιμόρφωση στην τάξη, λόγω του ότι βελτιώνει την αυτό-επιμόρφωση.					
D5. Blended learning facilitates my training due to my fixed schedules- Η υβριδική μάθηση με διευκολύνει στην επιμόρφωσή μου, λόγω των αστηρά καθορισμένων προγραμμάτων μου.					
D6. I find more flexible the access of the modules content when I can reach it online -					



# The survey instrument

Βρίσκει πιο ευέλικτη την πρόσβαση στις ενότητες όταν μπορώ να τις έχω 'online'.					
D7. Given a choice, I would enroll in another blended course? - Σε επόμενη ευκαιρία θα έκανα αίτηση για μία υβριδική επιμόρφωση					
D8. Given a choice, I would prefer a typical course by lecture - Σε επόμενη ευκαιρία θα προτιμούσα μία παραδοσιακή επιμόρφωση με εισήγηση					

## E. Outcome in blended courses

	Strongly agree 5	Agree 4	Neutral 3	Disagree 2	Strongly disagree 1
E1. I'm more likely to ask questions in a blended course - Με τη χρήση του υβριδικού συστήματος μου ήταν πιο εύκολο να θέτω απορίες στους επιμορφωτές μου					
E2. There are more opportunities to collaborate with others in a blended course - Μου δόθηκαν πιο πολλές ευκαιρίες για να συνεργαστώ με τους άλλους <u>επιμορφούμενους</u>					
E3. Our trainers provided us with the necessary resources to succeed the best outcome in blended courses - Οι επιμορφωτές μας, μας παρέχουν τις κατάλληλες πηγές για να επιτύχουμε το βέλτιστο αποτέλεσμα με την υβριδική μάθηση.					
E4. My blended course experience has increased my opportunity to access and use information - το εξ' αποστάσεως υλικό μου έδωσε κίνητρο για περισσότερο 'ψάξιμο' πληροφορίας στο διαδίκτυο					
E5. I have more opportunities to reflect on what I've learned in blended courses - Είχα πιο μεγάλη παρακίνηση στο να προβληματιστώ επάνω στις ενότητες του σεμιναρίου					
E6. Blended learning helps me better understand course material - Κατανόησα πιο εύκολα το μαθησιακό υλικό					

	Strongly agree 5	Agree 4	Neutral 3	Disagree 2	Strongly disagree 1
E7. Generally, I understand course requirements better in a blended course - Ουσιαστικά, κατανόησα καλύτερα τις απαιτήσεις του σεμιναρίου μέσω του εξ' αποστάσεως επιμορφωτικού υλικού					
E8. Because of blended courses, I am more likely to apply new knowledge in my class - Λόγω του υβριδικού μαθησιακού υλικού μπορώ να εφαρμόσω όσα έμαθα στην τάξη					
E9. Generally, I am more engaged in my blended courses - Παρατηρώ ότι είμαι πιο ισχυρά εμπλεκόμενος στη μαθησιακή διαδικασία από ότι με την παραδοσιακή επιμόρφωση					
E10. My personal devices (e.g. cell phone, mp3 player, PDA) help with my learning - Γενικά με βοήθησαν στην επιμόρφωσή μου οι διάφορες προσωπικές συσκευές (κινητό τηλέφωνο, smart phone, συσκευές αποθήκευσης USB, φορητός σκληρός δίσκος, Tablet, PDA)					
E11. Social networking applications (e.g. Facebook, Twitter, google+) help me with learning - Τα κοινωνικά δίκτυα με βοηθούν στη μάθηση.					

## F. Proposals for blended courses

**F1. Having in mind your late experience in blended learning, what would you suggest as the greater profit by blended courses in general?**

Ποιο θα ήταν αυτό που θα προτεινέτα ως το μέγιστο κέρδος από τα υβριδικά προγράμματα γενικά;

