

Research article

## The impact of leaders of internationalization in highly specialized academic fields: case study in implant dentistry and biomaterial education and research. Part 1: general comparison of campus strategies in European and Korean universities using the ISAIAS FAST score

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### Abstract

**Background and objectives.** Internationalization is a major evolution in implant dentistry and biomaterial higher education and research. The aim of the present 3-part study was to apply the ISAIAS method (Intercultural Sensitivity Academic Index & Advanced Standards) in this highly specialized dental field, and to evaluate the impact of leaders of internationalization. In this first part, the ISAIAS method was applied to the general campus of 3 universities, to validate the method itself and to assess the internationalization efforts of the participant universities through the development of intercultural competences, particularly in the Asian and European contexts.

**Materials and Methods.** In each campus, a group of 20 Professors and 100 undergraduate students from 3 different Universities (respectively University of Granada, Spain; Paris-Sorbonne University, France; and Chonnam National University, South Korea) were observed through the ISAIAS FAST (Fast Assessment Screening Test) questionnaire and through intensive field study (mixed methodology, i.e. combination of qualitative and quantitative methods). A final ISAIAS FAST score (mean value) was calculated for each group, including the mean scores in the 4 dimensions of intercultural competences, and scores were integrated with field observation for interpretation.

**Results.** The scores observed in the 3 universities presented different patterns, but relatively mild scores (always between 2 and 3), what appeared typical from Universities with moderate internationalization policies, i.e. a wish for internationalization which may not be fully fulfilled because of the organizational culture of the institution.

**Discussion and conclusions.** The scores appeared coherent with the field observations in all aspects. The ISAIAS mixed methodology appeared as an easy and useful method to evaluate the Strengths, Weaknesses, Opportunities and Threats (SWOT) of the internationalization efforts of these universities through the evaluation of the development of intercultural competences of the students and researchers/professors, but it requires to combine the FAST scores with an in-depth field study.

**Keywords.** Attitudes, culture, education, international cooperation, international educational exchange, leadership, universities.

## 1. Introduction

The process of internationalization of higher education and research is one of the strongest evolution of the Academic world worldwide of last decades [1], as the consequence of the general process of globalization of the economy of sciences and knowledge [2]. This process is however often complicated due to the very wide cultural differences between the various stakeholders of the Academic environment, teachers, researchers and students [3,4]. These national cultural differences of perception and action, and the different organizational cultures of each country and institution are often very strong barriers for a smooth and efficient international cooperation [5].

The POSEIDO (Periodontology, Oral Surgery, Esthetic & Implant Dentistry Organization) is an international scientific network of Academic Departments and Scientific societies and was developed as a consortium of Academic entities sharing the responsibilities of the global functioning of the network [6]. As a global interacademic experience, POSEIDO could have faced the stress and problems related to intercultural cooperation. However, the intercultural competences and experience of its members allowed to overcome all difficulties up to now among the 40 countries actually participating to this network, resulting in an intense collaborative activity, particularly in the field of biomaterial research [7-13]. It was hypothesized that the specific character of the local leaders of internationalization of the groups joining POSEIDO was at the origin of this smooth cooperation.

The POSEIDO community therefore funded the ISAIAS program (Intercultural Sensitivity Academic Index & Advanced Standards) in order to evaluate the degree of internationalization and intercultural sensitivity of the community members worldwide, and therefore develop new strategies and standards for the development of intercultural competences among members, partners and friends, in order to promote smoother and more efficient global cooperation in the field of implant dentistry and biomaterial research and education [14].

In the last years, many research projects have been developed to assess the intercultural competences in various professional environments [1,15]. In 2004, Deardorff et al. proposed the list of components of the intercultural competences [16], based on the studies of 29 American Universities involved actively in the process of internationalization of higher education. This study still serves today as the reference for the definition of what are the components of intercultural competences [1]. It was developed as a way to evaluate the impact of the internationalization efforts of the universities on the students.

