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CURRENT TEACHING SITUATION AND POSSIBILITIES OF OMBROTHERMIC DIAGRAM AS DIGITAL SOURCE

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The main purpose of the present paper is to check how fits Geography technical basis with technological offer available on the Net, having in mind freeware or open source apps only; And, if needed, to design and to build a free digital resource in order to bridge that gap.

For us, the starting point is the tradeoff between time spent and scientific accuracy in the classroom. Regardless of the academic level deemed, every teacher is facing this sensitive issue: the longer technical or epistemological questions requires the less contents can be taught. So, in fact, curricular thoroughness tips the balance towards itself, weakening the technical and epistemological aspects. In such context, the specific didactics, such as in the case of Geography, seek new forms of teaching and learning in the ICT world that allows to achive at least: an active role of the students, according to Ausubel, an analytic defiance, in the terms of Vygotsky, and a efficient man-machine interaction, retaking Licklider's ideas.

Three are the main reasons for which the ombrothermic diagram has been chosen: its widespread use among scientific-didactics community related to Geography; its usefulness in order to merge physical and human aspects; and its procedimental development and analytical possibilities. Oddly Enough, it's possible to find semantic mistakes, even in the principal WEB resources, where frequently its offered explanations and tips about ombrothermic diagrams under other concepts like climatic diagram; and, sometimes, with an unacceptable lack of precision in the construction of the technique.

Ombrothermic diagrams were developed, initially, to analyze the climatic comfort of places. Thus, the physical variables can be used here in a regional sense to understand the link between human and natural aspects. Due to that, its use can be connect to the modes of life, in the french tradition, and locational approaches, broaden its scope significantly.

About method references, one can find a great quantity and variety of them. But its quality is not always as good as expected. Whe should point out the following cases: Intituto Geográfico Nacional and Fundación Española para la Ciencia y la Tecnología. In both cases, technical elements are dealed in a good way. In any cases, our analysis of more widespreaded resources in the Net allows us to set a typology of inaccuracies and lacks: in most of the cases, metadata are not controlled explicit nor implicit, so it's possible to find resources that teach or assist in the process without references to places, date or data origin, making the result weaker than it should be; also usual, analysis and design tends to be somehow arbitraries: no indicator, as usual Gaussen index, is considered rainfall and temperature, so visual aesthetic and graphical analysis are missed; in the cases were an app of some kind is offered, the interactivity or simulation don't take advantage of device capabilities, making it boring to put data in and not providing statistics on the fly; finally, data outputs are considered only in rare ocassions, so at the end of the build process only the visual memory or an screen capture can be considered.

Because of this, the second part of the paper discusses and proposses a new application that settles all of that, and follows a normalized tutorial structure (Martínez Romera, 2012, pp. 77-88). So, a conceptual definition and a basic but correct guide of processing and analysis, are the initial conditions to establish a good practice for this technique: explicit control and warnings over metada variables, a wide array of statistics on the fly (like Köppen classification, till third letter in our proposal) that would make easier and enriched the analysis, and a better data output by offering a PNG image that can be easily printed or included in documents.

Diagrom (http://webpersonal.uma.es/~danmarrom/Cligram/s/climograma.php?op=2), our little application, is organized in three parts: tutorial, in a classical reference way, where four main questions are dealed with: what are they?, how are they built?, what can we learn from them?, and a little reference about other resources; consult data base assistant, using the data available (at the moment, historical series from 1943 to 2011 of the Málaga airport's weather station), making it easy to see how it works; finally, a creation assistant, where metadata, data and graphic parameters of representation must be put in or tweaked.

In the last case, metadata requires three variables (place, date and source) and considers two more aspects for future development (link to data source and comments); with them correctly filled, there are several control and restrictions implemented, two new areas shows: data and graphical options. The earlier is divided in two sub-areas: data table and statistics; the first is where one must put in the rainfall and temperature data from January to December, the second shows relevant calculus about the data being filled (mean temperature, total rainfall, Köppen climatic classification, coldest, driest and wettest moth...). A small control quality about data is implemented here with

corresponding advises too, so no void cells are allowed or negative numbers for rainfall, for example. The later part, graphical options, allows the user to tweak very basic output options (mainly line marks and plot rainfall as line rather than bars).

In conclusion, we think that Internet is a powerful resource for almost anything scientific issue or element, but its overwhelming and everlasting wealth, as we have tried to show in these lines, using as support the ombothermic diagram, not always implies a reference quality. Because of that, working to establish good scientific practices in some Internet corners is as useful as needed. We hope that this proposal may be useful to support in future contributions interested on epistemological, technical and didactical possibilities of Internet applied to Didactics of Geography.