

INTERDISCIPLINARY EXPERIENCE IN THE TEACHER TRAINING COLLEGE OF VITORIA-GASTEIZ:
TEACHING PROFESSION MODULE

Igor Camino Ortiz Barrón, Pilar Aristizabal Llorente, Edu Zelaieta Anta

Universidad del País Vasco
Spainigor.camino@ehu.es, p.aristizabal@ehu.es, edu.zelaieta@ehu.es

Received February 2012

Accepted July 2012

Abstract

The higher education regulation process in Europe, known as the Bologna Process, has involved many changes, mainly in relation to methodology and assessment. The paper given below relates to implementing the new EU study plans into the Teacher Training College of Vitoria-Gasteiz; it is the first interdisciplinary paper written involving teaching staff and related to the Teaching Profession module, the first contained in the structure of the new plans. The coordination of teaching staff is one of the main lines of work in the Bologna Process, which is also essential to develop the right skills and maximise the role of students as an active learning component. The use of active, interdisciplinary methodologies has opened up a new dimension in universities, requiring the elimination of the once componential, individual structure, making us look for new areas of exchange that make it possible for students' training to be developed jointly.

Keywords – Coordination, methodology, interdisciplinary, skills, team work.

1 INTRODUCTION

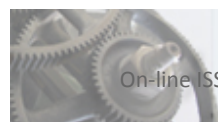
A committee consisting of the Teacher Training Colleges from the three campuses of the University of the Basque Country, the so-called Inter-school Committee, was set up to design the new degrees (called *grados* in Spanish); its main task was to create the structure of the four years of all the degrees, always within the scope of the skills set out by the Ministry of Education.

By adopting the ideas that make up the social education model, subjects were put in groups that made it possible to process them in an interdisciplinary manner; these groups were then called modules. The aim of the new plans was that these models were implemented throughout the study plan, moulding the modular structure of the new plans and making it possible to develop and achieve the skills set out in an organised fashion.

The need to strengthen the coordination of universities has been evident for quite some time. To give some examples, Zabalza (2003) stated that coordination was one of the main weak points in Universities, while San Fabián (2006) highlighted that coordination was one of the main requirements of the educational process.

The concern regarding the need to promote coordination in the Teacher Training College of Vitoria-Gasteiz was not a new concept, as it had already been broached in the 2003-2005 Self-Assessment Report (Etxaniz, 2004). Even though the results from this report were positive, they also revealed some areas to improve:

- The implementation of mechanisms that made it possible to coordinate the subjects was considered necessary, requiring horizontal and vertical coordination.
- The implementation a Tutoring Plan to guide students in terms of teaching aspects and school operations, and also general operational aspects and services offered by universities.



Both pathways were exceptionally important, but the convenience of not having to cover everything at the same time was assessed, meaning each one could be worked on gradually; the College was most concerned about the former, therefore it was considered necessary to seek out experience from nearby coordination projects, as well as to implement a training process to work on this. In 2008/2009, the College implemented its Coordination Network, consisting of module coordinators, qualification coordinators, and the Teaching Coordination and Innovation Deputy Director, mainly entrusted with channelling relations between modules and guaranteeing the fulfilment and development of general operation guidelines. The Network started off with the intention of, as noted by Grisaleña and Campo (2010), creating meeting and exchange spaces to make it possible to share experiences, knowledge, concerns, and also to learn jointly.

Aspects such as presence learning and being together were found to be especially important in meetings held at the College in this academic year. A Letter of Recommendations, subsequently approved by the School Council, was one of the results of these meetings. The Letter contained several agreements that aim to deal with aspects relating to being together in the Centre. In relation to teaching coordination, the agreement on presence learning was the most significant, given that it required that the students attended at least 75% of classes, also showing an improvement in them and better behaviour in accordance with the regulations set out in the Letter.

In relation to the student learning process, we needed to move away from an individualistic, fragmented perspective of the curriculum to an integrated, possibility-enhancing vision of learning that required everyone to be involved and be part of the coordination. In the Teacher Training School of Vitoria-Gasteiz, different teaching teams have been set up, each one of them related to a corresponding module, making it possible to create teaching collaboration networks, as suggested by San Fabián (2006). As indicated by Grisaleña and Campo (2010), the aim of the coordination is to reflect on the teaching practice itself, which represents a continuous opportunity to learn, collaborate and carry out innovative tasks for the teaching staff, as mentioned by Bolívar (2000).

