

FliP-CoIn – Concept Test for Flight Physics and two cultures

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Abstract:

The Flight Physics Concept Inventory (FliP-CoIn) provides feedback to college students introductory physics courses and their teachers about naïve conceptions in fluid dynamics in the context of flight. FliP-CoIn was developed in English and German. The first test statistics including all 59 questions (=30min including demographic questions) resulted in a Cronbach's alpha for Reliability of $\alpha=.81$ (English version. German results to be published soon). Further an automatic online scoring system will be introduced.

FliP-CoIn is the first physics concept inventory which was developed concurrently in two cultures and languages. Therefore its evolution yielded many unforeseeable improvements and hurdles.

FliP-CoIn was developed because the teaching of fluid dynamics was adopted by the German Physical Society (DPG) in its newest science standards recommendations (DPG 2016).

DPG. (2016). *DPG SchulStudie - Basiskonzepte*. <https://www.dpg-physik.de/veroeffentlichung/broschueren/studien/schulstudie-2016/schulstudie-basiskonzepte.pdf>