DIGITAL FUTURE CLASSROOM FOR THE INCLUSION OF THE NEET/REFUGEE POPULATION: PROPOSAL BASED ON AN ICT SKILLS APPROACH[1]

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1- JUSTIFICATION OF THE RESEARCH RELEVANCE

School dropouts as well as the inclusion of refugee population in the host countries are in up-to-date. Vocational Education Training (VET) programmes have been developed under recent educational approaches. A new classroom physical space – the Future Classroom Lab - has been developed based on ICT resources and on non-traditional teaching/learning approaches. But are these suitable for the VET aiming the Non in Education, Employment or Training (NEET)/Refugee population as well as promoting the Inclusion and the Labour Market Integration (ILMI) of this population?
The present research intends to investigate how a Digital Future Classroom (DFC) based on ICT skills approach promotes the ILMI of the NEET/Refugee population.

2- RESEARCH QUESTION, PURPOSE AND OBJECTIVES

This research aims to answer the question: In which way might a Digital Future Classroom based on ICT skills approach influence the inclusion of the NEET/Refugee population (NRP)?
It proposes to present a contribution for the ILMI of the NRP through ICT skills oriented DFC.
Objectives: 1) comprehend the problematics inherent to the theoretical framework; 2) study the different nature of the existing Future Classrooms (FC's) through the analysis of their interior design layouts as well as its dynamics/fluidity promotes the teaching and learning; understand how the ICT skills are being enhanced by the FC's and how an ICT skills oriented DFC is used in the VET context; 3) develop and propose an ICT skills oriented DFC interior design which promotes the ILMI of the NRP.

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3- METHODOLOGY

3.1 Research paradigm and nature

This research, mainly qualitative, can be considered under the constructivist (or socio-constructivist) paradigm due to the perspective that "Individuals develop subjective meanings of their experiences, meanings directed toward certain objects or things" (Creswell, 2014, p. 37 of 342), and with a slight nuance of the critical theory paradigm (Amado, 2014; Coutinho, 2011). Denzin and Lincoln state that "Qualitative research, as a set of interpretive activities, privileges no single methodological practice over another. (…) It has no theory or paradigm that is distinctly its own" (2006, p. 6). Moreover, ICT component is approached with the assumption that "Technical and scientific training need not be inimical to humanistic education as long as science and technology in the revolutionary society are at the service of permanent liberation, of humanization" (Freire, 2005, p. 159). Considering also that "The researcher-as-bricoleur[2]-theorist works between and within competing and overlapping perspectives and paradigms" (Denzin & Lincoln, 2006, p. 5) the research design resorts to triangulation, as it uses "different methods in an attempt to confirm, cross-validate, or corroborate findings"(Creswell, 2013, p. 24) in order to respond to each of the set objectives fulfilling all the requests.

3.2 Research Design

The research design is divided in three phases (table 1): the first concerning the literature review, the second a diagnostic study and the third supported in a case study (CS) and development research strategies.

The diagnostic study aims to generate data for the development research phase. A web survey will be sent to all the schools that were involved in the FC debate[3]. The explorative design study "aim at clarifying the design problem-in-context and at generating tentative design ideas" (van den Akker, 1999, p. 6). Video observation will take place in order to understand the dynamics/fluidity of the students and teacher in the classroom physical environment.

The third phase encompasses a CS[4] and the development of the project proposal. The CS "comprises an all-encompassing method – covering the logic of design, data collection techniques, and specific approaches to data analysis" (Yin, 2009, p. 18). The project proposal based on formative research, is a "Research activities performed during the entire development process of a specific intervention, from exploratory studies through (formative and summative) evaluation studies; aimed at optimization of the quality of the intervention as well as testing design principles" (van den Akker, 1999, p. 6).

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[2] Denzin and Lincoln state that «The interpretive bricoleur produces a bricolage; that is, a pieced-together set of representations that are fitted to the specifics of a complex situation. "The solution (bricolage) which is the result of the bricoleur's method is an [emergent] construction" (Weinstein & Weinstein, 1991, p. 161), which changes and takes new forms as different tools, methods, and techniques of representation and interpretation are added to the puzzle» (2006, p. 4).