Based on the concepts and key elements pointed out by Deardorff [17], a questionnaire of assessment of the internationalization efforts of a university campus through the development of intercultural competences had been developed, statistically tested and validated between the University of Granada and the Oslo and Akershus University College [18]. This questionnaire was then selected as a first instrument for the ISAIAS project for the screening assessment/evaluation of the internationalization process of a University through the development of intercultural competences among the Academic stakeholders. The questionnaire can be spelled in various parallel forms for students or for Academic professionals (researchers, teachers, professors, administrative staff). Using this questionnaire, the first method of evaluation developed by the ISAIAS global research group was the Fast Assessment Screening Test (FAST) Score.

In this series of articles, the ISAIAS FAST scores were calculated in 4 different Academic environments (France, Italy, Spain, South Korea) involved in **implant dentistry and biomaterial education and research** within the member Academic entities of the POSEIDO network, in order to estimate and understand the internationalization patterns of these universities, dental schools and implant and biomaterial research and education significant groups. This first study in 3 parts has been organized to compare an Asian model (the very specific Korean model in this case) with 3 different versions of the European environment, as the Asian/European interface could be a significant source of intercultural misunderstandings and anxiety in collaborations, and seemed therefore a very good example to develop and refine this method.

In this first article, the ISAIAS FAST method was put to the test at the scale of a whole campus, to evaluate its practical relevance. The questionnaire has been used for the general assessment of 3 different campus (1 Korean and 2 Europeans) with 3 very different cultural and well-identified backgrounds, history and strategy, in order to evaluate if the ISAIAS FAST score corresponds to the typical profile, easily observable and well documented of these 3 universities.

## 2. Materials and Methods

### 2.1. General methodology

The ISAIAS FAST questionnaire was proposed to 100 undergraduate and master students and 20 professors or researchers from various disciplines on the general campus of each participant university. The test sample is significant, but cannot be considered as fully representative; the sample of this study case was intentional. Data were collected between 2012 and 2014 on the campus of the University of Granada (Granada, Spain), the Paris Sorbonne (Paris 4) University (Paris, France) and the Chonnam National University (Gwangju, South Korea). In this case study, it was decided to analyze two different old European universities (Granada and Paris), to be able to analyze and compare their different approaches to internationalization of higher education and research in the European context with a traditional Asian campus (Chonnam).

The process of data gathering followed the same procedure in Asian and European campuses (ethnographical case study). Mixed methodology was use, i.e. a combination of qualitative and quantitative methods and methodological and data triangulation. A mixed methods research design implies collecting, analyzing and mixing both quantitative and qualitative data obtained through difference sources and different methodologies. The combination of quantitative and qualitative approaches provides a better understanding of

research problems, is assuring the validity of research and captures different dimensions of the same phenomena. It is mandatory to understand the impact of national and organizational culture on internationalization processes and its impact on development of intercultural competences.

The qualitative methodology was based on field research: non controlled observation and direct, participative observation (participation in campus life, participation in cultural events, conferences), informal interview with academic staff (national and foreign), administrative staff (national and foreign), national students, international students and representative of students union, photographs, diary of the stay, universities websites and on-line forums about study in these universities. Review of the policy, research articles and reports on internationalization of higher education in these universities were also taken into account.

The quantitative methodology was using the ISAIAS FAST questionnaire of assessment of the internationalization efforts of a university campus through the development of intercultural competences. This questionnaire was previously developed, statistically tested and validated between the University of Granada and the Oslo and Akershus University College [18], based on the theory of development of intercultural competences, the concepts and the key parameters proposed by Deardorff. The previously validated questionnaire was slightly adapted to this specific study, and spelled in 2 slightly different forms adapted to students or to Academic professionals (researchers, teachers, professors), but both versions are strictly parallel and comparable. The analysis of the questionnaires allowed to calculate the Fast Assessment Screening Test (FAST) Score of an individual or a group of people. Moreover, many of the responders of the questionnaires had an informal interview with the researcher, what permitted to validate the answers given in the questionnaire.

## 2.2. Description of the questionnaires

The questionnaires (opinion tool) were built in 2 slightly different forms. One was formulated for teachers and researchers to determine in which measure the participation in international research/educational projects has impacted the development of their intercultural competences. The second one was adapted for students to determine in which measure the internationalization efforts and program offered by their University - during the curriculum (obligatory courses and activities) and through extracurricular activities (all nonobligatory activities related to the campus life, such as conferences, sports, student union activities or informal or personal meetings with foreign colleagues, etc.) - has impacted the development of their intercultural competences.