As mentioned in the summary, this article discussed interdisciplinary work thanks to the coordination carried out by the teaching staff involved in the Teaching Profession module, the first module implemented for the new degrees in 2010/2011.

2 TEACHING PROFESSION MODULE AND ITS INTERDISCIPLINARY WORK

The Teaching Profession module is the first one taught in the new Teacher Training degrees, both for Infant Education and Primary Education. Its configuration is represented by five subjects: Development Psychology at School Age, The Function of Teaching, History and Theory of Education, Sociology of Education, and the Development of Communication Skills I. All of these subjects are worth 6 ECTS credits. We would like to point out that in the University of the Basque Country, an ECTS credit is equal to 10 class hours and 15 hours of non-class work, which means that they include 60 class hours and 90 non-class work hours.

In order to progressively delve into interdisciplinary tasks, it was agreed that all the corresponding subjects would dedicate one credit to interdisciplinary or modular work, which resulted in a total dedication of 5 credits, meaning that the student need 50 class hours and 75 non-class hours. Its design was developed in 2009/2010; one of the priorities of the coordination carried out by the teaching team involved was the implementation of the module's inherent skills. Finally, taking the nature of the actual subjects making it up as a reference, two skills were specified:

- The students had to identify, analyse and assess the historic, social, psychological and educational determinants that embodied different methods of educating, so that they understand the social function of the college and what they need to do as educators today.
- The students had to identify and analyse situations and problems at the College from an overall, interdisciplinary perspective in order to work in collaboration with families and other educational professionals, adapting their involvement to different communicative situations and relationships.

2.1 Methodology Of Interdisciplinary Work

It was decided to adopt the case methodology of the Monterrey Institute of Technology and Higher Education (2005) as the methodological approach to carry out the interdisciplinary work. Even though this methodology

was somewhat new for the teaching staff, and even unknown to a large extent, we need to state that these methodologies have a solid historic development. At Harvard University for example, the methodology of cases started being using in 1914, especially to work on legal and business issues. Using this experience, the use of this case methodology has become an important reference in preparing professionals in different fields: Law, administration of companies, medicine, political sciences, educational sciences (Stake, 1994, 1999, 2006), etc.

In relation to the process begun at the Teacher Training College of Vitoria-Gasteiz, it was necessary to collate and analyse different materials to clarify the characteristics of this methodology and its implications for teachers and students. The first objective was creating a common language in relation to what was understood by "case", bearing in mind especially what the backbone of interdisciplinary work is. The analysis of material from Monterrey was used to clarify some aspects in this sense:

- A case is the description of a past event that describes a real, complex situation.
- A good case enables discussion based on problematic facts that must be faced in real life situations. It aims to let people give their opinions about different ways of thinking in the classroom.
- Students learn from the experience and situations coming from real life. This enables them to build their own learning experience within a context that is similar to their environment. It is a link between theory and practice. The teacher must ensure that the student has a good theoretical base, enabling him/her to work on the case and to transfer his/her knowledge to a real situation. In table 1 you can see the characteristics of the case method and its comparison with other traditional methods:

Characteristics of the case method	
<ul style="list-style-type: none"> • <i>Interactive and dynamic</i> • <i>Focused on the student</i> • <i>The teacher acts as a facilitator, guiding the discussion when it is veering away from proposed learning objectives. The case (written document) is the foundation of the discussion carried out in class.</i> • <i>Different options to resolve the proposed situation.</i> • <i>The student must make clear, well founded suppositions about the information that is not available</i> 	
Case method	Traditional method
<ul style="list-style-type: none"> • <i>Inductive</i> • <i>Goes from specifics to general aspects</i> • <i>Focused on the student</i> • <i>Emphasises learning</i> • <i>Focused on solving problems</i> 	<ul style="list-style-type: none"> • <i>Deductive</i> • <i>Goes from general aspects to specifics</i> • <i>Focused on the teacher</i> • <i>Focused on acquiring knowledge</i>

Table 1. Characteristics of the case method and its comparison with other traditional methods. Monterrey Institute of Technology and Higher Education (2005)

