8th International Conference on the Anthropological Theory of the Didactic
CITAD 8 – Barcelona, January 19-23, 2026

Research praxeologies in the Anthropological Theory of the Didactic

Presentation and scientific theme

The Anthropological Theory of the Didactic (ATD) currently plays a prominent role in international research in didactics. Since 2005, seven international conferences have been organised in different locations of Spain and France.

Like the preceding ones, this conference brings together researchers interested in the ATD and aims to achieve the following objectives:

- Establishing an updated overview of the results and progress in the ATD with regard to both basic research and the development of education systems, including teacher education
- Developing a research programme around the most relevant open problems, either related to difficulties affecting education systems, or the development of didactics as a scientific discipline
- Identifying and studying the specific problems raised by the extension of the ATD's conceptual and methodological tools to other fields

This 8th conference will also be an opportunity to further engage in the theoretical and methodological debate by discussing the research praxeologies developed within the framework of the ATD. Contributions are thus expected to highlight the research praxeologies mobilised, explaining the uses of ATD concepts and tools. In so doing, CITAD8 will provide an opportunity to collectively examine questions such as: What does doing research within the ATD involve? What are the praxeological characteristics of the research conducted within the ATD?

CITAD8 is organised around 3 main axes.

Axis 1: Society and the curriculum problem: enquiring and questioning works
Coordinators: Annie Bessot, Julia Pilet, Pedro Nicolas, Carl Winsløw.

A foundational and original aspect of the anthropological approach to didactics is to consider, as part of its research object, the processes and results of didactic transposition, in the sense of Chevallard (1985). This means that didactic research considers curricula as subject to change and variations, rather than as a simple, given context for the study of didactic processes in institutions. Here, the word "curriculum" is not only to be taken as referring to official declarations of what is to be taught, but also includes works, texts and other media which are prescribed, authorized or effectively used. "Textbooks" are the traditional form of such media. The works to be questioned include also the scholarly works, which are considered references and starting points of the didactic transposition. Works are naturally not to be confused with media, so that "Euclidean geometry" is not limited to what is explicit in the antique text

attributed to Euclid. Rather, questioning the works included in and referred to by the curriculum involves the big questions of what works are to be studied, how, and why.

ATD based research has taken, and takes, several different angles on the curriculum problem (Gascón & Nicolás, 2023):

- Descriptive studies: how specific works are included in curricula and/or treated in different textbooks for a given school system (e.g. González-Martin et al., 2013; Pilet, 2015; Wijayanti, 2017) or comparing different school systems (e.g. Artigue & Winsløw, 2010, Bessot & Comiti, 2013; Chaachoua et al., 2024).
- Retrospective studies: how specific works have been prescribed and treated in a given school system at different points in time (e.g. Wijayanti & Bosch, 2018; Strømskag & Chevallard, 2022), and how this explains the working of current school systems.
- Prospective studies: theoretical or experimental research on alternative curricula (or elements of curricula), understood as regulations of how the study of works is organised in a given school system (e.g. Barquero, 2023).

Those studies are typically made from a certain reference point of view, which can be an alternative epistemological model for the works considered or, more generally, a whole alternative didactic paradigm (which may include not only an alternative epistemological model, but also alternative didactic ends and didactic means). Notice that those studies can take into account the different levels of didactic codeterminacy (Chevallard, 2002), for example, in describing how a school system works (descriptive analysis) or worked (retrospective analysis), and in studying how certain curricular changes could affect the work of school systems (prospective analysis).

This axis thus calls for papers which consider the curriculum problem from very different kinds of analyses. We encourage contributions which reflect explicitly on the way in which those analyses are carried out (the research praxeologies), such as the role played by the levels of didactic codeterminacy, reference epistemological model, etc.

