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Scoping reviews and CAQDAS software as a methodological approach for interviews

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1. Introduction

The interview is a highly effective tool for the development of qualitative research and is widely used in social science studies. It is a technique characterised by the application of a conversation between the sender (researcher) and the receiver (interviewee) with the aim of collecting data for the development of academic studies of all kinds. This conversation between the researcher and the interviewees can be more or less directed, depending on the type of interview. It is important to differentiate the research interview from other types of interviews, such as journalistic or medical interviews. Although they share the same procedures, the purpose of each differs greatly, and they should not be confused. The scientific interview aims to obtain data to validate hypotheses and/or expand knowledge about what is being inves-

tigated, while the journalistic interview aims to construct a dialogue with informative value and the medical interview aims to collect relevant data about patients, individually or collectively.

In this sense, three types of interviews can be identified that can be applied in the course of an investigation:

- (1) structured interviews,
- (2) semi-structured interviews and
- (3) unstructured interviews.

Each of them has its own intrinsic characteristics and therefore, using one or the other will condition both the development and the outcome of the research (Díaz-Bravo et al. 2013). Given this circumstance, it is essential to know the advantages and disadvantages of each of them properly and apply the most appropriate one according to the needs of the study to be carried out.

The following is a brief explanation of the interviews that a researcher can use for their studies:

Structured interview: this is a rigid type of interview that allows very systematised results to be obtained. It is characterised by having, on the one hand, questions fixed in advance with a strategic order and, on the other hand, a series of closed answers. The interviewees under this formula must select, from the list of answers, the ones they consider most pertinent. It is a type of interview with a high degree of objectivity; however, due to its rigidity, it does not allow for results rich in interpretations and/or in-depth assessments of the interviewees.

Semi-structured interview: this is a type of interview in which the interviewees answer freely (without being conditioned to specific answers) to questions that are generally open-ended. This method is characterised by being quite flexible and dynamic, with more open-ended results since, although the questions are fixed, interviewees can answer, interact with the researcher, and even make cross-cutting assessments of the questions asked. All the information obtained can be analysed and included as results for the research.

Unstructured interview: it is characterised by a great wealth of assessments and evaluations due to its flexibility and options for interpretation,

as the questions are open-ended, they are formulated according to the development of the content of the interview itself and therefore the interviewees are not directed and can respond freely. Occasionally, some of the answers may be far from the object of study. In this circumstance, the researcher must code all the answers and eliminate those statements that do not add value to the research.

In short, the interview is a very flexible tool, as it is a method that adapts to the sample (the interviewees) from different perspectives and aspects, such as their knowledge of the subject, their context, their beliefs, etc. This gives it great value as it helps the researcher to collect very detailed and unique data on a wide range of topics and scientific disciplines.

Interviews in social science research can gather information from different sources, since depending on who we interview, we will obtain different data. We can differentiate between interviews

(1) with specialists, people especially related to the area of knowledge we want to address;

(2) interviews with users and/or recipients involved in the area of knowledge we are investigating; and

(3) with the general public. In this chapter we will focus on interviews that aim to gather information from specialists in a thematic area.

However, there are three essential issues surrounding interviews that researchers should ask themselves as they are crucial to the success of the research:

- How to identify the interviewees who will be part of the study sample?
- How to decide what volume of interviews will be meaningful?
- How to analyse the most relevant data provided by respondents' answers?

This chapter aims to offer a practical guide to help researchers answer these three questions. In order to do so, firstly, it proposes the understanding and application of the Scoping Review as a method for identifying possible interviewees, and secondly, the knowledge and use of CAQDAS programmes (more specifically NVivo) for the coding and qualitative analysis of the data resulting from the interviewees' answers. This chapter also includes a practical example applied to semi-structured interviews.

2. Scoping Review as a methodology for the identification of experts

A Scoping Review, also called an exploratory systematic review, is a kind of knowledge synthesis whose main objective is the analysis of the academic literature produced in a scientific area or discipline in order to identify its specific characteristics.

It is a review methodology that helps researchers to determine, through a systematic type of evidence synthesis, the state of the art of a specific research topic, discipline or even field of knowledge.

Therefore, this is an ideal methodology for academic work, and more specifically for constructing solvent theoretical frameworks and, in short, for supporting any research work (Codina and Lopezosa, 2021).

