

TPACK DANS LA FORMATION DES ENSEIGNANTS DES DOMAINES STEAM

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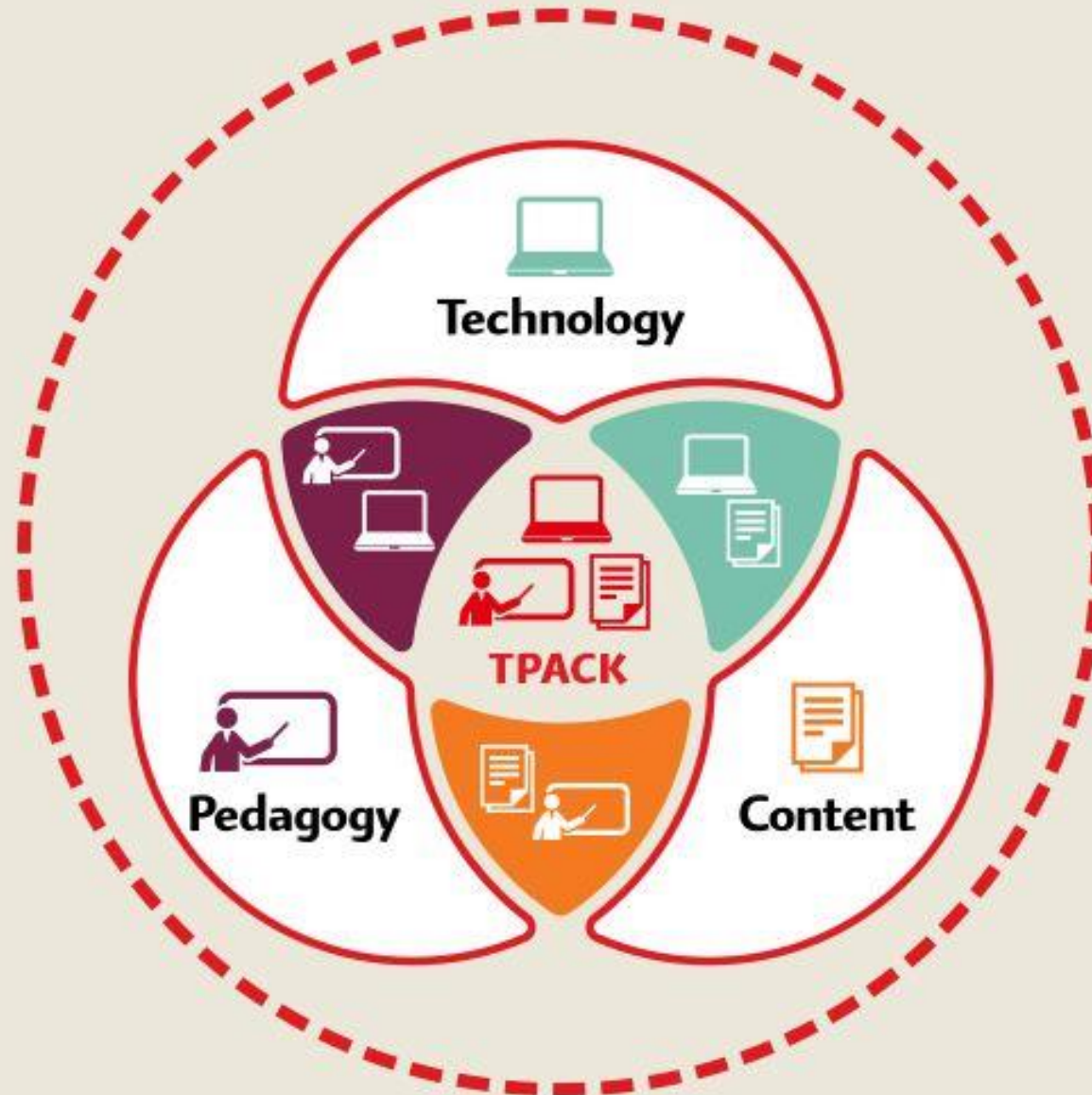