References

Artigue, M. and Winsløw, C. (2010). International comparative studies on mathematics education: a viewpoint from the anthropological theory of didactics. *Recherches en Didactique des Mathématiques* 30 (1), 47-82. https://revue-rdm.com/2010/international-comparative-studies/

Barquero, B. (2023). Mathematical modelling as a research field: transposition challenges and future directions. In: Hodgen, J. et al. (Eds), *Proceedings of the Twelfth Congress of the European Society for Research in Mathematics Education* (*CERME12*) (pp. 6-30). Free University of Bozen-Bolzano and ERME. https://hal.science/hal-04427884v1/document

Bessot, A., & Comiti, C. (2013). Apport des recherches comparatives internationales aux recherches en didactique des mathématiques. Le cas de la France et du Viêt Nam [The contribution of international comparative studies to mathematics education research the case of France and Vietnam]. *Recherches en Didactique des Mathématiques*, 33(1), 45-77. https://revue-rdm.com/2013/apport-des-etudes-comparatives/

Chaachoua, H., Bessot., A., Barquero, B., Pilet, J., Mizoguchi, T., Kaspary, D., & Ai Quoc, N. (2024). A comparative study of the teaching of quadratic equations in five curricula: Brazil, France, Japan, Spain and Vietnam. *Recherches en Didactique Des Mathématiques*, 44(1), 91–135. https://revue-rdm.com/2013/apport-des-etudes-comparatives/

Chevallard, Y. (1985). *La transposition didactique. Du savoir savant au savoir enseigné*. Grenoble : La Pensée Sauvage.

Chevallard Y. (2002). Organiser l'étude. 3. Écologie et régulation. In J.L. Dorier (Ed.), *Actes de la XIème École d'Été de Didactique des Mathématiques* (pp. 41–56). La Pensée Sauvage. http://yves.chevallard.free.fr/spip/spip/IMG/pdf/Organiser_l_etude_3.pdf

Chevallard, Y. (2021). La question curriculaire à la lumière de la TAD : défi praxéologique et questionnement du monde [The curricular question in the light of the ATD: praxeological disfigurement and questioning the world]. In H. Chaachoua et al. (Eds.), *Actes XXe école d'été de didactique des mathématiques* (pp. 93-112). Editions La pensée sauvage. https://revue-rdm.com/ouvrage/nouvelles-perspectives-en-didactique-le-point-de-vue-de-leleve-questions-curriculaires-grandeur-et-mesure

Gascón, J., & Nicolás, P. (2023). Limits and transforming power of didactics. In P. Drijvers, C. Csapodi, H. Palmér, K. Gosztonyi, & E. Kónya (Eds.), *Proceedings of the Thirteenth Congress of the European Society for Research in Mathematics Education* (*CERME13*) (pp. 3144–3151). Alfréd Rényi Institute of Mathematics and ERME. https://hal.science/hal-04421179v1

González-Martín, A. S., Giraldo, V., & Souto, A. M. (2013). The introduction of real numbers in secondary education: an institutional analysis of textbooks. *Research in Mathematics Education*, 15(3), 230–248. https://doi.org/10.1080/14794802.2013.803778

Pilet, J. (2015). Réguler l'enseignement en algèbre élémentaire par des parcours d'enseignement différencié. *Recherches en Didactique des Mathématiques*, 35(2), 273–312. https://revue-rdm.com/2015/reguler-l-enseignement-en-algebre/

Strømskag, H., & Chevallard, Y. (2022). Elementary algebra as a modelling tool: a plea for a new curriculum. *Recherches en Didactique des Mathématiques*, 42(3), 371–409. https://revue-rdm.com/2022/elementary-algebra-as-a-modelling-tool-a-plea-for-a-new-curriculum/

Bosch, M., Vu-Nhu, TH., Wijayanti, D. (2023). Curriculum reforms and the construction of the knowledge to be taught. In: Shimizu, Y., Vithal, R. (Eds.) *Mathematics Curriculum Reforms Around the World*. New ICMI Study Series. Springer, Cham. https://doi.org/10.1007/978-3-031-13548-4_7

Axis 2: Society and the curriculum problem: enquiring and questioning the world

Coordinators: Michèle Artaud, Pierre Job, Nathan Lombard, Yves Matheron, Tomás Ángel Sierra.