Each questionnaire was composed of 2 separated parts. The first part was gathering the main data of identification of the person filling this anonymous questionnaire, where the respondent was asked about information such as: sex, age, professional situation (undergraduate student, postgraduate student, technician/administrative staff, Professor/senior lecturer/researcher, other) and a series of general information related to his/her activity.

For teachers and researchers, the extended questions can be summarize as followed:

- How long have you been working with international research/education projects, and what kind of projects,
- Do you participate in international events related to international projects

(workshops, conferences), how many and what kind,

- Have international research/education projects required long stay abroad, how long and where; had you been abroad through university exchanges before starting international projects, how long and where; and would you like to go abroad for academic work, why and where,
- How often do you meet with your foreign partners concerning international research or education projects (presence meeting, online meeting, emails), and from which country are your main partners,
- From where were the foreigners you met on the campus and did the presence of foreign colleagues in the class/laboratory influence the value of the education,
- How do you feel with foreign partners, what is your biggest difficulty in the relationship with foreign partners, and how do you define intercultural competence.

For students, the extended questions can be summarize as:

- How long have you been studying at the University,
- Have you participated in any international events on the campus, and the kind of events (curricular or extracurricular),
- Have you ever been abroad through university exchange, where and how,
- Would you like to go abroad for study or work, why and where,
- From where were the foreigners you met on the campus and did the presence of foreign colleagues in the class influence the value of the education,
- Have the curricular and extracurricular activities offered on the campus given you the ability/skills to do your profession in culturally diverse environment,
- How do you feel with foreign colleagues, and what is your biggest difficulty in the relationship with foreign colleagues.

The questionnaire finally offered some free space to add reflections and comments of the person, in order to complete the experience.

The second part was the statistical part of the questionnaire with a series of 30 very accurate statements the reader had to agree or disagree, in order to evaluate accurately the profile of the person and to calculate his/her ISAIAS FAST score. For each question, the person filling the questionnaire had to choose the option which best fitted his opinion between 4 options, each option being associated to a score between 1 and 4: Strongly disagree (1), Disagree (2), Agree (3), Strongly agree (4). This is a classical multiple-choice format using an unipolar Likert scale from 1 to 4. The final analysis and synthesis of these scores allowed to calculate the score of each person and finally, after integration of all data, the ISAIAS FAST score of the whole group under evaluation. The items based on the development theory of Deardorff and proposed for the ISAIAS FAST score were:

1. My participation in international research/education project (or: the program proposed by the university (curricular and extracurricular activities)) has given me the opportunity to understand better other's (foreigners) world views.



2. It has helped me to develop cultural self-awareness (to understand the way in which my culture has influenced my identity and my worldview).
3. It has improved my capacity for cultural self-assessment.
4. My participation in international research/education project (or: the program proposed by the university (curricular and extracurricular activities)) has improved my capacity for adaptation to culturally different and new environments.
5. It has increased my interest in people from other cultures.
6. It has increased my interest in intercultural learning (for example learning how to negotiate with people from different cultures).
7. It has improved my capacity to listen people from other cultures.
8. It has improved my capacity to observe people from other cultures.
9. It has improved my capacity to collect information (to listen and to observe) in an intercultural environment.
10. It has improved my ability to adapt to different forms of intercultural communication and different learning styles.
11. My participation in international research/education project (or: the program proposed by the university (curricular and extracurricular activities)) has helped me to become more flexible with people from other culture.
12. It has helped me to improve my abilities to analyze, interpret and relate information brought in different cultural contexts (process information).
13. It has helped me to improve my abilities to analyze information related to different cultures.
14. It has helped me to improve my abilities to interpret information related to different cultures.
15. It has helped me to improve my abilities to relate information related to different cultures.
16. My participation in international research/education project (or: the program proposed by the university (curricular and extracurricular activities)) has helped me to take part of an intercultural group where I had opportunity to respect ways of expressions of each member, becoming more tolerant.
17. It has helped me to understand better my own culture.
18. It has improved my understanding of culture of others'
19. It has increased my respect for other cultures.
20. My participation in international research/education project (or: the program proposed by the university (curricular and extracurricular activities)) has increased my cultural empathy - The capacity to identify with the feelings, thoughts and behavior of individuals from different cultural backgrounds.
21. It has helped me to understand the impact of culture on the social and historical contexts.
22. It has helped me to become more flexible with analysis of matters looking at them from different cultural perspectives (emic- from my cultural perspective and etic- from others cultural perspectives).
23. It has improved my sociolinguistic competences (awareness of relation between language and meaning in social context).

