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Innovation and Core Competencies in Higher Education the Case of Mohamed V University

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Abstract: ***Innovative teaching is of central importance for student motivation and learning outcome quality. At the center of such quality are teaching competencies. Three core competencies at the center of innovative teaching performance are investigated in this study: social, teaching, and educational/pedagogical. In addition, the research sheds light on the influence of social factors on innovation in higher education. The technological competency, considered independent in research, is believed in this study to be part of the pedagogical competency. A Likert scale questionnaire was used to measure all the variables. The social variables that affect innovative teaching in higher education have also been demarcated. The results show that teachers' educational competency and teaching competency were generally confirmed to be important as well as very important for innovation in teaching. Concerning social competency, the study also shows that daily working hours, flexibility of institution, amount of workload, the 'quality of students' and satisfaction from job constitute the main factors that significantly affect innovative teaching performance.***

Keywords: Innovative Teaching; Core Competencies; Higher Education; Social Factors; Teaching Performance

1. Introduction

Studies in modern cognitive science, information processing, language acquisition and development or assessment have led to the need for innovation in education. Education needs quality and efficiency in a world where constant change, globalization, rapid information technology evolution and free knowledge online have become its prominent characteristics. Learners need empowerment to be able to face the 21st century global challenges (Nicolaides, 2012). Innovation is defined as *"the introduction of novelties, the alteration of what is established methods" (*oxford Dictionary). Concerning education, two approaches still interact in the field. The modern approach sees that education, including English Language Teaching, should have the ultimate goal of developing competencies. This is the trend in current classroom management, curriculum design and engineering, and evaluation theory. However, one cannot overlook the traditional approach that has pragmatically led to the focus on what the learners can do with their knowledge.

Hence, teaching curricula, from design to textbooks, focus on competencies as well as on standards. However, such approaches have not been implemented without challenges. The most noticeable one could be the translation of such competencies into real classroom activities, techniques and assessment procedures. Teacher and supervisor training on competencies is still needed. The basic reason for this state of affairs resides in the fact that teachers as well as supervisors have not all been well trained on this approach. The result of such a situation is that many factors have come into play.

The new approach considers teachers as a pivotal component in the teaching process, a component necessary to lead to successful learners. The assumption here is that a competent teacher leads to competent students in the same manner a leading teacher is necessary for leading students. It is also assumed here that teachers need to acquire a set of standards during their teacher education training. This gains more importance given that the majority of higher education teachers have not had solid formal training on teaching practices and pedagogy. Today, teacher competency does not only concern the classroom pedagogical or technical practices. Such a view is incomplete and there is a need to review and reassess such conceptions.

The purpose of this study is to investigate teachers' perceptions of core competencies in relation to their innovative teaching performance. Based on the literature and previous studies in this field, three competencies (educational competency, teaching competency and social competency) are advanced as core competencies for teachers' innovative teaching in this study. A questionnaire on these core competencies and innovative teaching performance was developed and tested for this purpose (see methodology section below).

1) Innovative Teaching

As information and knowledge is increasingly available today through its digital formats, many theories as well as practices still reflect considerable oscillation in the ways youth learns and understands today (Redecker, 2008). It is a given nowadays that different generations of students cannot be taught with the same methods, approaches and content. There have been calls for innovative ways in teaching to attract the attention of the new generations, ones that have grown with technology (Simplicio, 2000). This fact has made it necessary to take into account the content they are exposed to, the social life they lead and the impacts of the latter on their learning and understanding. Innovative teaching has become a necessity nowadays for teachers and learners alike (Ferrari, Cachia & Punie, 2009). Recently, there has been a global tendency to develop such awareness for teachers, and significant changes have taken place at the level of competencies, skills, content and outcomes in course descriptions (Craft, 2003).

Many researchers advance that innovative teaching should be developed in 21st century teachers (Brouwer & Korthagen, 2005; Jin, 2001). Their "*competency for innovative teaching*" is a central factor that influences their

innovative teaching performance. Meanwhile, significant research highlights the fact that many teachers lack the innovative teaching competencies (Lin, 2009). Vandam et al (2010), for example, discussed innovative teachers in terms of "traits" such as personality characteristics (see also Chen, 2002; Jin, 2001; Hannon, 2008; Zhang, 2000).

Other researchers have focused on external factors such as the teaching environment or learner type (Ha & Stoel, 2004). However, innovative teaching performance needs measurable criteria, and there is a theoretical and empirical need to delimit these criteria to better trace and measure innovation in teaching.