The apparent tension between the curricular problem and the possibility of investigating the world within teaching institutions poses a crucial question for the functioning of our societies. The key problem today, concerning the future of the paradigm of questioning the world, can be

formulated as follows: given a type of teaching institutions *I*, what are the systems of conditions and constraints whose prevalence in *I* allows, or even favours (or, on the contrary, hinders, or even prevents) the existence in *I* of the paradigm of questioning the world (Chevallard & Strømskag, 2022)? In other words, what is the ecology of this paradigm? Contributions to this axis may are expected to address the ecology of questioning the world. For example, by uncovering the interactions between the different levels of the didactic co-determination scale (Bosch et al., 2019), by questioning the viability of study and research paths within teaching institutions (Barquero et al., 2020; Matheron & Méjani, 2022) or, more generally, by questioning the allegiance of most teaching institutions to the paradigm of the visiting works.

Thus, we can examine the question of the didactic engineering of questioning the world (Chevallard, 2011) and ask to what extent study and research paths are good didactic engineering devices for questioning the world (Barquero & Bosch, 2015). Contributions to Axis 2 may also report on phenomena brought to light through such didactic engineering, for example concerning tensions between paradigms or phenomena of transition from the paradigm of visiting works to the paradigm of questioning the world (Lombard, 2024). From this point of view, the transformation of the traditional didactic time of visiting the works, which sees works programmed and studied in quick succession, into a time of study and research, whose slower progress is measured by the succession of research questions, is a phenomenon of interest.

It should be noted that the study of works mobilized within the questioning of the world is no longer a study that claims to be complete, but one that attempts to reveal what, of the structure, functioning and utility of the work in question, might be useful to the study of a question *Q*, according to an epistemology of incompletion that the papers in this axis may help to characterise. For example, we might question the gestures necessary for bringing works (questions, $A^{\Diamond}$ answers, data, etc.) into the milieu of the Herbartian schema, making them functional for carrying out the study of a question *Q*, especially by mobilising the moments of study and the dialectics of inquiry, notably the dialectic of media and milieu (Artaud, 2013; Chevallard, 2006). We might also ask what kind of curricula would enable inquiring into the world to exist in didactic or archidactic institutions (Artaud, 2021).

Last but not least, papers in this area may not be limited to a single domain of reality, whatever that may be (mathematical, physical, social, digital, didactic, ecological, economic, etc.). Indeed, questioning the world typically leads to investigations of a codisciplinary nature. In the same spirit, contributions may also concern a non-school context, which would make it possible, for example, to question more generally the influence played by the institutions that typically house didactic systems based on questioning (Gazzola et al., 2021).

References

Artaud, M. (2021). Des grandeurs et de leur mesure : besoins praxéologiques de la position de professeur et leur satisfaction. In Chaachoua, H., Bessot, A., Barquero, B., Coulange, L., Cirade, G., Job, P., Mathé, A.-C., Pressiat, A., Schneider, M., & Vandebrouk, F. *Nouvelles perspectives en didactique : le point de vue de l'élève, uestions curriculaires, grandeur et mesure - XX^{e} école d'été de didactique des mathématiques* Vol. 1. Éditions La pensée sauvage.

Barquero, B., & Bosch, M. (2015). Didactic Engineering as a Research Methodology : From Fundamental Situations to Study and Research Paths. In A. Watson & M. Ohtani (Éds.), *Task Design In Mathematics Education* (pp. 249-272). Springer International Publishing.

Barquero, B., Bosch, M., Florensa, I., & Ruiz-Munzón, Noemí, N. (2020). How to integrate study and research paths into university courses ? Teaching formats and ecologies. In Hausberger, T., Bosch, M., & Chellougi, F. (Eds.). INDRUM2020 Proceedings (pp. 167-178). University of Carthage and INDRUM.

Bosch, M., Chevallard, Y., García, F. J., & Monaghan, J. (Éds.). (2019). *Working with the Anthropological Theory of the Didactic in Mathematics Education : A comprehensive casebook*. Routledge.

Chevallard, Y. (2006). Steps towards a New Epistemology in Mathematics Education. In Bosch, M. (Ed.), *European Research in Mathematics Education IV: Proceedings of the Fourth Congress of the European Society for Research in Mathematics Education (CERME 4, February 17 - 21, 2005*). Sant Feliu de Guíxols, Spain: FUNDEMI IQS – Universitat Ramon Llull and ERME, 21-30.