24. It has helped me to understand better the value of cultural diversity (mindfulness toward cultural diversity).
25. It has influenced prejudices and stereotypes.
26. It allowed discovery and increased my curiosity toward cultural diversity.
27. It has changed my point of view about the cultural community where I belong.
28. It has helped me to learn through interaction with foreigners.
29. My participation in international research/education project (or: the program proposed by the university (curricular and extracurricular activities)) has helped me to know more and understand more culture and traditions of foreign colleagues.
30. Intercultural competences are needed in my work.

Finally, the questionnaires were translated in the language of the population to analyze (in Korean for the Chonnam campus, French for the Sorbonne campus and Spanish for the Granada campus), but a few questionnaires were also used in English when students or teachers/researchers were foreigners not perfectly comfortable with the local language.

### 2.3. Treatment of data and calculation of the ISAIAS FAST score

The theoretical framework for the analysis of the data collected on the campus was built taking into consideration the Hofstede's theory of intercultural dimensions [19], the Handy's theory of organizational culture [1], the Confucius's philosophy concepts (considering Asian campus particularly)[5,20], the theory of the development of intercultural competences [16,17], and the theories of internationalization of Knight and de Wit [1,3]. This theoretical background was needed, in order to synthesize for each campus a general situation of the internationalization efforts and of the impact of national and organizational culture, evaluated through the development of intercultural competences. Afterwards, the SWOT analysis was prepared in order to synthesize the Strengths, Weaknesses, Opportunities and Threats of the internationalization efforts on each campus. The results obtained from the questionnaire and the associated analyses finally served as a base of comparison between the different universities and their respective methods of implementation of the paradigm of internationalization of higher education and research.

The questions of the questionnaire were deeply interconnected and built following a network of reasoning that allowed to detect anomalies in the answers. They were regrouped in 4 groups, termed the 4 dimensions of the questionnaire (following and adapting the general components of intercultural competences proposed by Deardorff [16]):

1/ The first dimension was termed "Attitudes" and was composed of 7 items: 5, 6, 19, 24, 25, 26 and 30.

2/ The second dimension was termed "Knowledge and Comprehension" and was composed of 7 items: 1, 2, 17, 18, 21, 23 and 29.

3/ The third dimension was termed "Skills" and was composed of 8 items: 3, 7, 8, 9, 12, 13, 14 and 15.

4/ The fourth dimension was termed "Desire internal outcomes" and was composed of 8 items: 4, 10, 11, 16, 20, 22, 27, and 28.

The score of each dimension gave an important information on the development of each specific component of intercultural competences, and therefore in combination with first part of the questionnaire allowed to draw a specific profile of each individual (or group of people), independently from its global FAST score.

When considering each questionnaire separately, in order to calculate the scores of each dimension, the scores of all answers composing a dimension were added, and the total was then divided by the number of items of the dimension. To calculate the ISAIAS FAST score of each individual, the scores of all questions were added and the total was divided by 30 (total number of questions). The score of each dimension and the total FAST score were therefore always between 1 and 4.

In this study, all data were integrated through Statistical Package for the Social Sciences (SPSS, IBM, Armonk, NY, USA) program, in order to get a mean value of the scores of each dimension and of the final ISAIAS FAST score, of each group of people evaluated on each campus.

### 3. Results

Following the previously described mixed methodology, data have been collected on the campus. The answers for the questionnaires have been integrated in order to calculate for each participant university, the mean value of the global ISAIAS FAST score and of the scores of each dimension of intercultural competences. Results of the Professors and Researchers are presented in the **Table 1**, and results of the Students are presented in the **Table 2**.

The scores observed in the 3 universities presented different patterns, but relatively mild scores (always between 2 and 3), what appeared typical for Universities with moderate internationalization policies, i.e. a wish for internationalization which may not be fully fulfilled because of the organizational culture of the institution.