A competency is generally defined at the level of integration of knowledge, skills, and attitudes (Tigelaar et al., 2004). Various generic terms and concepts have been used to refer to "competencies in the literature: "Knowing the Student", "Pedagogical skills", "Problem solving", "Monitoring and Evaluation of Learning and Development", "Teamwork", "School - Family and Society Relationships", "Understanding the culture" and "Knowledge of Curriculum and Content", (e. g. Koster, 2005). Other terms such as *"field competence, research competence, curriculum competence, lifelong learning competence, social - cultural competence, emotional competence, communication competence, information and communication technologies competencies (ICT) and environmental competencies as general teacher competencies" (*Selvi, 2010: 10). The attempt to demarcate what makes "core competencies" in teaching innovation is still very scarce.

The present study is based on Zhu and Cai's study (2013) where they classified their reviewed innovative teaching competencies into four categories: educational competency, learning competency, social competency, and technological competency (see Chen, 2009; Runco, 2007; Ferrari; Pantic & Wubbels, 2010). The sections below present definitions and discussions related to each competency.

2) Innovation and Pedagogy

Teachers today are required to be equipped with updated knowledge on the best practices when it comes to teaching and learning (Sahin - Izmirli & Kurt, 2009). In addition, innovation is also a requirement in this regard. Some researchers add that the passion for an education career is also necessary for innovative practices since the teachers can build on previous experiences and improve on their educational concepts and practices with time (Bi, 2003). Another component of the educational competency relates to the knowledge of subject, learning psychology, pedagogy, and "*the ability of integrating them into the teaching practices effectively and to promote student development*" (Cowen, 2002).

Innovative pedagogy refers also to the application of "divergent thinking", practice with alternative methods, and the sensitivity to problems. Teachers adopts "an open mind" while integrating the trends of teaching and curriculum development (Lin et al, 2009). The need of a "*learner - centred pedagogy, personalization and individualization of learning, allowing students to have a say in the planning and implementation of the tasks"* constitute the core of innovative teaching pedagogy. (Zhu, Wang, Cai and Engels, 2013).

3) Innovation and teaching skills

Significant research results highlight the crucial importance of learning competency in the students' achievement results (Chen, 2002; Konings et al, 2007). Learning, here, refers to the teachers' ability to keep learning about teaching - related aspects (Chen, 2009). At the center of this knowledge is the fact that teachers know how their students learn and how they learn themselves. They need to know *"how to meet their studying needs, how to get the learning materials and how to solve teaching problems through study, self - reflection and research" (*Zhu and Cai, 2013). They include teachers' ability to critically reflect upon their educational impact and value system, as well as a readiness to take the initiative and responsibility for their professional development (Pantic & Wubbels, 2010).

Innovative teaching and learning also includes the use of teaching content. The teacher adapts teaching content according to the needs of students and the learning tasks rather than being restricted to the specific and pre - set content materials in the class" (Chen, 2009). Such innovation can include adapting material from everyday life, if it contributes to the students' interests, creative thinking, and imagination.

4) Innovation and social competency

Social competency in teaching underlines the teachers' ability to build and maintain fruitful interactions, communication, and relationships with staff, colleagues and students (Koster et al., 2005). Cooperation and human relationships are also needed in this regard (Pantic & Wubbels, 2010). Many researchers stress the fact that innovation is significantly affected by the social aspect in the relationships of teachers, and that it is not an easy competency to achieve (Ferrari, Cachia & Punie 2009; Runco, 2007). In the same respect, researchers also highlight the need of teachers to *"tolerate confusion and frustration, to relish a challenge, and not to give up prematurely" (*Zhu, Wang, Cai and Engels, 2013).

The simple presence of individual competencies might not suffice for successful innovation in teaching. The environmental context stimulates and influences innovative performances (ibid). When social and organizational environments are supportive, individual competencies are stimulated and developed. This is done through access to proper resources, correct methods, and techniques (Bharadwaj, 2000). Other research highlighted the role of leadership and staff support in influencing teachers' attitudes and integration of innovative teaching methods (Zhu, 2012). At the outset, it is clear from the reviewed research that a positive teaching environment– college administration, colleagues, and staff relationships– does support and contribute to innovation in teaching.

5) Innovation and technology

Technological competency is vastly reported as a core ingredient of innovative teaching performance. Not only does technology make information fast and available, but it can also act as platforms where teachers act as guiders,

counsellors and mentors for students (Ferrari, Cachia & Punie 2009). The integration of modern technologies has almost become a must for teachers. Since modern theories focus on the importance of real life learning activities, modern technologies have had a strong impact on innovation in teaching (Van Merrienboer et al, 2005). However, it has also become challenging for teachers to find the right information among the millions of terabytes of data on the internet and to integrate it in solving teaching problems (Segers & Verhoeven, 2009).