Chevallard, Y. (2011). La notion d'ingénierie didactique, un concept à refonder, Questionnement et éléments de réponse à partir de la TAD. In C. Margolinas, M. Abboud, L. Bueno-Ravel, N. Douek, P. Gibel, F. Vandebrouck, & F. Wozniak (Eds.), *En amont et en aval des ingénieries didactiques. XVe école d'été de didactique des mathématiques* (pp. 79-105). La Pensée Sauvage Editions.

Chevallard, Y. (2015). Teaching Mathematics in Tomorrow's Society : A Case for an Oncoming Counter Paradigm. In S. J. Cho (Ed.), *The Proceedings of the 12th International Congress on Mathematical Education* (p. 173187). Springer International Publishing.

Chevallard, Y., & Strømskag, H. (2022). Conditions for a transition to the paradigm of questioning the world [English version of chapter in Portuguese : Condições de uma transição para o paradigma do questionamento do mundo]. In S. A. Almouloud, R. B. Guerra, L. M. S. Farrias, A. Henriques, & J. M. V. Nunes (Éds.), *Percursos de estudo e pesquisa à luz da teoria antropológica do didático : Fundamentos teórico-metodológicos para a formação* (Vol. 1, pp. 27-58). Editora CRV.

Gazzola, M. P., Otero, M. R., & Llanos, V. C. (2021). Evolution of a Teacher-Researcher While Developing a Co-disciplinary Study and Research Path Through Five Implementation. In B. Barquero, I. Florensa, P. Nicolás, & N. Ruiz-Munzón (Éds.), *Extended Abstracts Spring 2019* (pp. 21-28). Springer International Publishing.

Jessen, B. E. (2023). How to generate autonomous questioning in secondary mathematics teaching? *Recherches en didactique des mathématiques*, *38*(1), 1-15.

Lombard, N. (2024). On resolving the tension between visiting mathematical works and questioning the quantum world. *International Journal of Mathematical Education in Science and Technology*, 1-24.

Matheron, Y., & Méjani, F. (2022). Mudando o paradigma para o ensino da matemática: uma experiência em um sistema. *In* S. Ag Almouloud, R. Borges Guerra, L-M. Santos Farias, A. Henriques, J-M. Viana Nunes. (Organzadores). *Percursos de estudos e pesquisa à luz da teoria antropologica do didático - Fundamentos teórico-metodológicos para a formação,* (Vol. 1., pp. 59-95). Curitiba (Brasil): Editora CRV. Traduction française : Changer de paradigme pour enseigner les mathématiques

Otero, M. R., Fanaro, M. D. L. A., & Llanos, V. C. (2015). La Pedagogía de la Investigación y del Cuestionamiento del Mundo y el Inquiry : Un análisis desde la enseñanza de la Matemática y la Física. *Revista Electrónica de Investigación en Educación en Ciencias*, *8*(1), 77-89.

Axis 3: The professions

Coordinators: Thomas Hausberger, Caroline Ladage, Avenilde Romo Vazquez, Gaëtan Planchon.

The professionalisation of the teaching profession in the context of compulsory education is one of the main areas of research in the ATD. It consists in the study of either: the conditions and constraints of professionalisation, the mathematical knowledge to be taught to future teachers (Klein's second discontinuity problem), the pedagogical and didactic methods of this training within the paradigm of questioning the world, or the problems of the profession and the difficulties and questions that arise in the exercise of this profession (Chevallard & Cirade, 2009; Barquero et al, 2018; Florensa et al., 2021; Planchon & Hausberger, in press; Winsløw, 2020). With the development of vocational training in a variety of institutional contexts (including universities), research within ATD is expanding beyond compulsory education (Castela & Romo Vázquez, 2011; Manceau, 2018; Ladage et al., 2021; Paris, 2024).

The question of professionalisation is particularly relevant in view of the transformations that are constantly affecting and renewing human societies, like migrations, climate change and AI. How can the theoretical framework of ATD contribute to the understanding of societal developments in general? Without limiting itself to the teaching profession, Axis 3 is interested in ATD research on professional training, whatever the context in which it is practised, in relation to these societal issues. What didactic transpositions and what didactic situations and configurations should be considered in response? Contributions may focus on questions of professionalisation in the fields of technology, ecology, the social sphere, the inclusive society, etc. They will examine social situations on the periphery of the school system and specific professional environments, such as the evolution of engineering training in relation to ecological issues, simulation, virtual reality, artificial intelligence, craft environments, multilingual contexts, vocational training in prisons, etc.