The scores observed in the University of Granada are the highest for students among the 3 universities, and the second highest for the Professors, highlighting the very strong policy and openness for internationalization of this University.

The scores observed in the Paris-Sorbonne University are the lowest in both groups between these 3 universities, highlighting the very traditional approach to globalization challenges of higher education and research.

The scores observed in the Chonnam National University are the highest among the Professors in these 3 universities, highlighting the general policy of the University and the frequent need for the Professors to get some diploma or research leave abroad during their career (mostly in the US). However, the score of the students on the general campus are much lower, illustrating the difficulties to internationalize this campus, particularly because of the cultural and language barrier.

The scores appeared coherent with the field observations in all aspects. Scores and field studies have been integrated in details in the discussion section.



<b>Scores of Professors/Researchers on the general campus</b>					
<b>University Campus</b>	<b>Dimension (D) scores</b>				<b>Total FAST score</b>
	<b>1D. Attitudes</b>	<b>2D. Knowledge and Comprehension</b>	<b>3D. Skills</b>	<b>4D. Desire internal outcomes</b>	
<b>University of Granada (Spain)</b>	2.55	2.75	2.74	2.68	2.682
<b>Paris-Sorbonne University (France)</b>	2.50	2.48	2.50	2.53	2.503
<b>Chonnam National University (South Korea)</b>	2.75	2.6	2.7	2.7	2.688

**Table 1. Intercultural dimensions and total ISAIAS FAST scores of a group of Professors and Researchers from 3 different general campus.**

<b>Scores of Students on the general campus</b>					
<b>University Campus</b>	<b>Dimension (D) scores</b>				<b>Total FAST score</b>
	<b>1D. Attitudes</b>	<b>2D. Knowledge and Comprehension</b>	<b>3D. Skills</b>	<b>4D. Desire internal outcomes</b>	
<b>University of Granada (Spain)</b>	2.7	2.55	2.58	2.6	2.606
<b>Paris-Sorbonne University (France)</b>	2.28	2.30	2.35	2.25	2.295
<b>Chonnam National University (South Korea)</b>	2.42	2.32	2.45	2.21	2.348

**Table 2. Intercultural dimensions and total ISAIAS FAST scores of a group of Students from 3 different general campus.**

## 4. Discussion

### 4.1. General Hypotheses and objectives of the ISAIAS project

The basic hypotheses of the ISAIAS project are that the national and organizational cultures have an impact on the development of intercultural competences, that the internationalization of education and research implies the development of intercultural competences, and that we can point out differences in internationalization of higher education and research in the various universities (particularly in European and Asian context in this case study). From these hypotheses, it is expected to develop instruments to evaluate the level of internationalization through the development of intercultural competences and define new standards for a smooth and efficient international collaboration, particularly within a specialized consortium such as POSEIDO.

The general objectives of the ISAIAS project are multiple, and the fast screening assessment proposed by the FAST score is only a preliminary approach of evaluation. The FAST score allows first to observe which components of intercultural competences (based on the Deardorff's theory) participants of the internationalization of education and research process are developing in the various universities. In combination with qualitative evaluation in the mixed methodology, the second objective of this work is to observe how the national and organizational cultures of the campus (including the teaching-learning methodology) and indirectly the profile of each individual (particularly the gender) influence the development of intercultural competences. The impact of recent research on internationalization of higher education on the current strategies of development of intercultural competences in the various tested universities shall also be evaluated and integrated in the global analysis. Finally, the SWOT analysis is required to find out the Strengths, Weaknesses, Opportunities and Threats of the internationalization efforts, and the differences and similarities in internationalization of higher education and research, in the various universities. The answers to all these questions can be synthesized through the general analysis of the collected data during the screening assessment of the campus following our methodology.

As a first result of this case study in European and Asian contexts, the FAST score of each entity was corresponding quite well with the qualitative evaluation of each campus, and therefore the instrument appeared suitable for a screening assessment of various academic environments through the POSEIDO network. All these aspects were discussed in details in the following chapters.