**F2. Have you anything that you liked least about your recent blended training course?**

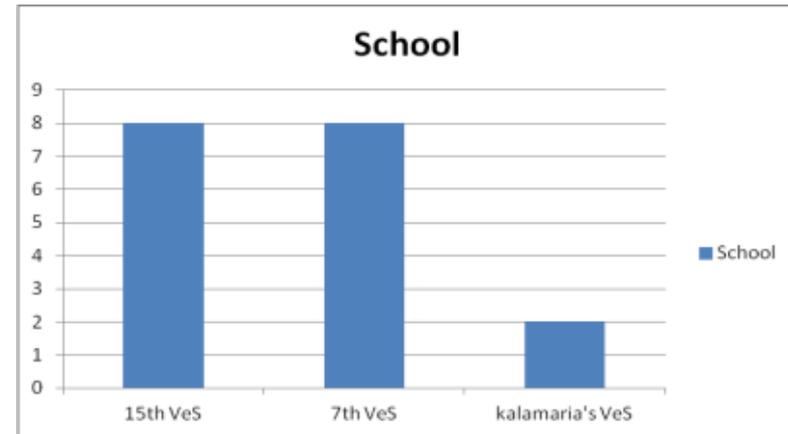
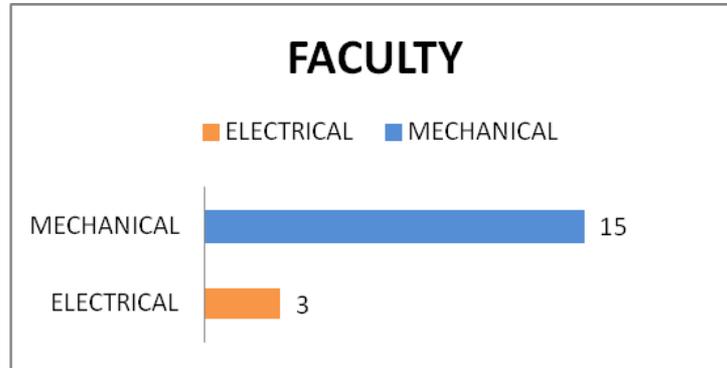
Υπάρχει κάτι που δεν σου άρεσε στην πρόσφατη επιμόρφωσή σου με υβριδικές μεθόδους;

**F3. What would you advice your trainers in order to design better a new blended training course?**

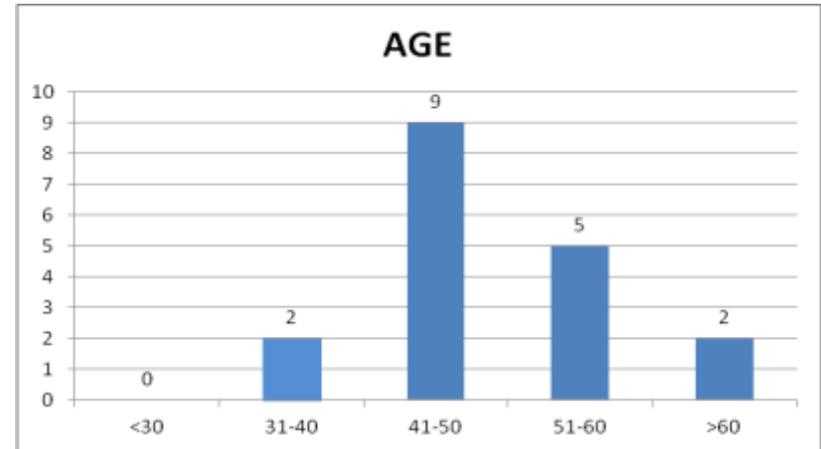
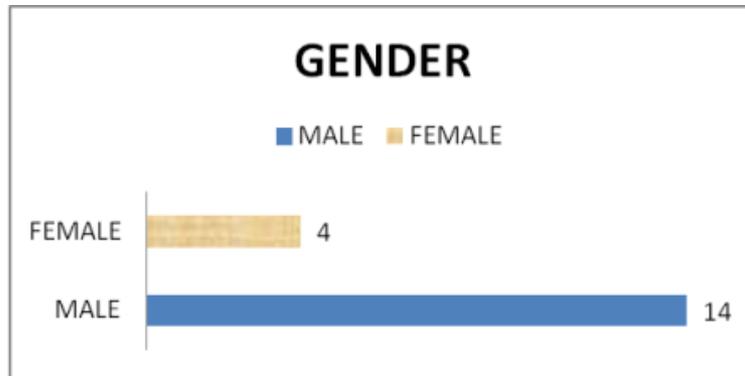
Τι θα συμβούλευες τους εκπαιδευτές σου ώστε να σχεδιάσουν καλύτερα ένα καινούριο πρόγραμμα υβριδικής επιμόρφωσης;

- some sessions should be given by teleconference means, as e.g. by Skype
- an extra learning material should be given in order to help a self-assisted reading
- tutors should reinforce learners for a self-motivated reading