In relation to the steps to bear in mind to use this method, there are different alternatives to resolve the case, however without doubt, group discussions are the most important among them all. In table 2 you will see the sequencing of the steps that are usually given, indicating what are the main characteristics of each one of them:

Steps used in case methodology
Step 1: individual preparation
<ul style="list-style-type: none"> • The student read and analyses the case, assuming the role of having to make decisions. • Identifies the critical points in approaching the case (who is the protagonist and what is the situation we are trying to resolve). • Identifies alternatives, to resolve the problem described in the case. • Selects the most appropriate alternative based on the facts of the case. • Develops an initial proposal to resolve the case.
Step 2: discussion in small groups
<ul style="list-style-type: none"> • The students exchange knowledge and experience coming from individual preparation. • The initial proposal is strengthened by confronting ideas.
Step 3: working in a large group
<ul style="list-style-type: none"> • In a class session, moderated by the teacher, the people participating confront their personal perspectives in a founded manner via discussions, which should result in solving the situation presented as a case.
Step 4: personal reflection
<ul style="list-style-type: none"> • Personal reflection following the class session enables participants to confront the result of the suggestion proposed in the discussion, with the solution of the situation presented as such.

Table 2. Steps of the case method. Monterrey Institute of Technology and Higher Education (2005)

2.2 The Teaching Profession Module Case

Once the work methodology to use is chosen by the teaching team, the coordination work focused on looking for possible defining areas. Being aware of the different pathways that could be approached in relation to the teaching profession, the aim was to work jointly on the different areas that make up its multifaceted reality. Finally, the interdisciplinary work approach in relation to gender equality was agreed, in order to analyse and find out more about how issues in relation to this topic had been dealt with in different educational systems.

The description of the work having been agreed, the coordination network started to design the case; knowing the advantages attributed to the use of real problems in higher education, theory and practice among others, the articulation of different areas of knowing how to resolve issues and connecting to the professional environment (Escribano & Del Valle, 2008), the teaching team proceeded to collect press cuttings about this topic. Some of these press cuttings supported a differentiated approach to education, putting the coeducational approach into doubt. The teaching team considered that these references could represent the guidelines to subsequently elaborate on the case. Finally, after having agreed these guidelines in the coordination meetings, the case presented below was designed:

"The X P.C. is a mixed-gender public centre, and there are equal opportunities for all students involved in its educational project.

Lately in the press, corridors and teachers' halls, ideas relating to the influence coeducation is having on academic results are circulating: boys and girls perform better when separated. It seems that some schools separate students in this way.

A teacher at this centre, who had stayed "in silence" in relation to this topic, feels it is time to say "what he or she already thought". Similarly, another teacher commented that when meeting parents, some of them had raised this matter.

The Director, an educator with 25 years of experience and who has always been in favour of bringing in educational reforms in relation to coeducation, dialogue as a means to resolve conflicts and listening as an essential tool when people are together. She thinks that it would be interesting to analyse the situation and organised a teachers' meeting, the topic of which will be "School, a space where students (male and female) can work together or separately", in order to support and discuss the opinion of the Teaching Staff in relation to this topic and to exchange different opinions to the School Board to be analysed subsequently.

Beforehand, she suggested having a small committee to make the debate more dynamic, which would organise the session or sessions, providing relevant material, and which would write up a questionnaire with doubts, questions, etc., which could be used as the backbone of the meetings".

The teaching team agreed that the work must consist of drawing up an academic form in relation to the case. The aim was to present the students with a problematic situation, so that, using the tools provided in all of the subjects involved in interdisciplinary work, they developed a thought process, subsequently being able to adopt a reasoned position in relation to the problem. Although the process included specific group stages, the final report must be written individually by each student. In this regard, in order to contextualise our academic reality better, we need many student groups, specifically 110 for infant education and 140 for primary education.

It was also agreed to state in the teaching guide what topics would be discussed to facilitate the realisation of interdisciplinary work for each subject involved, so that the coherent interrelation between these topics made it possible to achieve an interdisciplinary approach in the academic report. It is necessary to find out more about this idea as the implementation of new study plans, the subject teaching guides, in addition to stating the aspects that make it possible to work on skills included in the subject, must state the extent they are going to contribute to achieving the module and course skills.