However, Lowther et al., (2012) advance that education technology has not played a significant role yet, even though there have been recurrent recommendations in recent research. For example, internet is not accessible or rarely used by students in rural areas. Other research states that children today are introduced to technology at an early age, which is supposed to make their transition to various educational technologies easy (Rideout 2011). In this connection, important research has been conducted on the effects of educational technologies on cognitive processes by Lee et al. (2008). At the outset, four main aspects are to be looked at when conducting research on educational technologies: the educational worth of tools and applications, their adequacy in the acquisition of knowledge, the interaction between users and tools, and their positive effects.

6) Measuring innovative teaching

There is a lack of unity as to the definition of innovative teaching. Some researchers highlight the results of innovative teaching, such as the development of emotional aspects or cognitive abilities of students, while others stress the use of new methods and techniques or the management of the classroom environment. It is important in this regard to note that innovation is an evolutionary concept. For example, student - centered teaching was viewed as an innovative aspect of teaching. Innovative teaching was also viewed from the student development perspective and advanced that teaching should be sensitive to the individual student's conception of himself and his role in the classroom. Other research focuses on the teachers' awareness of what is expected from them in the classroom (Ferrari et al.2009).

It is of crucial importance to note that the concept of innovative teaching is not synonymous to "new" teaching, nor are all "new" methods and techniques mean "innovative". New methods, tools and contents can benefit learners and lead to creative learning, but nurturing an environment of reward, active learning, a sense of ownership, and discussion of problems is also important; teachers are also expected to play the role of coaches and promote "*cooperative learning methods, and kindle the creative spark of students" (*Brandon, 2004).

Students need to be actively involved in the learning process, real learning situations, and authentic learning tasks. However, it is clear from the reviewed literature that there is a consensus that innovative teaching encompasses the use of new and diversified ideas, methods or strategies and play different roles for students, understand their individual differences, facilitate learning and developing creativity in the learning/teaching process.

2. Method

Problem and objectives

Research about core competencies in innovative teaching is still scarce even though there is an agreement that innovative teaching strategies and performances are crucial in student achievement. In available research there is a lack of general framework about core competencies for innovative teaching. On the basis of reviewed research, the present article aims to:

1) Examine and measure teachers' attitudes to core competencies and innovative teaching;
2) Trace the most influential social factors on innovative teaching performance.

Hypotheses

It is hypothesized in this research that:

1) There is a predictable pattern in higher education teachers' attitudes to core competencies and innovative teaching.
2) There is a significant agreement on the effects of social factors on the innovative teaching performance of higher education teachers.

Subjects

The participants in the study were 27 teachers from Mohamed V University. Table 1 below summarizes their main characteristics.

Total Num.	Gender		Age		Academic degrees		Teaching experience	Academic position			Teaching hours		Coordination activities	
	M	F	17	≤32	MA	PhD	Min.6 yrs	Assi Prof.	Asso Prof	Pr	Min	Max	Yes	No
27	23	4	10	≥60	0	27	Max.22	8	6	13	10	14	9	17

Data collection Instrument

A Likert scale questionnaire was designed to measure teachers' four core competencies and teaching innovation. Each core competency included 14 to 15 sub - dimensions regarding pedagogical knowledge, teaching skills, teaching practices as well as external factors that may affect innovative teaching.

After a piloting of the first version of the questionnaire, some items were modified in order to be clearer and closer to the higher education context. The final version contains four main sections titled: general information, pedagogical knowledge, teaching skills, teaching practices and general factors.