However, the use we can make of the scoping review is not limited to this objective. In the proposal presented here, the application of an exploratory systematic review is used, on the one hand, to help identify the main experts on a specific field/field of knowledge to incorporate them as a sample to be interviewed and, on the other hand, to help the researcher to support and give greater scientific rigour to the selection of their sample.

There are different frameworks for the development of scoping reviews. On this occasion, the main SALSA framework (Grant and Booth, 2009; Booth et al., 2012) will be explained as a procedure to guide and evaluate the systematic review that will eventually lead the researcher to locate the main researchers on a specific subject to incorporate them into their interview study.

The SALSA Framework owes its name to the acronyms that characterise its four critical phases:

Search: The search phase is resolved through the definition of the project to be carried out, the design of the search equations, their application in mainly academic databases and the selection of references taking into account exclusion and inclusion criteria (Codina, 2020a).

Appraisal: This phase of evaluation is carried out through a re-review of the inclusion and exclusion criteria in the set of each reference, which may include the subject matter, the date of publication, the object of study and ultimately the verification of the quality of the article identified (Codina, 2020b).

Synthesis: In this phase, structured summaries are made based on the main parameters of each research study: subject of study, objectives, most significant results, etc. Diagrams or conceptual maps are eventually included (Codina, 2020c).

Analysis: systematic extraction of valuable data and information on the aspects to be studied (Codina, 2020c).

In short, the SALSA application makes it possible to obtain a battery of documents, mainly academic articles and book chapters by leading researchers on the area of knowledge studied. These documents usually have specific information about the authors, generally their e-mail address and possibly their address and telephone number. These elements can be taken as a starting point to

contact them and propose their participation as interviewees in our research study.

3. CAQDAS software as a tool for qualitative coding and analysis

Advances in the field of Information and Communication Technologies have led to the rise of computer-assisted qualitative analysis software (CAQDAS). These are tools that are capable of electronically coding data, helping researchers to make their studies more rigorous and effective.

One of the most widely used CAQDAS programs is NVivo. It is a software developed by QSR International for qualitative data analysis, content analysis and narrative analysis. Not only is it a tool that helps to organise all the documentation that makes up our research, but it also allows us to systematise, process and analyse it, giving it shape and meaning (Dias et al. 2016).

NVivo provides a workspace for researchers to store, manage, query and analyse unstructured data, be it text, image, audio, video and other types of data such as tweets.

This allows us to work with a large amount of data from a single dashboard, and all this information can be easily and automatically converted

into presentations, reports, and/or diagrams (Leech and Onwuegbuzie, 2011).

NVivo stands out because it improves the time and quality of the results of the research that we are developing with qualitative methods. It has services that automate the processes of analysis of the data obtained, it allows us to discover patterns, themes and trends, therefore, it helps us to resolve the conclusions of our studies in a solvent and effective way (Walsh 2003), it is even useful for analysing interview data (Gómez, 2015; Lopezosa et al 2020a; 2021a).

Ultimately, NVivo allows users to complete multiple qualitative analysis functions from within its platform (NVivo, 2019a; 2019 b), including sorting and filtering raw data (Leech, Y Onwuegbuzie, 2011), discovering and building relationships between data (Sabariego, 2018; Lopezosa, 2020b), assigning and defining themes and categories for data (Wiltshier, 2011), and visualising the results of data analysis (AlYahmady Y Saleh, 2013; Zamawe, 2015), among others.

Methodological proposal for the development of semi-structured interviews with scoping review and Nvivo: case study

Let's imagine that we have to carry out a study on new journalistic formats and we need to identify and interview experts in this area to know their opinion on the future of journalism and upcoming trends, but we don't know who they are or how to get in touch with them.

We propose to conduct a semi-structured interview, with few questions, that is easy to answer and not too time-consuming for the interviewees. We propose a semi-structured model because we want the experts to be free to answer the same questions. In this way, the comparison and/or confrontation of their comments will be more effective than in open interviews and more nuanced than in structured interviews.

Given this circumstance, the first step will be to analyse the scientific production on these formats and to do so we will develop a scoping review (Codina and Lopezosa, 2021) applying the SALSA Framework (Hart, 2008; Grant and Booth, 2009; Booth et al. 2012).