### 4.2. Internationalization endeavors in Europe and Asia

In the age of globalization, the internationalization of higher education and research is listed as one of the principal objectives of all academic institutions in the World [1,3]. The European universities started to be involved strongly in since 1998 with the Bologna and Lisbon processes and Copenhagen frameworks, working in common Hellenic-Roman civilization background. At the same time, Asian campuses started to introduce the western paradigm of internationalization of higher education, and they contextualized it into their own environment. The Asian countries have been internationalizing their universities, using Asian's meetings of collaboration, and within the background of Confucian civilization.

Since 2008, in order to strengthen collaboration between Asia and Europe, numbers of Conferences in the framework of the Asia - Europe Meetings (ASEM officially established in 1996) were held yearly. Nowadays the ASEM meetings include 48 members: South East

Asian countries, European Commission, ASEAN Secretariat, Australia, New Zealand and Russia. The Meetings focus on further interactions in the Educational, Professional, Cultural and Social Pillar, through common work on “Quality Assurance and Recognition”, “Engaging Business and Industry in Education”, “Balanced Mobility” and “Lifelong Learning including Technical and Vocational Education and Training”.

Use of English language on the big scale (especially in Asian environment) became one of the most visible changes in higher education landscape. The significant, quick increase of number of international students in European and in Asian contest has been taking place. Formation of new global leaders is the principal objective of the Asian university. These initiatives are strengthened by the “Atlantic Trust” (2009) - collaboration between the American, British universities and Asian universities for development of a global civil society, which will bind universities and countries together through common values and principals, and through English language.

However, the linguistic skills and many international students on the campus are not enough to build fruitful collaboration. Intercultural competences (ICC) have widely been recognized as an essential for peaceful coexistence in a diverse world. Numerous policy papers and recommendations of international organizations, such as The White Paper on Intercultural Dialogue (Council of Europe, 2008) have also expressed this need very clearly. In order to educate intercultural competent professionals, universities choose different approaches to internationalization, different rationales and strategies [1,3]. Various elements of internationalization of higher education were developed, for example: internationalization of curriculum, academic mobility of students and staff, international research/educational projects, etc. However, it is difficult to mention any innovation in this matter. Some countries like the United States, Canada, Australia, Norway (between others) focus on more active approaches to internationalization called “internationalization at home” [1,20] in order to give intercultural development also to 90% of the student population which does not have possibility to study abroad.

Huge resources are involved in internationalization efforts. How to evaluate its results? The statistics related with mobility and international conventions are not enough. Looking at the ICC development among campus population, as a result of internationalization effort is perceived as an adequate approach [1].

#### 4.3. Understanding the dimensions of intercultural competences

In this study, the definition of intercultural competences proposed by Deardorff was used, as an ability to communicate effectively and appropriately in intercultural situations based on one’s intercultural attitudes, knowledge, skills and reflection abilities. The 4 dimensions of intercultural competences can be defined as followed:

- **Attitudes.** Deardorff considers the positive attitude toward intercultural situations as a basis for intercultural competence. Valuing cultural diversity, tolerating ambiguities, general openness are key elements of this dimension.
- **Knowledge and comprehension.** Intercultural knowledge (about our own culture and culture of others) permits us to acquire specific skills to be able to enter into conversation and interaction. Understanding of others worldview, understanding of the impact the culture has on behavior and communication are key elements of this dimension.

- **Skills.** The ability to listen, to observe and to interpret, to relate cultural elements, to evaluate are the key points of this dimension.
- **Desire Internal Outcomes.** It is understood as a reflection on intercultural interactions. The results of the development of attitudes, knowledge and skills related to different cultures impact strongly the ability to change perspective and to take a relative position toward of own cultural references. It leads to flexibility and adaptation to new intercultural situations.

#### 4.4. About the University of Granada: score and observations

The University of Granada (Universidad de Granada, UGR) was founded in 1531 by Charles I, King of Spain. It is one of the biggest (third position considering number of students) national autonomous Spanish universities (80,000 students). As the only university of the city, the UGR brings huge trans-disciplinarity organized in Faculties and Schools. According to the last Shanghai Ranking, the UGR is in the range between 300 and 400, and its position among Spanish Universities is the 7<sup>th</sup>. The UGR is the most popular European destination of Erasmus students (the UGR was awarded Erasmus Gold Star in 2007 for his long time active involvement in this program), Maghreb and South American citizens.