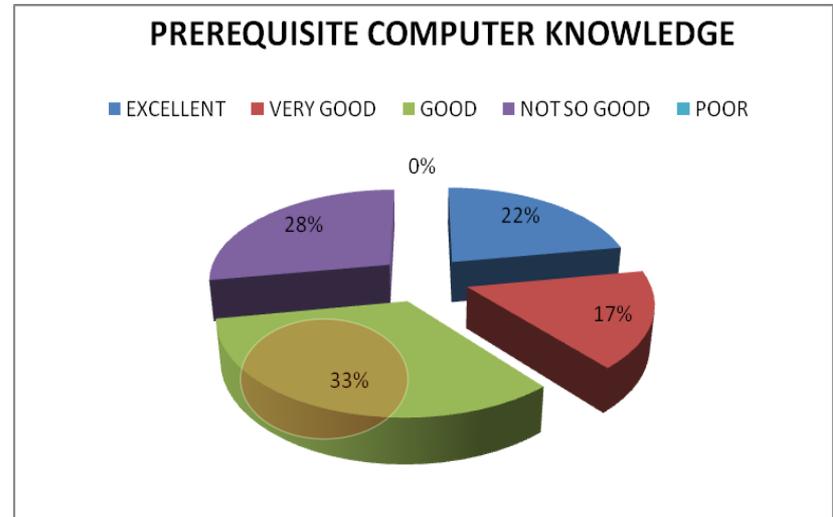
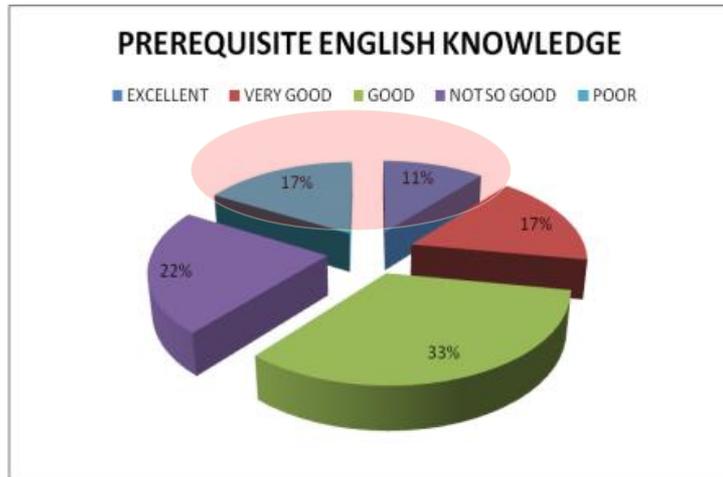


- As shown in the above figures the 'faculty' of respondents is Electrical engineering and Mechanical with the greater part being Mechanical engineers who come mostly from 15<sup>th</sup> and 7<sup>th</sup> School of Vocational education. Only two teachers are from Kalamaria's VeS.

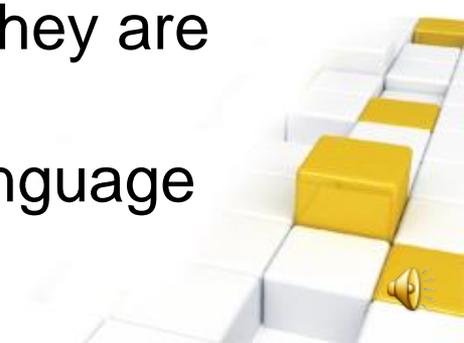


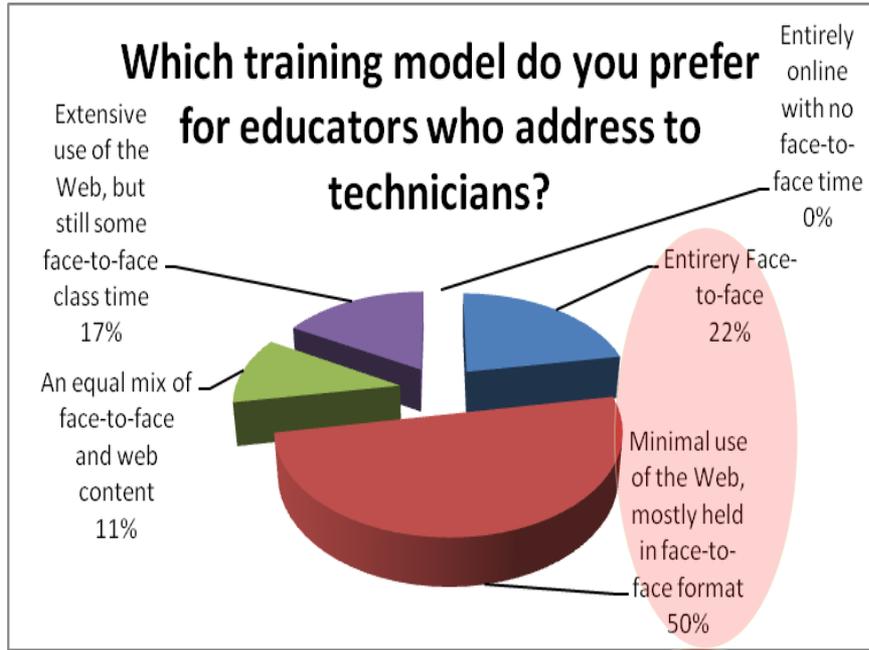
- As for the 'Gender' and 'Age', only four out of 18 participants are females with the great majority, of all teachers, being 41 to 60 years-old. This seems to illustrate a greater professional experience.