Application of the SALSA framework	
Phase	Criteria
Search	Database: Scopus and Web of Science
	Search equations: - "Structured journalism" OR "immersive journalism" OR "visual journalism" OR "virtual reality" OR "augmented reality" OR "augmented journalism". - ("Virtual reality" OR "augmented reality") AND (journalism OR newspaper* OR "digital news media") - Interactivity AND (journalism OR newspaper* OR "digital news media") - ("360degree video" OR "360 video" OR "360 video") AND (journalism OR newspaper* OR digital news media) - (newsgame* OR news-game* OR docugame* OR docu-game*) AND (journalism OR newspaper* OR "digital news media")
	Years of publication: 2015-2020
Appraisal	Initial number of documents: 275
	Final number (N) after applying inclusion/exclusion criteria: 67
	Inclusion/exclusion criteria: elimination of false positives, articles with IMRaD or similar structure (explicit method and presentation of results)
Synthesis	Narrative synthesis and data tables from the analyses performed.
Analysis	Components: - Object of study - Aims and objectives - Questions/ Problems/ Hypotheses - Methodology

Table I. Adapted from SALSA framework (Grant and Booth, 2009; Booth et al. 2012)

The table shows that the search for documents was carried out in the Web of Science and Scopus databases. For these searches, equations related to different formats linked to the media were applied. Specifically, the results obtained from documents published between 2015 and 2020 were collected. The final result of the sample of documents was 275. However, from this sample we had to subtract those

documents that did not meet the inclusion and exclusion criteria. Once the main documents in our sample had been identified, 67 final documents were located. The scoping review concluded with an analysis and/or summary of each document. In the case at hand, which is to identify potential experts for our semi-structured interview study, the next step is to open each of the documents (the 67 final documents) and identify

each author and their personal information. Usually we can find the email address of the authors along with their first and last name and their affiliation. Therefore, we would have not only the experts likely to be interviewed, but also their e-mail address, which would help us to contact them. With this selection, we have a universe of interviewees of approximately one hundred experts. The formulation of the interview does not require responses from all of them. In other words, we imagine an interview in which the number of responses does not excessively condition the result. In other words, our research does not depend on a certain statistical value of the responses of the interviews we are going to carry out to validate or refute the hypotheses we have formulated or to answer the research questions.

Let us imagine that the questions we want the experts to answer for our study are the following two:

- How would you define, or what does it mean to you, the concept of "journalistic innovation"?
- What do you consider to be the most important or significant new journalistic format (or formats) for journalism today or in the future?

Interviews can be conducted through different channels: face-to-face, by telephone or by email, obtaining different results with each of them. In our example, we chose email as the

channel, due to its low cost and ease of execution, despite its disadvantages, such as a lower response rate (Díaz de Rada, 2012).

One option is to incorporate the questions in an email message for them to answer. There is no standard or optimal model for sending questions to experts, however there are certain requirements that help to increase the response rate.

For example, the email needs to be well written, explain who we are, how we found them, what the purpose of the research is, the reason why the expert is considered a suitable sample for our research, and finally offer some kind of consideration such as sending them the research once it is completed or including their name in the acknowledgements. As researchers, we must comply with the codes of ethics and transparency that condition our work and to which our universities adhere (European Commission, 2010; 2013; 2018; CIREP, 2020).

A proposal for an email is attached below, following the example in this section:

Subject:

Survey about journalism innovation. Research project of the Pompeu Fabra University
(...)

Dear prof. xxxxxxxxxxxxxxxx,

My name is xxxxxxxxxxxxxx and I am a researcher at the DigiDoc Group (Digital Research Group on Documentation and

Interactive Communication) of the Pompeu Fabra University.

I contact you because we are conducting research on journalistic innovation, in its new formats.

To this end, we are realizing short interviews with experts in this field, as is with your case, and that is why we are sending you this email.

The interview consists of these two questions, for which your answer may consist of one or two lines of text:

1. How would you define, or what does it mean to you, the concept of "journalistic innovation"?

2. What do you consider to be the most important or significant new journalistic format (or formats) for current or future journalism?

To the experts who participate by answering at least one of the questions, once the research is finished, we will send you a copy of it in PDF format.