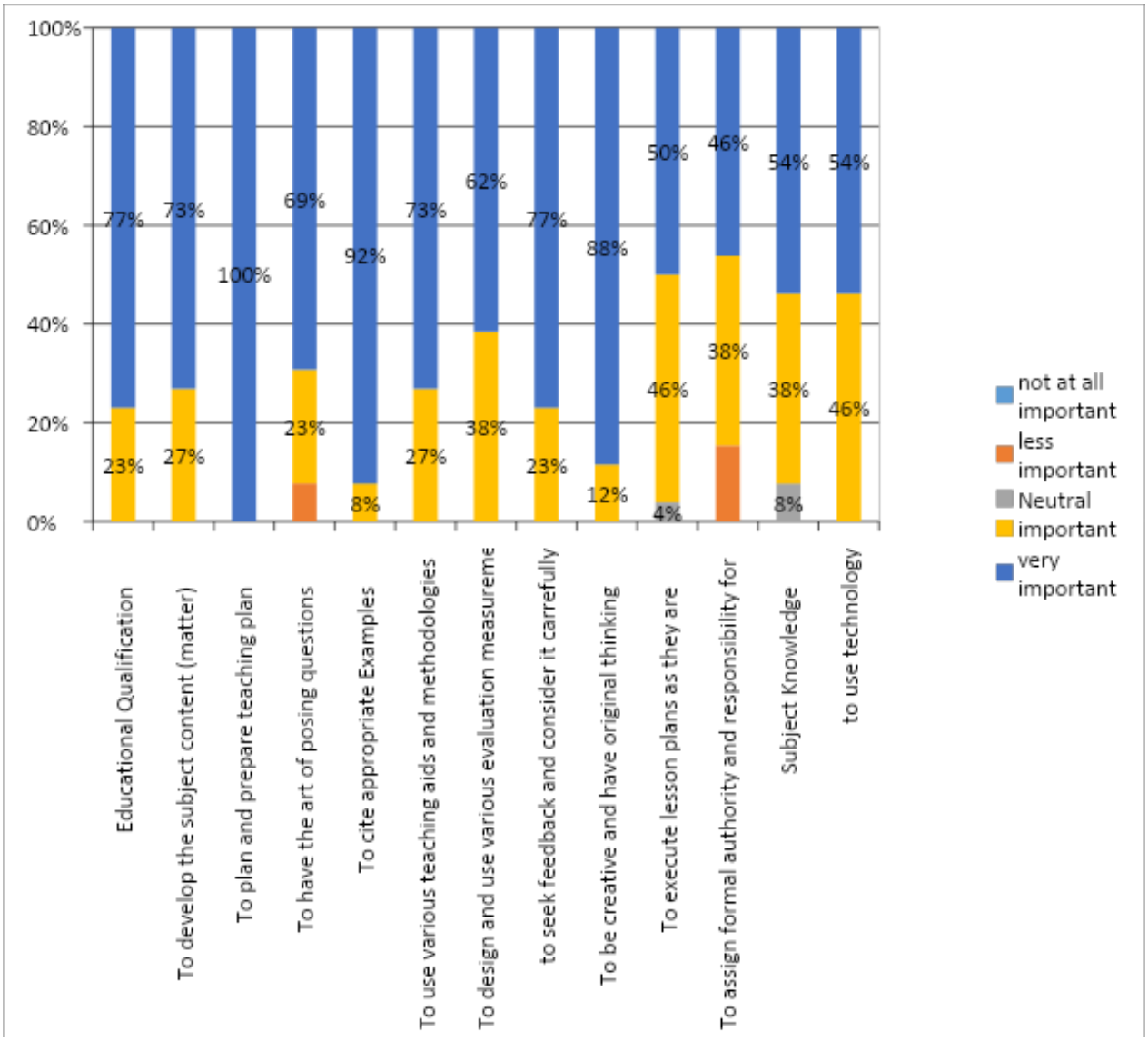
The data collected via the questionnaire is fed into the Excel software for descriptive analysis since the study does not investigate relationship between variables. The different mean scores and percentages are also represented in graphs for better representation.

3. Results

The following sections will present the results of the study in relation to the hypotheses mentioned above. The data of the study have been analyzed relying on descriptive statistics, percentages and graphical representations.

Innovation and pedagogical competencies

The first section of the questionnaire contained 13 questions that attempt to discern the relationship between pedagogical competencies and innovative teaching. Chart 1 below represents the teachers' attitudes and agreement on the direct relation between pedagogical competencies and innovation in teaching. The subjects have been asked to rate the aspects below from *very important* to *not important at all*.