The strategy of internationalization is one of the most important objectives of the UGR and it has been strongly developing since many years. Mission and vision of the university as well as many of the policy papers of the different entities promote international dimension at each level of the institution. Social media (Facebook, Twitter, etc.) are strongly used in international marketing. The internationalization efforts are managed by the Vice-Rector's Office for International Relations and Development Co-operation at all levels of the campus through annual strategic plans, which try to support economically all kinds of initiatives of internationalization which had not been covered by European and national funding. These efforts put the UGR in the Europe's top-ranking international universities. Every year, the UGR has in mobility over 4000 students, what makes it the first destination of Erasmus in Europe. Other programs are also very active (LLP/Erasmus, UGR Exchange Program and Erasmus Mundus, Tempus, Alfa, PCI, PEACE, etc) among students, academic and administrative staff. Most of the subjects at the UGR are taught in Spanish, and the UGR is logically very active in priority in Spanish speaking countries.

To improve its prestige and international visibility, the UGR is very present and active in numerous international networks and associations. In 2010, the UGR took over the presidency of two important networks: the European Coimbra Group of Universities and the South-American Association for Postgraduate Studies (AUIP), which is a UNESCO-recognized non-governmental international organization, whose aim is to promote postgraduate and doctoral studies in Latin-America. In fact, the UGR is one of the European institutions that receive the most external financing for the mobility and exchange of students, teaching staff and administration and services staff with non-European countries.

All these characteristics have been observed during the collection of data and were highlighted by the components of the ISAIAS FAST score. Students at UGR have developed the most positive attitudes to internationalization and the highest scores in all dimensions of intercultural competences among the 3 participant universities, as a logical result of the general positive ambiance to internationalization promoted by the policy of the University and the large number of international students on the campus and mobilities. The scores of the Professors were a little bit higher, despite the frequent difficulties to interact in English,

as they have been encouraged to the participation in international research projects. Moreover, research and educational collaborations have been very active with South-American countries, which often share the same language. Despite these positive results, the scores also revealed that the process remained still moderate, as the scores were far under the threshold of 3. This marked also the practical limits in the internationalization of the campus, related to the organizational culture of the university and national dimensions, despite the real and perceptible enthusiasm [2].

#### 4.5. About the University Paris Sorbonne: score and observations

The University of Paris (historically known as Sorbonne) has a very long history starting in the 12<sup>th</sup> century, and is now organized in 13 public universities with a specific number (between I to XIII) and name. Each university is characterized by a specific range of schools and specialties. There is often a thematic line in each university. For example, Paris 4 (Paris-Sorbonne) is specialized in Human Sciences, Literature, Language and Arts. Paris 5 (Descartes) is more scientific and medical, including particularly a School of Medicine, a School of Dentistry and a School of Pharmaceutical Sciences. In order to be more competitive in the current education and research globalized world, these universities have been regrouping in the last years. The process was triggered to optimize management and the use of resources, to improve trans-disciplinarity and to increase world visibility. Each new grouping of universities is supposed to form a kind of multidisciplinary collegiate university.

The strategy of internationalization is different between the various Paris universities, and is still under permanent evolution at this time. However, it remains in general quite traditional. Traditionally, education in the French university is only done in French and is therefore attracting in priority students from the French speaking countries. Even with this practical limitation of language, Paris Sorbonne University is very attractive for foreigners, due to its historical reputation of excellence in many fields and the attraction of Paris as a major western city. A large part of the internationalization efforts is placed in program of exchanges such as Erasmus, and almost all professors and teachers are French nationals, the national regulations of concours and recruitment of the faculty members being still very restricted. It is also considered that all foreign students have to adapt to the local mentality and patterns, and many aspects of the Anglo-Saxon approach of internationalization of higher education and research are not perceived positively or even conceptualized. International collaboration in the research dimension takes place mostly on the basis of personal relations between academics or at the level of faculty, and its level of institutionalization is different in each Parisian University. The multi-disciplinarity is strongly encouraged and the internationalization is expected to play a stimulating effect in this process. At this moment of the development of its international policy, the reciprocity has been chosen as a main approach to internationalization of higher education and research.