[3] The FC Lab was created by the European Schoolnet and 30 Ministries of Education (http://fcl.eun.org/about; http://www.eun.org/about/members)

[4] Moreover, bearing in mind the cultural specifics of the population in study, this CS may be, in a way, considered an *ethnographic* CS in its disciplinary orientation (Merriam, 1998, p. 34).

Table 1 – Research design

phase		instruments	participants	objective(s)
Literature review				understand the state of the art of the theoretical framework
Diagnostic	Survey	Questionnaire A development and validation	European FC network | FC decision makers FC users - students FC users - teachers	realize what factors led to the decision making; see how the spaces were designed vs. how they are being used; notice how ICT skills are being developed and which digital technologies are being used; understand if there are suggestions from the users in order to improve dynamic space and maximize the potential that provides
		Questionnaire A pilot		
		Questionnaire A adjustments		
		Final questionnaire A sending		
		Questionnaire A analysis		
	Explorative design study	Data collection (blueprints, layout, equipments – furniture, technological devices)	- 1 Secondary School from the Centre of Portugal - 1 Association of Schools from the Centre of Portugal - 1 Higher Education School from the Centre of Portugal	collect data concerning the existing physical spaces in order to find out indicators to the observation script
		Data analysis (blueprints, layout, equipments – furniture, technological devices)		
		development of the observation script A and validation		study the dynamics/fluidity of the students and teacher/trainers in the classroom to clarify "the design problem-in-context" and to generate "tentative design ideas" (van den Akker, 1999, p. 6).
		Observation A (in loco and video) - researcher as non-participant		
		Observation A analysis		
Proposal	Case Study	Questionnaire B development and validation	- 1 Higher Education School from the Centre of Portugal - NEET/Refugee trainees and trainers	questionnaire B (pre-test) - aims to gather and generate information about how the NEET/Refugee trainees and trainers use the digital technologies and the conceprions and perceptions they have about these concerning their use for inclusion and for the labour market integration
		Questionnaire B application (pre-test)		
		Questionnaire B analysis (pre-test)		
		Observation B (in loco and video) - researcher as participant	- 1 Higher Education School from the Centre of Portugal - NEET/Refugee trainees and trainers (researcher included)	study the dynamics/fluidity of the students and teacher/trainers in the classroom to clarify "the design problem-in-context" and to generate "tentative design ideas" (van den Akker, 1999, p. 6).
		Observation B analysis		
		Questionnaire B application (middle-test)	- 1 Higher Education School from the Centre of Portugal - NEET/Refugee trainees and trainers	the same objective as in the questionnaire B (pre-test)
		Questionnaire B analysis (middle-test)		
		Observation C (in loco and video) - researcher as non-participant	- 1 Higher Education School from the Centre of Portugal - NEET/Refugee trainees and trainers	study the dynamics/fluidity of the students and teacher/trainers in the classroom to clarify after the implementation of the proposal
		Observation C analysis		
		Observation D (in loco and video) - researcher as participant	- 1 Higher Education School from the Centre of Portugal - NEET/Refugee trainees and trainers (researcher included)	study the dynamics/fluidity of the students and teacher/trainers in the classroom to clarify after possible implementation adjustments of the proposal
		Observation D analysis		
		Questionnaire B application (post-test)	- 1 Higher Education School from the Centre of Portugal - NEET/Refugee trainees and trainers	questionnaire B (pre-test) - aims to gather and generate information about how the NEET/Refugee trainees and trainers use the digital technologies and the conceprions and perceptions they have about these concerning their use for inclusion and for the labour market integration
		Questionnaire B analysis (post-test)		
	Project development	Interior Design Proposal development		develop a interior design proposal which responds to the research question. Implement, evaluate and adjust the proposal.
		Interior Design Proposal implementation		
		Interior Design Proposal assessment and evaluation		

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