Examples:

The transformation of professions (e.g. the profession of engineering) and the emergence of new professions (e.g. the profession of educational counsellor), requiring modifications or the identification of new professional frames of reference and requiring the modification and construction of training programmes. In particular, training in the context of digital and ecological transformations and transitions, sustainable development in general and social responsibility.

The emergence of continuous training in many professions (e.g. the professionalisation of training supervisors).

The emergence of professional training at a distance or in so-called non-privileged or very specific contexts (indigenous schools, rural schools, schools for migrant children, training in prisons).

The introduction of digital technologies in education and training as well as in the workplace (distance learning, simulation, virtual reality, mixed reality, artificial intelligence, etc.) and the training needed to support them.

References

Barquero, B., Bosch, M. & Romo, A. (2018). Mathematical modelling in teacher education: dealing with institutional constraints. *ZDM Mathematics Education*, 50, 31-43. DOI: 10.1007/s11858-017-0907-z

Castela, C., & Romo Vázquez, A. (2011). From mathematics to automatics: a study of transposition effects on the Laplace transform in engineering education. *Recherches en Didactique des Mathématiques*, 31(1), 79-130.

Chevallard, Y. & Cirade, G. (2009). Pour une formation professionnelle d'université. *Recherche et formation*, 60, 51-62. DOI : 10.4000/rechercheformation.584

Florensa, I., Bosch, M. & Gascón, J. Question-answer maps as an epistemological tool in teacher education. *J Math Teacher Educ*, 24, 203-225. DOI: 10.1007/s10857-019-09443-1

Ladage, C., Dintrich, M., Paris, H. & Péninque, S. (2021). ATD and the study of didactic and pedagogical issues in the face of the social situations of transformation that are constantly working and renewing human societies. *CITAD7: 7th International Conference on the Anthropological Theory of the Didactic*. 19-23 June 2022, Bellaterra, Barcelona, Spain. DOI:10.1007/978-3-031-55939-6_11

Manceau, C. (2018). *Vocational training in prison. Institutional transposition and the didactic environment in question*. Doctoral thesis, Aix-Marseille University, France. https://hal.science/tel-03772501

Paris, H. (2024). *Accompagner l'intégration des enjeux socio-écologiques dans la formation en école d'ingénieurs. Une recherche-intervention sur les pratiques de problématisation et de transposition didactique des enseignants*. Doctoral thesis, Aix-Marseille University, France. https://hal.science/tel-04736930v1

Planchon, G. & Hausberger, T. (in press). Developing Kleinian praxeologies: the case of the integral. *Recherches en Didactique des Mathematiques, From University Mathematics to Mathematics Education - Syntheses and perspectives*. Special issue. https://hal.science/hal-04776987v1

Winsløw, C. (2020). Professional and academic bases of university mathematics teaching for the 21st century: the anthropological approach to practice based research. In T. Hausberger, M. Bosch & F. Chellougui (Eds.), *Proceedings of the Third Conference of the International Network for Didactic Research in University Mathematics* (*INDRUM 2020, 12-19 September 2020*) (pp. 8-27). Bizerte, Tunisia: University of Carthage and INDRUM. https://hal.science/hal-03114001

Doctoral students' seminar

A seminar devoted to the presentation and discussion of doctoral projects with PhD students and experienced researchers will be organised on the first day of the conference.

Official language of the conference

To promote the internationalisation of CITAD, the plenary sessions will be held in English. The organisers call on all participants to write and deliver their communications in this language. Nevertheless, as in previous conferences, oral or poster communications in French or Spanish will be welcome. Organisers will do their best to make this trilingual organisation an enriching and profitable experience for all participants.

Dates and deadlines

January 2025	1st announcement, call for contributions
May 15, 2025	Deadline for early-bird submissions (new participants to CITAD who would like to have a first opinion on acceptance of their proposals)
July 1, 2025	Deadline for submission of proposals
September 15, 2025	Scientific committee's response Conference registration opens for all participants
November 15, 2025	Deadline for submission of revised proposals
December 20, 2025	Publication of pre-proceedings
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