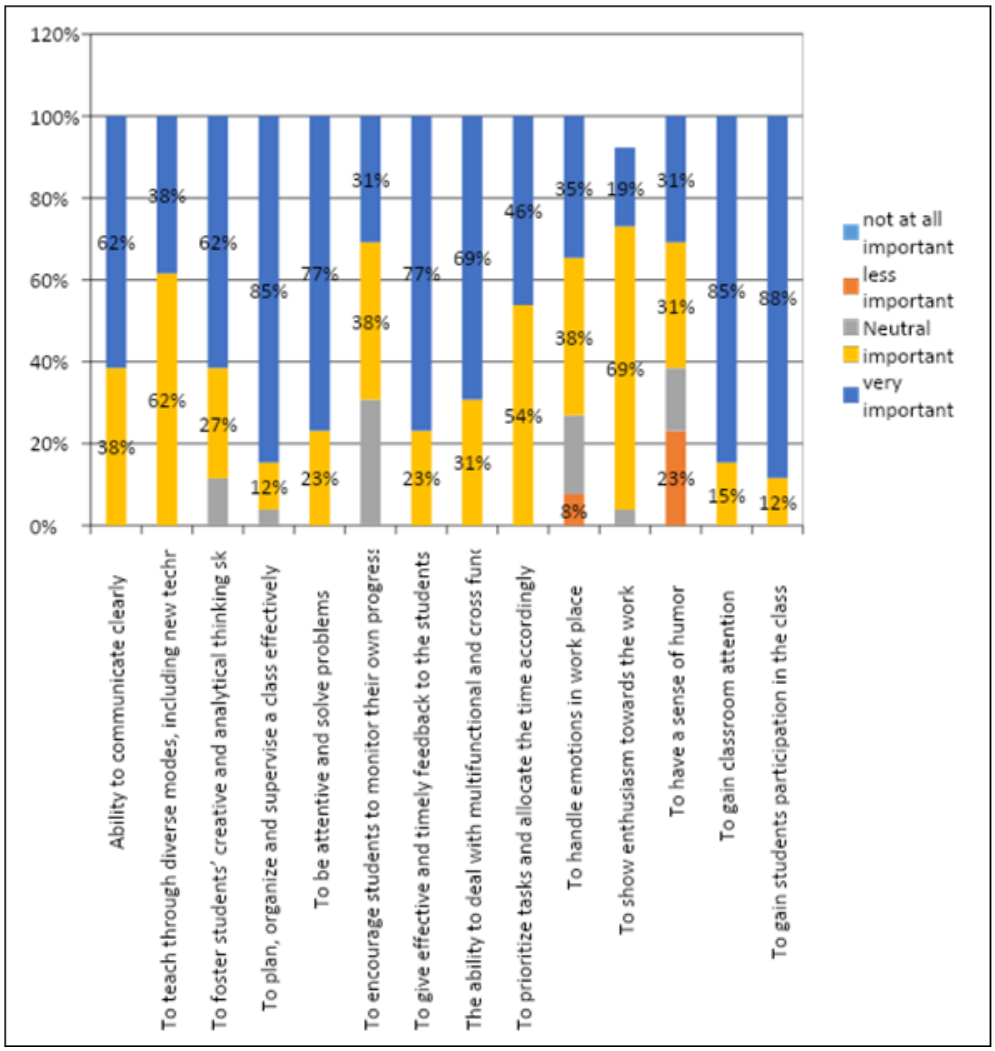


Graph 1: Teachers' views on the relationship between the pedagogical competency and innovation in teaching

The graph above reveals two main facts about pedagogy and innovation in teaching. First, there is a unanimous agreement among teachers that *all* pedagogical aspects are central to innovative teaching in higher education. Almost all pedagogical aspects have been assigned *very important* role in innovative teaching. Second, the only exception to this high importance resides in the fact that formal authority has been reported by 45% only of teachers only to be very important whereas only 38% regard it as important. All in all, there is a consistent awareness on the part of teachers of the high importance of pedagogical competencies in innovative teaching.