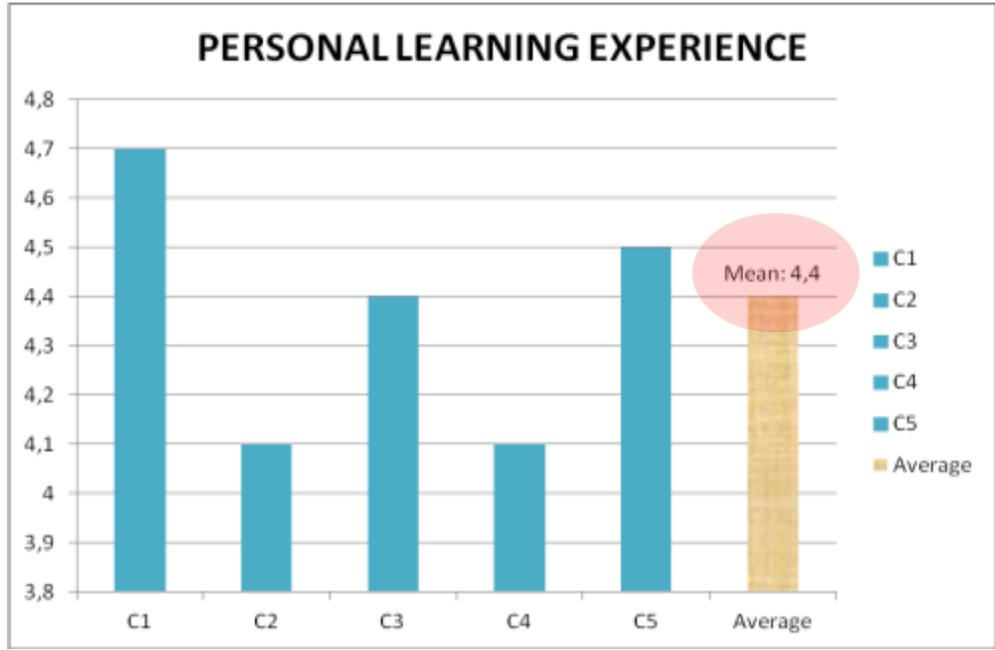
- Only 28% of the respondents knows “excellent” or at least “very well” English and this is a factor that affects the understanding of terminology in such technical seminars. Even though they are not experts with a 33%, they present a moderate knowledge both in English language and in Computer Science.





- An overwhelming majority (72%) wants a minimum use of the web or even a full face-to-face training, for educators who address to technicians. This is explained, having in mind, that educators who teach engineering they use their craft and so, they need to specialize in manual or designing work in laboratories.