All these characteristics were very clearly observed during the collection of data and were clearly highlighted by the components of the ISAIAS FAST score. Both Professors and Students groups showed the lowest scores among the 3 universities, reflecting a lower enthusiasm for the internationalization process. This illustrated some traditional approach towards internationalization and the very French-centered aspects of the Paris-Sorbonne University described previously. The French strongly traditional organizational culture of this university was perceived as its heritage and strengths.



#### 4.6. About the Chonnam National University: score and observations

Chonnam National University (CNU) was founded in 1952 in Honam region in Gwangju city (South Korea). The university emerged from the ashes of the Korean War, regrouping a few preexisting colleges, with the support of local citizens who wished to develop competent, qualified people. Gwangju (means “province of light”) has been always a very agricultural and cultural place. In the social perception, the CNU reminds as a place where democratic movements in 1980 started, as one of the best and the oldest university in the province, and as the 5<sup>th</sup> in the national ranking. It is also a quite large multidisciplinary university with more than 35,000 students enrolled each year.

Theoretically, the policy of the CNU is following the national educational policy framework where decentralization, innovation and internationalization of education and research have a very important role. The CNU’s mission is officially to promote a community producing creative knowledge and leading future generations, and to become a first-class university with global competence. Its vision and mission clearly refer to a regional as well as international dimension (“CNU to Asia, CNU to the World”). However, it is important to highlight, that these elements of western paradigm of education related with globalization, are submerged in a strong, traditional environment of Korean Academia.

The policy of internationalization of higher education and research in CNU had been following all steps encountered in general in the Korean Academia. It started in the 1950<sup>th</sup> - 1960<sup>th</sup> with the government initiatives of sending the Koreans to take advanced education in developed countries (many of the CNU’s professors did their PhD in the US). This idea of studying abroad remains strong in Korea, but in the last years the Korean government promoted the western concepts of internationalization in order to make the Korean Universities attractive for foreign students. The process of Internationalization of CNU is therefore first of all a political answer for the Korean Ministry requirements and to support the economical needs of the university (need to increase the incomes). Following Korean very hierarchic organizational culture, internationalization at CNU takes mostly the form of a global program strategy. The CNU’s Office of International Affairs is responsible for the management of most of the actions related to the internationalization efforts. Majority of them are focused on mobility of students and researchers and maintenance of international partnership with sister universities and partners.

The internationalization of curricula is very limited. Almost of the classes are done in Korean language (even in English Education). However, the university urges faculty members to have their classes in English. Each department has to meet their English class quota. The large majority of foreign students is of Asian origin, and just a very few of them are African (with Korean government scholarships) and Europeans on short period exchanges. The number of foreign professors is about 57, but almost all of them are with Korean origin. Therefore there is a strong wish to follow modern Anglo-Saxon patterns of internationalization, but this strategy remains still on the conceptual level and quite far from the daily cultural reality.

All these characteristics were very clearly observed during the collection of data and were clearly highlighted by the components of the ISAIAS FAST score. The scores observed in the CNU were the highest among the Professors in these 3 universities, highlighting the general policy of the University (the wish to produce “global leaders”, as it was repeated frequently) and the frequent need for the Professors to get some diploma or research leave abroad during their career (mostly in the US). However, the field study also revealed that the relative enthusiasm for internationalization appeared more as a consequence of the policy



and expectations of the University and Ministry (which are expected to be obeyed in this very collectivist and hierarchic Confucian Society) [21] than a real practical endeavor [5]. The score of the students on the general campus were much lower, illustrating the difficulties to internationalize this campus, even if the enthusiasm was perceptible and the University was doing efforts to promote internationalization at home by inviting foreign students and scholars [20]. The number of foreign students remained limited (mostly from Asian neighbor countries) and cultural and language barriers remained very strong.

## 5. Conclusion

In this first article, the results of the ISAIAS FAST scores were calculated in the general campus of 3 universities (University of Granada, Paris-Sorbonne University and Chonnam National University) and corresponded to the qualitative data gathered on the campuses, and to the general profiles of internationalization of these institutions. The next step is the evaluation of the FAST scores of more specialized groups of stakeholders in the dental and biomaterial research and education groups, in order to evaluate and understand how the local leaderships are impacting the level of internationalization of education and research in this specialized fields.

### Disclosure of interests

The authors have no conflict of interest to report.

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### Author Contributions

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