In addition, all the experts who participate in this study will appear in the annex (name and institutional affiliation).

To answer the survey, you can copy the questions and answer in a separate document or in the body of the email, whatever you prefer.

For any questions or clarifications about this Research please contact me without hesitation.

Kindly receive a cordial greeting, thank you very much in advance for your collaboration.

(...)

Once we have received the experts' responses, the next step is to analyse the content of the interviews, using the qualitative analysis tool NVivo.

The process for coding the interviews and the explanation of the two ways of obtaining interview data with this software, i.e. from the tag cloud service and from the tree system resource, is documented below.

Let's assume that we have managed to interview 19 professionals about new journalistic formats as a result of our scoping review. The first thing we will have to do is to dump all the interviews into NVivo, either in Word, notepad or pdf format. To do this, we will go to the Nvivo website, register (paid version, trial version) and create a project from scratch.



Image 1. Interface of the main page of the NVivo tool once registered. To access NVivo, click on the following link: <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>

Go to the tab "Create a new project". A new window will open, and we will

have to fill in the data for the new project.

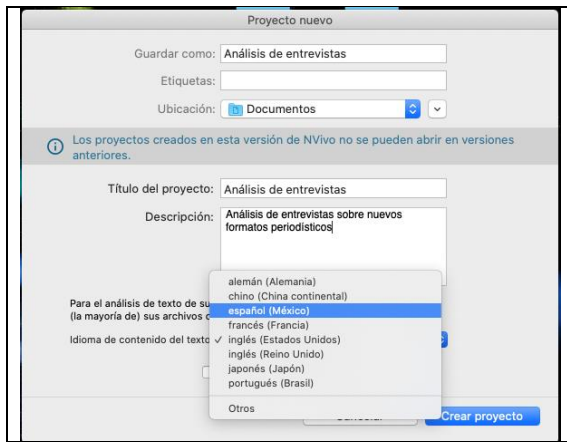


Image 2. Interface of the Nvivo tool in the process of registering a new project. The image shows an example of the project title and description. The language of the text content is also selected, so that the tool identifies it in its original language. In this case, let us imagine that the interviews obtained are in Spanish.

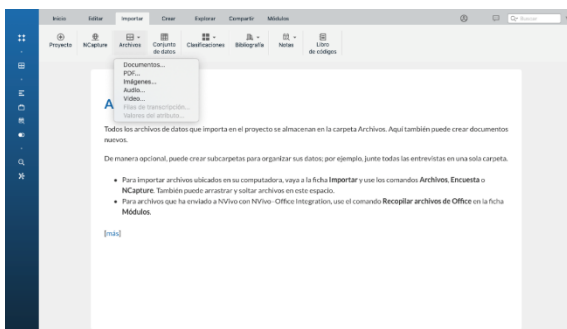


Image 3. Nvivo tool interface. In the import tab we will have to upload the interviews so that they are registered in our project.

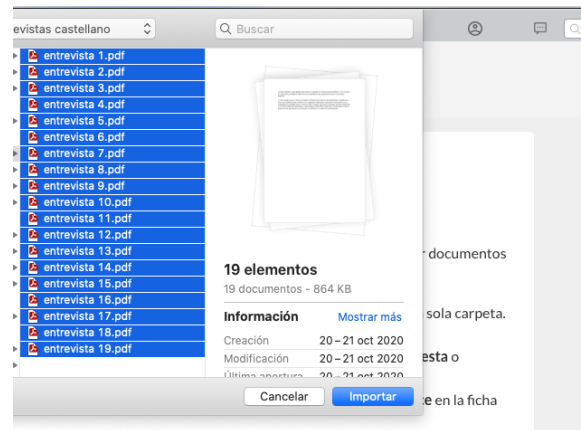


Image 4. Nvivo tool interface. This image shows the selection of the 19 interviews in pdf format that will be imported into our project.

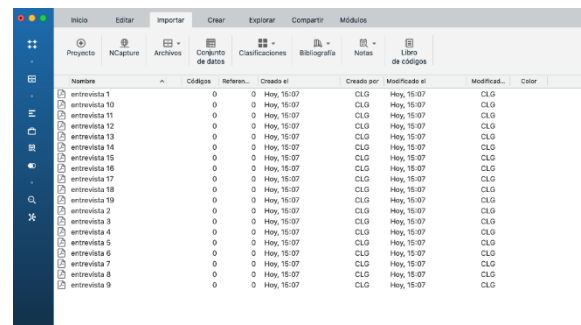


Image 5. List of the interviews already incorporated for use within the NVivo tool.