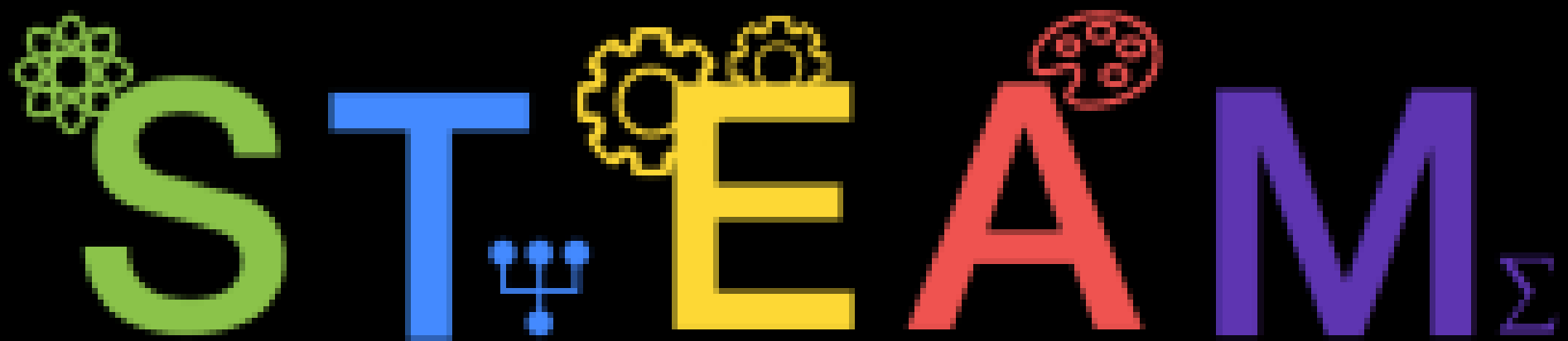
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Technological Pedagogical Content Knowledge





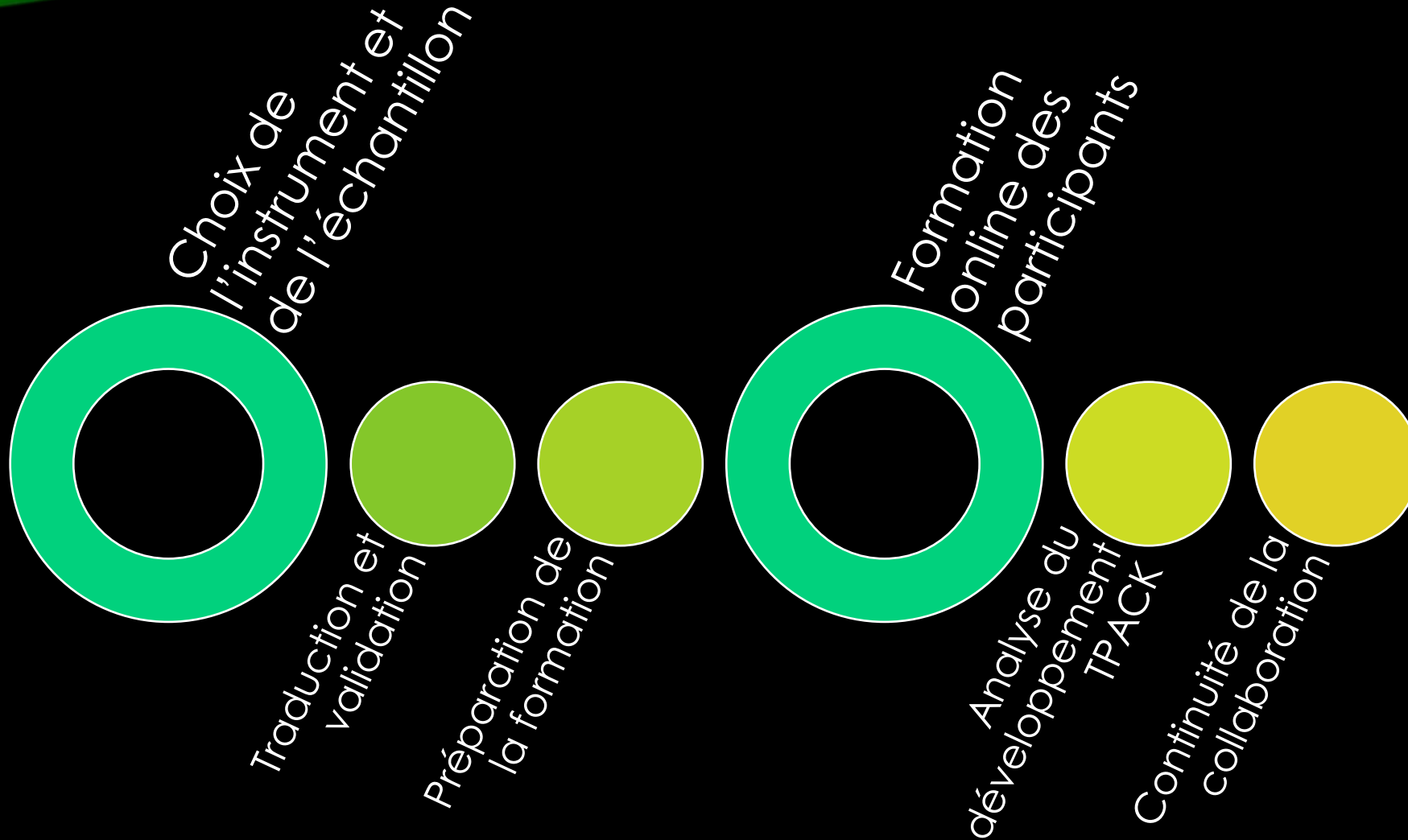
Science Technology Engineering Arts Mathematics