Continuing the creation process of the academic report, the student must include and interrelate the information they bring from different subjects, as well as additional information which, after searching and reviewing documentation, they deem appropriate. In principle, we plan to maintain the case for a minimum of two years; however, as this process is subject to constant revision, the teaching team will decide whether or not to extend this period. We must point out that the teaching team always assessed the level of difficulty that work with these characteristics may involve for students who have just started the degree, especially as it is new and different from what they are used to academically before entering the University. In this regard, we would like to highlight the important of developing a process of academic literacy (Carlino, 2005) which would make it possible for students to acquire certain tools helping them adapt to the new university system, as well as a group of necessary ideas and strategies to take part in discursive culture in relation to the disciplines making up the module.

3 ASSESSMENT OF INTERDISCIPLINARY WORK

The next step to tackle in relation to coordination is assessment. We needed to design an assessment model that showed the main component of our interdisciplinary approach; the aim was to agree a model that made it possible to give a mark for the work, agreed by all the teachers involved. Finally, it was agreed to give a score of two points for interdisciplinary work for in each subject. Subsequently, 80% of the mark corresponds to content and skills of the discipline and 20% to content and skills relating to work in the module.

On the other hand, we needed a tool that facilitated the interdisciplinary assessment process. The revision of materials and consulting bibliographic sources on the topic enabled the teaching group to find out about the so-called "assessment rubrics". Rubrics are used to specify assessment criteria related to the proposed learning aims, which makes it possible to standardise the assessment process and achieve, as simply as possible, the final mark. In addition, we would like to point out that assessment standardisation based on the same criteria also facilitates clarity and transparency in relation to the process and marks (Goodrich, 2000). Finally, it was agreed to use the same rubric for all the teaching staff involved, and that works would be given a common mark for all the subjects involved in interdisciplinary work. The rubric given in table 3 was created for this, which consists of three main criteria: adequacy of the content, conclusions and sources.

The first two criteria in the rubric were related to the adequacy level of the content; the first made it possible to assess how the involved aspects from different subjects had been integrated into the work and, the second one paid special attention to conclusions, making it possible to assess the level of adequacy and justification of the position adopted to resolve problems. In addition to these two criteria, it was considered essential to pay attention to using documentary sources to, as far as possible, familiarise students with bibliographic norms. With this objective in mind, the teaching team opted to use APA guidelines (American Psychological Association).

	Outstanding 4 (2 points)	Commendable 3 (1.5 points)	Pass 2 (1 point)	Fail (0.5 points)
<i>Adequacy of the content</i>	<ul style="list-style-type: none"> • Implicitly used guided questions to facilitate the work, but not being conditioned by them. • Precisely uses and reasons almost all the aspects involved in the subject in relation to work. 	<ul style="list-style-type: none"> • Uses guided questions as the core component of work. • Adequately uses and reasons quite a few aspects involved in the subject in relation to modular work. 	<ul style="list-style-type: none"> • Uses guided questions as the only component of work. • Uses very basic aspects involved in the subject in relation to modular work. Carried out basic reasoning. 	<ul style="list-style-type: none"> • Not considered any of the guided questions at any time. • Does not use barely any basic aspects involved in the subject. Incoherent perspective. Lack of reasoning.
<i>Conclusions</i>	<ul style="list-style-type: none"> • The conclusions are founded perfectly and are entirely coherent with the development of the work. • The reasoned position of the author can clearly be seen. 	<ul style="list-style-type: none"> • The conclusions are well founded and are generally coherent with the development of the work. • The position of the author is quite clear. 	<ul style="list-style-type: none"> • The conclusions are not well developed and there is incoherence, but it is not serious. • The position can be seen, even if it is a little vague. 	<ul style="list-style-type: none"> • The conclusions appear to be a series of disjointed ideas. • The position of the author can barely be identified.
<i>Sources (bibliography, internet)</i>	<ul style="list-style-type: none"> • In addition to the sources recommended in the subject, there is also another large quantity of contributions that have an exhaustive bibliography (books, magazines, internet, etc.). • All the sources are well justified and correctly cited. 	<ul style="list-style-type: none"> • Mainly uses the sources recommended in the subject, also considering another means. Good combination of sources (books, magazines, internet, etc.). • Most sources are justified and correctly cited. 	<ul style="list-style-type: none"> • Only uses the sources recommended in the subject. • Most sources are justified and correctly cited. 	<ul style="list-style-type: none"> • Practically none or few sources. • The sources used are not well justified or correctly cited.