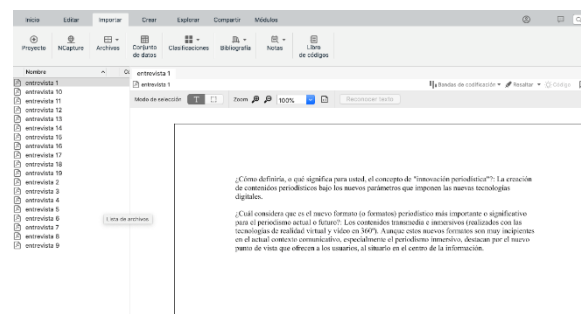


Image 6. When we select one of the interviews uploaded to the tool, the transcript of the selected interview is shown on the right side.

Once we had dumped all the interview texts into the Nvivo software,

we went on to identify the most interesting statements and to classify them by codes.

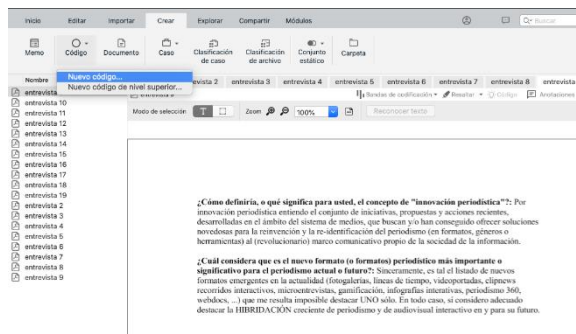


Figure 7. Steps to thematically code the interviews. We select the interview we want to code and create a new code.

The process of selection and thematic categorisation (creation of a new code) is carried out on all the interviews. In this way we can group all the statements of the interviewed experts into different themes.

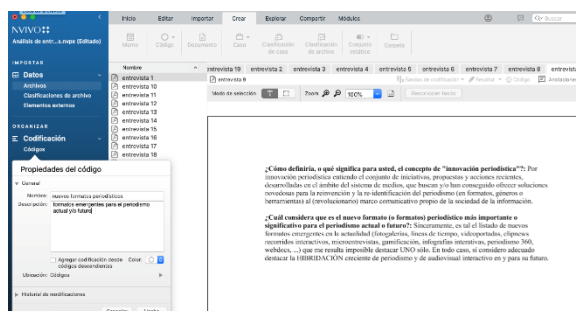


Image 8. Once the code has been created, we give it properties. This is useful to know exactly what the created code represents. This is mainly to avoid losing the sense of thematic categorisation if we work with many similar codes.

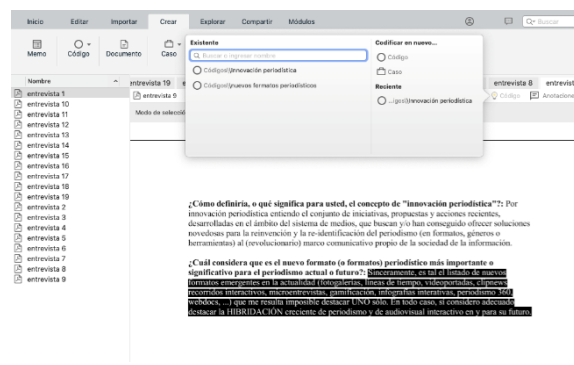


Image 9. This shows the selection of one of the most interesting statements made by interviewee 1 and its subsequent thematic classification. In this case the code is "new journalistic formats". When we go to the code "new journalistic formats" the underlined statement will appear, i.e. from "Sincerely is such a list of new formats (...)" to "(...) of interactive audiovisual in and for its future."

From our analysis of the interviews we obtain in this case two codes (but there could have been more if we had wanted to be more specific) that group the statements of the 19 interviewees. In our example these codes have been divided into:

- Journalistic innovation
- Journalistic formats

In the following, we show how to work with the codes and identify the results. To do so, we will take as a reference the code "new journalistic formats". The following image shows the two codes, and specifically the statements selected in this case for "new journalistic formats". Once we deploy this code, all the statements of the interviewees that we previously coded are located.