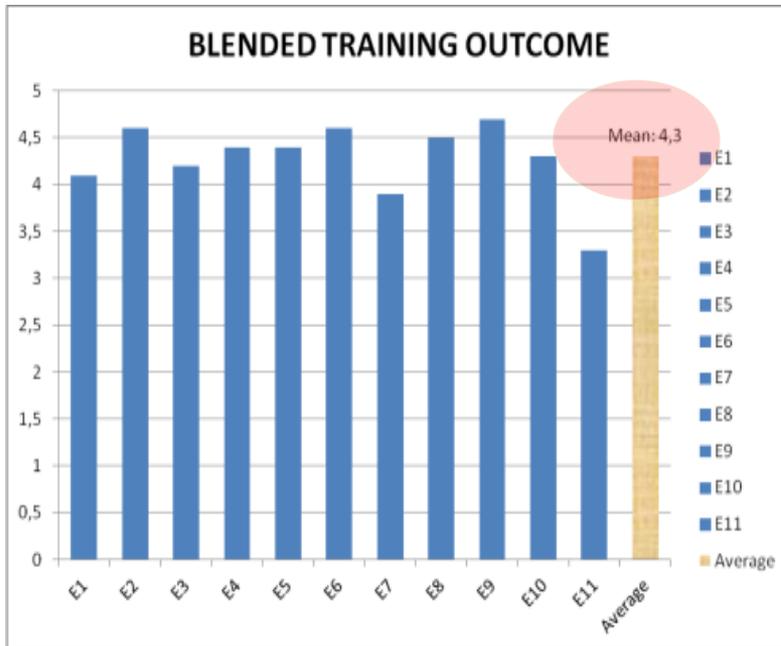




- C1. I like learning process
- C2. In my school years I had very good grades
- C3. In my school years I was a diligent student
- C4. I have strong time-management skills
- C5. I am self-motivated to succeed in getting new skills for my job

- Personal learning experience gives a measurement for the **participants' perceptions about learning** from the school-years till now, as bibliography insists that this affects the blended-learning quality outcome. With a mean of 4.4 we conclude that the participants in general they are **self-motivated** and **they like learning process.**





**E1.**I'm more likely to ask questions in a blended course  
**E2.**There are more opportunities to collaborate with others in a blended course  
**E3.**Our trainers provided us with the necessary resources to succeed the best outcome in blended courses  
**E4.**My blended course experience has increased my opportunity to access and use information  
**E5.**I have more opportunities to reflect on what I've learned in blended courses  
**E6.**Blended learning helps me better understand course material  
**E7.**Generally, I understand course requirements better in a blended course  
**E8.**Because of blended courses, I am more likely to apply new knowledge in my class  
**E9.**Generally, I am more engaged in my blended courses  
**E10.**My personal devices (e.g. cell phone, mp3, PDA) help with my learning  
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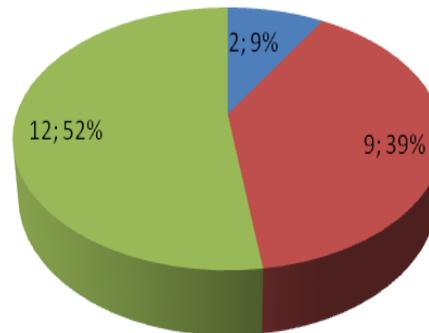
- The blended learning outcome of this seminar with a mean of 4.3 seems to give an excellent upshot in the whole effort. According to respondents opinion there were more opportunities to collaborate with others in this blended course (mean 4.6) and blended learning helped them to understand better course material (mean 4.6).

- With a mean of 4.4 participants think that blended learning minimizes typical in-class training hours because it improves **self-training**.
- It is encouraging that with a mean of 4.7 they would **enroll in another blended course**.
- Besides, with the same mean (4.7) they find more **flexible** the access of the modules content **when they can reach it online**.

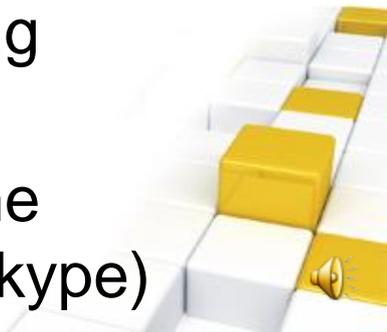


What would you advise your trainers in order to design better a new blended training course?

- some sessions should be given by teleconference means, as e.g. by Skype
- an extra learning material should be given in order to help a self-assisted reading
- tutors should reinforce learners for a self-motivated reading



- Twelve out of 18 participants (52%) think that, in this seminar, tutors should reinforce learners for a self-motivated reading,
- Nine of them proposed for an extra learning material to be given,
- Two (9%) see reasonable to be given some sessions by teleconference means (e.g. Skype)



- The data analysis was a first approach in the field of teachers professional development by blended learning courses and drew some answers which documented records from bibliography.
- The data of this survey as well as the questionnaire might be useful for those who are interested in further and in-depth analysis by using correlations or other tools of statistical analysis in Greece or in any other country.



- This research does not claim precedence in **adult learners education**, or in **teachers professional development** but certainly...
- comes to put a bit in the **conjunction** of all those matters within a blended learning environment.



# Thank You

Do not hesitate to contact authors\*

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Quality in Blended Learning  
Blended Learning Quality-Concepts  
Optimized for Adult Education

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