QUESTION ET OBJECTIFS

Quels sont les besoins professionnels en matière de technologies numériques, de contenu disciplinaire et de compétences pédagogiques (TPACK) des enseignants formateurs dans le domaine STEAM ?

1. Améliorer l'enseignement dans les domaines STEAM des enseignants formateurs et en formation au Chili.
2. Comparer le développement des enseignants en matière des TPACK au Chili et en France.

LES PHASES DU PROJET



RÉFLEXION ET COLLABORATION

- La pertinence de ce réseau de recherche se fonde sur la comparaison des contextes formatifs (Chili et France).
 - Est-il possible de concevoir une formation commune et intégrant les particularités des différents contextes ?
- Séminaire et publication ensemble.
- Formation bilatérale collaborative des nouveaux étudiants chercheurs (master, doctorat).



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Self-reported TPACK of teacher educators across six countries in Asia and Europe



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Abstract

The initial technological pedagogical and content knowledge (TPACK) model was theorised on seven clearly identified factors. However, many studies have failed to empirically identify these seven factors, and elements influencing TPACK level, such as national context, gender, and age, remain unclear. The study is focused on teacher educators' TPACK as one of the most important elements in schoolteacher training. The main goals were to test the validity of the initial TPACK seven-factor model in a cross-national analysis context and to identify factors influencing the TPACK perception. The sample was composed of 574 teacher educators coming from a total of eight schools of educational institutions from six countries. A 26-item questionnaire, based on a four-point Likert scale, investigated the seven factors of the TPACK model as independent scales. It was administered online and anonymously. A confirmatory factor analysis using the robust maximum likelihood method and Kruskal–Wallis chi-squared tests were performed. The study showed four major results: 1) a relative stability of the seven-factor model structure across countries; 2) the relative differences of university teachers' TPACK perceptions across six

Explanations in STEM Areas: an Analysis of Representations Through Language in Teacher Education

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Abstract

Constructing explanations of scientific concepts is one of the most frequent strategies used in the science classroom and is a high-leverage teaching practice. This study analysed the explanations provided by student teachers in STEM areas from a socio-materiality perspective focused on verbal and nonverbal language and representations. The study was conducted in a hybrid research format by scholars and a preservice teacher. First, the study compared the representational elements used by 86 student teachers to construct explanations about various concepts in a roleplay setting. Next, a positioning analysis was done by a preservice teacher, to a selection of five of these explanations focused on the concept of “force”. The positioning analysis highlighted the embedded voices in the construction of explanations, with a focus on the intersection between science and language. The results showed that the student teachers created explanations as static artefacts, mainly using examples, graphs and images to clarify the concepts. The voices of learners and scientists were mostly absent from the explanations, which led to the presentation of explanations in STEM areas as finished and unquestionable

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Merci de votre attention

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