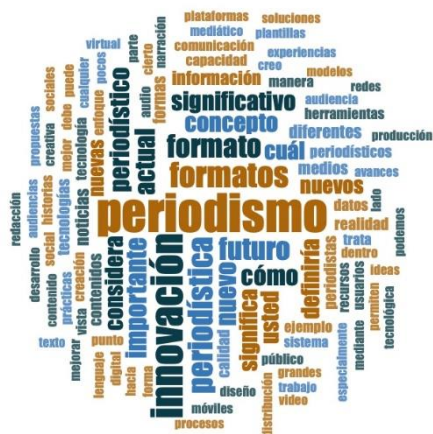


Image 14. The word cloud of the code "new journalistic formats" is shown.

This tag cloud reflects the most recurrent terms in the interviewees' statements. The word cloud is formed by frequency of repetition of terms. This tool helps us to identify the most salient themes in the interviewees' statements, thus helping us to do deeper coding on the content of the interviews, or even to identify patterns of responses.

Another of Nvivo's outstanding tools is the "Word Tree". The word tree helps us to identify statements from interviewees by considering a specific term. Let's imagine that we are still working with the code "new journalistic formats" and we want to know what the experts said about "formats". In that case, we have the following possibility shown below.

The first thing to do is to go back to the word count resource (see images 11 and 12), select "unsaved query" and enter the term "formats" in the box.

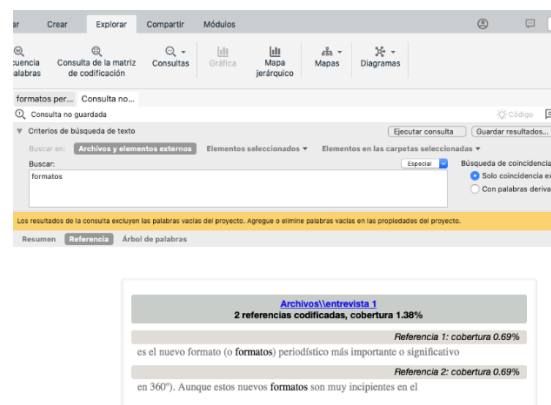


Image 15. The statements coded as "new journalistic formats" are shown, more specifically, those that include the word formats.

Once this has been done, we will be shown all the statements that were coded as "new journalistic formats" and that have a sentence that includes the word formats. Once this is done, we will have to select the "Word tree" tab.

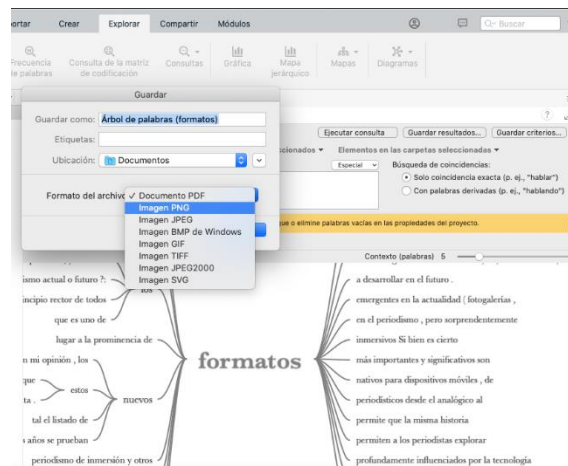


Image 16. The interface showing the word tree of the code word "new journalistic formats" and more specifically of all those statements that include the term "formats".

The interface showing the resulting word tree is shown.

Conclusions

In this chapter we have explored scoping reviews and the qualitative research software NVivo as a methodological approach to interview development. It is a systematic process divided into two blocks: (1) choice of interviewees (2) content analysis of the interviews that will facilitate the work of the researchers.

We consider that these two tools can be very useful for researchers, not only as instruments to identify experts and analyse their statements, but also to have a greater methodological support in the process of developing the interview study.

Moreover, this methodological proposal presented here has already been tested in some research studies with very interesting results (Lopezosa et al 2021b) and stands out for being scalable and applicable to any type of study in which interview-based data are collected.

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