Table 3. Joint assessment rubric of the Teaching Profession module

4 RESULTS OF MODULAR WORK AND ASSESSMENTS

The table given below enables you to find out about the results obtained from all the groups studying Infant Education and Primary Education:

<i>Results obtained from modular work</i>	INFANT EDUCATION			PRIMARY EDUCATION		
	Spanish group	Basque group		Spanish group	Basque group	
		HH 46	HH 47		LH 46	LH 47
<i>Enrolment</i>	25	47	28	37	60	38
<i>Present</i>	21 (84%)	45 (95.74%)	27 (96.42%)	28 (75.67%)	60 (100%)	34 (89.47%)
<i>Not present</i>	4 (16%)	2 (4.26%)	1 (3.58%)	9 (24.32%)	0	4 (10.53%)
<i>Failed</i>	1 (16%)	5 (10.63%)	6 (21.42%)	6 (16.21%)	5 (8.33%)	4 (10.52%)
<i>Passed</i>	17 (68%)	10 (21.27%)	10 (35.71%)	12 (32.43%)	28 (46.66%)	18 (47.36%)
<i>Commendable mark</i>	1 (4%)	23 (48.93%)	9 (32.14%)	6 (16.21%)	21 (35%)	9 (23.68%)
<i>Outstanding mark</i>	2 (8%)	7 (14.89%)	2 (7.14%)	4 (10.81%)	6 (10%)	3 (7.89%)

Table 4. Results of the Teaching Profession modular work assessment

The information contained in table 2 is significant and can be used to verify the appropriate functioning of the module work. To start off, we would like to highlight the importance of the high percentage of works presented, which has been over 90% in most cases. In addition to this data, there are also others that merit special mention, such as the high percentages of students who were finally capable of overcoming the modular work, mostly over 80%.

4.1 Assessment Of Students

In general, according to the opinions collected via satisfaction questionnaires given in the last week of classes, the assessment that the students gave modular work was good, but they highlighted the level of difficulty that the challenge of integrating the content of different subjects to subsequently resolve the case. Despite this, they were aware that this challenge had helped them improve their knowledge of the subjects and they now had a deeper level of learning.

On the other hand, most students stated the need for more guidance for developing work, something which is currently being worked on with the implementation of a tutoring system for interdisciplinary work.

4.2 Assessment Of Teachers

In order to collect the opinions of the teaching team, a document was drawn up that discussed the main positive aspects and the improvement suggestions for the module. In general, the teaching staff has made positive assessments, even though the need to implement specific improvements is evident, which contribute especially to the development of a sustainable process in which all teachers feel comfortable with the rhythm of work and the workload. Some people from the Teaching Profession module team also taught in other modules, so it is essential to promote inter-modular coordination, another one of the main objectives on which the Coordination Network is focusing its efforts.

5 CONCLUSIONS

Universities of the 21st century need to respond to, via their qualifications, a reality that has suffered many changes. In this regard, the responsibility of the university, and the teaching staff, is to prepare people to respond ethically, responsible and creatively to different problems that may arise in their professional environment. They must also know how to adapt to social changes that may occur.

The task of coordination carried out in relation to interdisciplinary work, as well as its realisation, has made it possible to develop skills set out for the module, helping students understand that the acquisition of these skills needs teamwork, which goes far beyond focusing solely on one's own teaching; interdisciplinary work does not only give help, it becomes an indispensable requirement for the development and acquisition of skills by students.

Interdisciplinary work has helped each teacher to learn how to put his/her trust in others, given that the mark given for interdisciplinary work, exceeding one's own barriers, is agreed among the whole teaching group and in a collegiate basis, that is the score of the mark is shared for all the subjects (if you get 1.5 out of a maximum of 2, this score is applied to all subjects). It can be said, therefore, that this entirely new assessment process focuses on achieving a new kind of qualification: the interdisciplinary mark.

On the other hand, student knew how to tackle the difficulty of this kind of work, adequately integrating the content from different subjects and adopting, finally, a reasoned position to resolve the case. Carrying out the work has made it possible for student to obtain an integrated vision of the content involved, which is entirely different from the fragmented vision that students usually obtained from previous study plans.