Innovation and teaching competencies

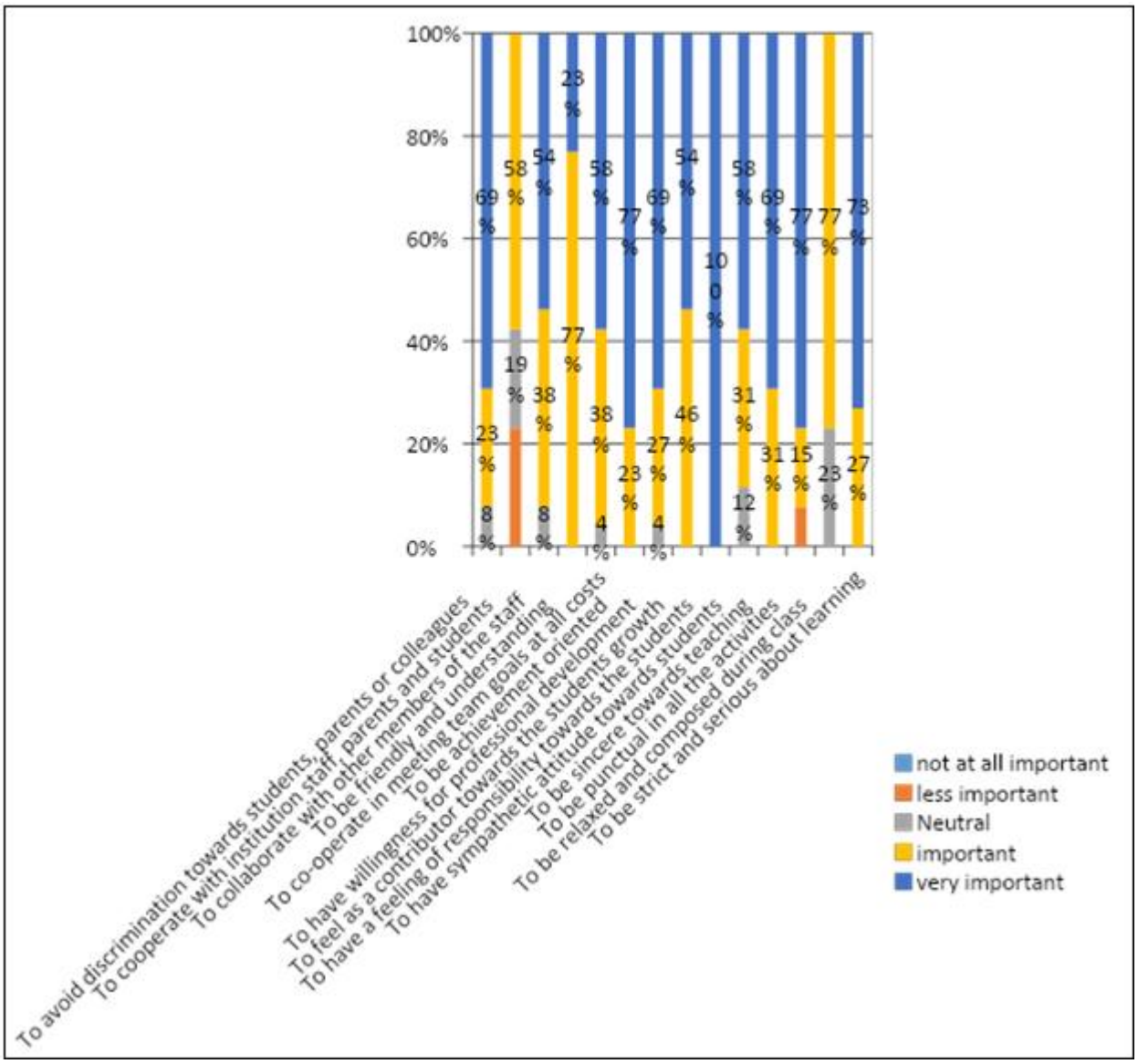
The second section in the questionnaire administered to teachers comprised 14 questions that attempt to elicit teachers' evaluation of the importance of classroom teaching competencies in innovative teaching. Eight teaching competencies have been evaluated as *very important* in innovative teaching. At the top of the list are gaining student participation, classroom attention, planning, organizing and supervising class actively. More than 80% of teachers have evaluated these as *very important*. Teaching through diverse means including technology and showing enthusiasm towards work have been highly evaluated as *important* only (see Graph2 below).



Graph 2: Teachers' views on the relationship between teaching competency and innovation in teaching.

Innovation and social competency

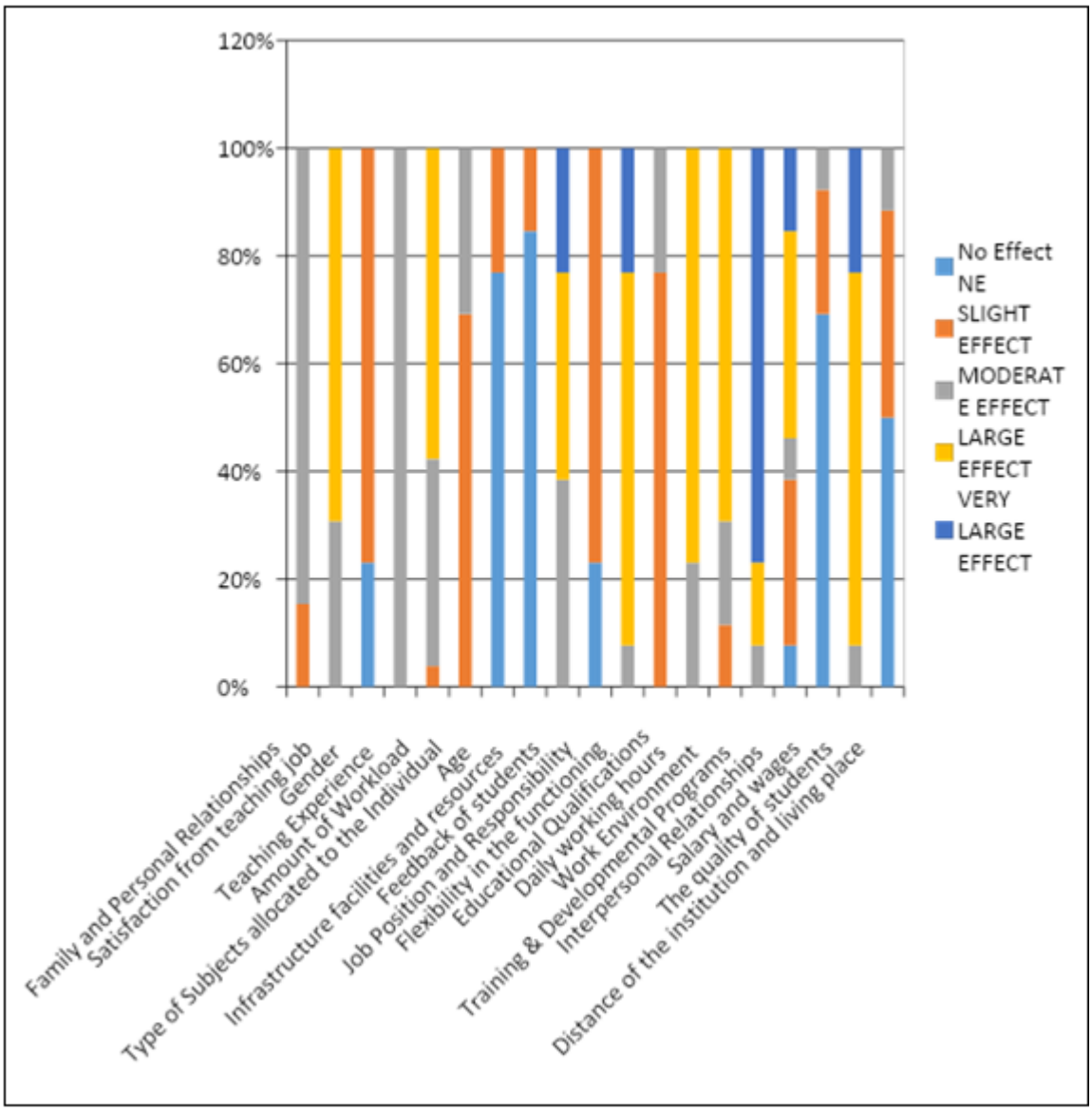
In like manner, the teachers participating in the study were asked 14 question on the importance of communicative competencies in innovative teaching. As Graph 3 below shows, almost all the competencies were evaluated as *very important* in high percentages. The only exceptions were: cooperation with institution staff, parents and students (58% say it is *important*), and relaxedness while behaving with learners. Interestingly, 20% of teachers regard cooperation with institution staff, parents and students as less important (see Graph 3 below).



Graph 3: Teachers' views on the relationship between social competency and innovation in teaching.

Innovation and social factors

Recent research has documented the relationship between social factors and innovation in teaching (e. g. Vandam, Schipper, & Runhaar (2010) and Zhu (2012)). The study at hand has also made an attempt to trace the effects of many social factors on innovation in teaching. The subjects of the study were given a list of 19 social factors mentioned in many recent studies. The teachers were asked to evaluate the extent of their effect on innovation in teaching. The graph below represents their responses.



Graph 4: Social factors and innovation in teaching.

The results reported in graph 4 above reveal five main facts. First, there is a strong agreement on the effect degree of each social aspect; whether it is a *large effect* or *very large effect*, the degree was always unanimously agreed on for almost all the factors. Second, the *only* factor that was reported to have a *very large effect* on innovation in teaching was the teachers' actual participation in training and professional development programs. Third, satisfaction from job, amount of workload, flexibility in the functioning, daily working hours, work environment and the quality of students have been reported to have a large effect on innovation in teaching. Fourth, seven factors have been reported to have no effect at all on innovative teaching: age, infrastructure facilities, distance between institution and living area, gender, type of subject taught, job position and education qualifications. Fifth, family and relationships, and teaching experience have been reported to have a moderate effect on innovative teaching. Finally, and interestingly, there was no agreement on the extent to which feedback from students does affect innovative teaching.