Consequently, something that was considered to be Utopian for the University not so long ago, is currently and gradually becoming a reality with numerous possibilities. Although the complete consolidation of the process still requires some time, the personal responsibility and involvement of all the teachers are essential for this project to move forward.

REFERENCES

- American Psychological Association. www.apa.org.
- Bolivar, A. (2000). Los centros escolares como comunidades. Revisando la colegialidad. *Revista Española de Pedagogía*, 216, 253-274.
- Carlino, P. (2005). *Escribir, leer y aprender en la universidad. Una introducción a la alfabetización académica*. Buenos Aires: Fondo de Cultura Económica.
- Monterrey Institute of Technology and Higher Education (2005). *El estudio de casos como técnica didáctica*. Dirección de investigación y desarrollo educativo. Vicerrectoría académica del instituto tecnológico y de estudios superiores de Monterrey. Retrieved from: http://www.itesm.mx/va/diie/tecnicasdidacticas/5_1.htm (last access 2012/04/06).
- Escribano, A. & Del Valle, A. (Coord.) (2008). *El Aprendizaje Basado en Problemas. Una propuesta metodológica en la Educación Superior*. Madrid: Narcea.
- Etxaniz Erle, X. (2004). *Gasteizko Irakasleen Unibertsitate Eskolako Titulazioen Autoebaluaziorako txostena. ANECaRa bidalitako barne dokumentua*.
- Goodrich Andrade, H. (2000). Using Rubrics to Promote Thinking and Learning. *Educational Leadership*, 57(5). Retrieved from: <http://www.ascd.org/publications/educational-leadership/feb00/vol57/num05/Using-Rubrics-to-Promote-Thinking-and-Learning.aspx> (last access 2012/07/06).
- Grisaleña, J. & Campo. A. (2010). Las escuelas que aprenden: características básicas. Organización y gestión educativa. *Revista del forum Europeo de administradores de la educación*, 3, 121-145.
- San Fabián, J.L. (2006). La coordinación docente: condiciones organizativas y compromiso profesional. *Participación educativa*, 3, 6-11.
- Stake, R.E. (1994). Case Studies. In N. K. Denzwhyte y L. Lincoln (Eds.). *Handbook of Qualitative Research*, 236-245, Thousand Oaks: Sage Publications.
- Stake, R.E. (1999). *Investigación con estudios de casos*. Madrid: Morata.
- Stake, R.E. (2006). *Multiple Case Study Analysis*. New York: Guilford Press.
- Zabalza, M.A. (2003). *Competencias docentes del profesorado universitario, calidad y desarrollo profesional*. Madrid: Narcea.

Citation: Camino Ortiz Barrón, I., Aristizabal Llorente, P., & Zelaieta Anta, E. (2012). Interdisciplinary experience in the teacher training college of Vitoria-Gasteiz: Teaching profession module. *Journal of Technology and Science Education (JOTSE)*, 2(2), 59-67. <http://dx.doi.org/10.3926/jotse.32>

On-line ISSN: 2013-6374 – Print ISSN: 2014-5349 – DL: B-2000-2012

AUTHOR BIOGRAPHY

Igor Camino Ortiz Barrón

He obtained his PhD in Pedagogy at the University of the Basque Country. He is a senior lecturer on History and Theory of Education at the Teacher Training College in Vitoria-Gasteiz. He is in charge of the Academic Management Coordination and Innovation, as a deputy director.

Pilar Aristizabal Llorente

She obtained her PhD in Pedagogy at the University of the Basque Country. She is a lecturer on Information and Communication Technologies at the Teacher Training College in Vitoria-Gasteiz. She is in charge of the Quality Improvement Programme and Innovation, as a deputy director.

Edu Zelaieta Anta

He obtained his PhD in Linguistics and Basque Studies at the University of the Basque Country. He is a lecturer on the teaching-learning of Language and Literature at the Teacher Training College in Vitoria-Gasteiz. He is in charge of the module “Teaching Profession”, as a coordinator.

Published by OmniaScience (www.omniascience.com)



Journal of Technology and Science Education, 2012 (www.jotse.org)



Article's contents are provided on a Attribution-Non Commercial 3.0 Creative commons license. Readers are allowed to copy, distribute and communicate article's contents, provided the author's and Intangible Capital journal's names are included. It must not be used for commercial purposes. To see the complete licence contents, please visit <http://creativecommons.org/licenses/by-nc/3.0/es/>