4. Discussion

The results support the three hypotheses of the research. First, the three competencies were generally reported to have a very strong relationship with innovation in higher education teaching. Based on the results of the study, one can say that the three investigated competencies are predictors of innovation in higher education. For the pedagogical competency, recent research has argued that *"new educational beliefs, subject knowledge and comprehensive and new educational knowledge are critical for innovative teaching" (*Jin, 2008). The results of the present study stress the importance of all pedagogical competency aspects and provide empirical evidence that innovative teaching in higher education is significantly based on pedagogical competency.

Regarding teaching competency, all teaching skills and strategies in this respect were evaluated either as very important or as important for innovative teaching. In fact, the teaching skills and strategies within the teaching competency have scored the highest degree of conformity

and agreement among higher education teachers on their importance in innovative teaching. Hence, the study provides ample evidence on the crucial importance of teaching skills and strategies for innovative teaching. In this regard, Cowen (2002) states that teachers "*should have a wealth of subject knowledge, pedagogy, learning psychology knowledge, and the ability of integrating them into the teaching practices effectively and to promote student development" (*in Zhu and Cai, 2013, (p.4)).

Social competency was perceived as a *very important* one on almost all its aspects. The only two aspects that were perceived to be *important* in innovative teaching were friendliness and relaxedness in the classroom. In fact, this is the finding of the study that stands in sharp contrast with the general findings of recent research. In this connection, Claessens, van Tartwijk,, van der Want, Pennings, Verloop, den Brok & Wubbelsstate (2017) state that "*teachers' talk revealed that they experienced students with whom they had a positive relationship to be mostly supporting and collaborating in class (see Figure 3). They described these students as being highly engaged during the lesson. They share their thoughts on a subject and volunteer on questions (*p.483).

Social communication has been found to be a key factor that facilitates the application of innovative thoughts, practices and techniques in teaching (Zhu, Wang, Cai and Engels, 2013). "*Supporting teachers to work in teams, sharing knowledge and insights can be conducive for teachers' development of innovative teaching" (*ibid: 11).

In addition to the core competencies, the study also attempted to elicit higher education teachers' perception of the effects of various social factors on innovation in teaching. Age, infrastructure facilities and resource, salary and wages and distance from work were reported to have *no effect* on innovation in teaching. Satisfaction from job, amount of workload, flexibility, daily working hours, work environment and the quality of students were rated to have *large effects* on innovation in teaching. In this connection, Zhu, Wang, Cai and Engels (2013) state that the most important social factors that influence teaching innovation are support from colleagues and relations with staff and faculty. Hence, the study at hand highlights the fact that social factors do not generally affect. The only factor that was reported to have *a very large effect* was training and developmental programs. This social factor is significantly related to the professional practices in teachers' environment. Therefore, institutions that recommend competency - based, ongoing professional development contribute positively to innovation in teaching.

A few limitations need to be mentioned for the study at hand. To begin with, the fairly small number of subjects calls for further research in other universities with larger samples to confirm the findings. It would be more empirically interesting to have a larger sample of teachers with numerous sub - groups, e. g. teaching grades, teaching subjects, educational level, gender, faculties, etc. In the second place, the three core competencies are generally considered to be *very important*, but may not be able to explain all of teachers' innovative teaching performance. There might be other factors affecting teachers' actual performance. Future research can try to examine other relevant factors. Thirdly, the use of a single data collection method also has limitations; the study used a questionnaire that reflects the teachers' perspectives and self - reported results. Using other methods that focus on innovative teaching from other perspectives would also be considerably interesting.

5. Conclusion and Implications

To sum up, this research has made an attempt to contribute to the theoretical construction of a competency - based approach for teachers' innovative teaching practices and performance. As far as future research is concerned, a similar study that focuses on other perspectives would be significant. Reports from student - evaluation, colleague - evaluation, and school managers and leaders could be used to examine the importance of core competencies and innovative teaching performance more objectively. Regarding social factors, more research is needed on the interactive relationships between innovative teaching in higher education and teachers' professional and social, and personal environments. Ample research is available on social factors and their influence on innovation in various businesses, in sharp contrast with scarce studies dealing with innovation in higher education. Last, not least, more research is needed that investigates the effects of innovative teaching on innovation levels in students, during and after graduation.

Regarding, higher education teacher training and professional development, the present research provides a terra firma for key elements in innovative teaching performance. Special training programs can be designed for teacher training and professional development that can foster and develop their innovative teaching competencies and practices. The results of the study can also contribute to teacher training curricula so as to shape the 21st teachers' competencies and performances pedagogically, educationally and communicatively. On the basis of the sub - skills and techniques within each competency that are most relevant to innovative teaching, special professional development programs where teachers can be trained, oriented, stimulated and evaluated vis a vis educational, pedagogical and communicative practices that promote innovation in higher education.

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