

Inverted Classroom in Higher Education

References

- Abeysekera, L., & Dawson, P. (2015). Motivation and Cognitive Load in the Flipped Classroom: Definition, Rationale and a Call for Research. *Higher Education Research & Development*, 34(1), 1–14.
- Anderson, L. W., & Krathwohl, D. R. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.
- Aşıksoy, G., & Özdamli, F. (2016). Flipped Classroom Adapted to the ARCS Model of Motivation and Applied to a Physics Course. *Eurasia Journal of Mathematics, Science & Technology Education*, 12(6), 1589–1603.
- Barbieri, C. A., Miller-Cotto, D., Clerjuste, S. N., & Chawla, K. (2023). A Meta-Analysis of the Worked Examples Effect on Mathematics Performance. *Educational Psychology Review*, 35, 11.
- Basal, A. (2015). The Implementation of a Flipped Classroom in Foreign Language Teaching. *Turkish Online Journal of Distance Education*, 16(4), 28–37.
- Bates, S., & Galloway, R. (2012). The Inverted Classroom in a Large Enrolment Introductory Physics Course: a Case Study. *Proceedings of the HEA STEM Learning and Teaching Conference, Volume 1*.
- Bergmann, J., & Sams, A. (2012). *Flip your classroom. Reach every student in every class every day*. Eugene, OR: International Society for Technology in Education.
- Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: From the general to the applied. *Journal of Computing in Higher Education*, 26(1), 87–122. <https://doi.org/10.1007/s12528-013-9077-3>
- Betihavas, V., Bridgman, H., Kornhaber, R., & Cross, M. (2016). The Evidence for 'Flipping Out': A Systematic Review of the Flipped Classroom in Nursing Education. *Nurse Education Today*, 38, 15–21.
- Bisra, K., Liu, Q., Nesbit, J. C., Salimi, F., & Winne, P. H. (2018). Inducing Self-Explanation: a Meta-Analysis. *Educational Psychology Review*, 30, 703–725.
- Bloom, B. S. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals*. New York: Longman Group.
- Bredow, C. A., Roehling, P. V., Knorp, A. J., & Sweet, A. M. (2021). To Flip or Not to Flip? A Meta-Analysis of the Efficacy of Flipped Learning in Higher Education. *Review of Educational Research*, 91(6), 878–918.
- Calimeris, L., & Sauer, K. M. (2015). Flipping out about the Flip: All Hype or is there Hope? *International Review of Economics Education*, 20, 13–28.
- Cavanaugh, C., Gillan, K. J., Kromrey, J., Hess, M., & Blomeyer, R. (2004). The Effects of Distance Education on K-12 Student Outcomes: A Meta-Analysis. *Learning Point Associates / North Central Regional Educational Laboratory (NCREL)*. <https://eric.ed.gov/?id=ed489533>
- Chi, M. T. H., Bassok, M., Lewis, M. W., Reimann, P., & Glaser, R. (1989). Self-Explanations: How Students Study and Use Examples in Learning to Solve Problems. *Cognitive Science*, 13, 145–182.
- Chi, M. T. H., de Leeuw, N., Chiu, M.-H., & LaVancher, C. (1994). Eliciting Self-Explanations Improves Understanding. *Cognitive Science*, 18, 439–477.
- Chi, M. T. H., Kang, S., & Yaghmourian, D. L. (2017). Why Students Learn More From Dialogue- Than Monologue-Videos: Analyses of Peer Interactions. *Journal of the Learning Sciences*, 26(1), 10–50. <https://doi.org/10.1080/10508406.2016.1204546>
- Chi, M. T. H., & Wylie, R. (2014). The ICAP Framework: Linking Cognitive Engagement to Active Learning Outcomes. *Educational Psychologist*, 49(4), 219–243.
- Choi, E. M. (2013). Applying Inverted Classroom to Software Engineering Education. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 3(2), 121–125.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohen, J. (1992). A Power Primer. *Psychological Bulletin*, 112(1), 155–159.

- Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive Apprenticeship: Teaching the Crafts of Reading, Writing, and Mathematics. In L. B. Resnick (Ed.), *Knowing, Learning, and Instruction. Essays in Honor of Robert Glaser* (pp. 453–494). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Craig, S. D., Chi, M. T. H., & VanLehn, K. (2009). Improving classroom learning by collaboratively observing human tutoring videos while problem solving. *Journal of Educational Psychology*, 101(4), 779–789. <https://doi.org/10.1037/a0016601>
- Deci, E. L., & Ryan, R. M. (1993). Die Selbstbestimmungstheorie der Motivation und ihre Bedeutung für die Pädagogik. *Zeitschrift für Pädagogik*, 39(2), 223–238.
- Dinndorf-Hogenson, G. A., Hoover, C., Berndt, J. L., Tollefson, B., Peterson, J., & Laudenbach, N. (2019). Applying the Flipped Classroom Model to Psychomotor Skill Acquisition in Nursing. *Nursing Education Perspectives*, 40(2), 99–101.
- Dipon, C., & Dio, R. (2024). A Meta-Analysis of the Effectiveness of Video-Based Instruction on Students' Academic Performance in Science and Mathematics. *International Journal on Studies in Education*, 6, 732–746. <https://doi.org/10.46328/ijonse.266>
- Fally, I., & Winter, C. (2020). Didaktische Flipped Classroom-Muster: Möglichkeiten für die Geisteswissenschaften. In G. Brandhofer, J. Buchner, C. Freisleben-Teutscher, & K. Tengler (Eds.), *Tagungsband zur Tagung Inverted Classroom and beyond 2020* (pp. 268–273). Norderstedt: Books on Demand GmbH.
- Farmus, L., Cribbie, R. A., & Rotondi, M. A. (2020). The Flipped Classroom in Introductory Statistics: Early Evidence From a Systematic Review and Meta-Analysis. *Journal of Statistics Education*, 28(3), 316–325. <https://doi.org/10.1080/10691898.2020.1834475>
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active Learning Increases Student Performance in Science, Engineering, and Mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410–8415.
- Gannod, G. C., Burge, J. E., & Helmick, M. T. (2008). Using the Inverted Classroom to Teach Software Engineering. *2008 ACM/IEEE 30th International Conference on Software Engineering*, 777–786. <https://doi.org/10.1145/1368088.1368198>
- Ge, L., Chen, Y., Yan, C., Chen, Z., & Liu, J. (2020). Effectiveness of Flipped Classroom vs Traditional Lectures in Radiology Education: A Meta Analysis. *Medicine*, 99(40), 1–10.
- Gostelow, N., Barber, J., Gishen, F., & Berlin, A. (2018). Flipping Social Determinants on its Head: Medical Student Perspectives on the Flipped Classroom and Simulated Patients to Teach Social Determinants of Health. *Medical Teacher*, 40(7), 728–735.
- Handke, J. (2013). Beyond a Simple ICM. In J. Handke, N. Kiesler, & L. Wiemeyer (Eds.), *The Inverted Classroom Model. The 2nd German ICM-Conference – Proceedings* (pp. 15–21). München: Oldenbourg.
- Handke, J., & Sperl, A. (Eds.). (2012). *Das Inverted Classroom Model. Begleitband zur ersten deutschen ICM-Konferenz*. München: Oldenbourg.
- Hattie, J., & Timperley, H. (2007). The Power of Feedback. *Review of Educational Research*, 77(1), 81–112.
- Hattie, J. A. C. (2009). *Visible Learning*. London, New York: Routledge.
- He, W., Holton, A. J., & Farkas, G. (2018). Impact of Partially Flipped Instruction on Immediate and Subsequent Course Performance in a Large Undergraduate Chemistry Course. *Computers & Education*, 125, 120–131.
- Hernández, V. D. C. F., Rodríguez, M. A. Y., & Rivas, Y. C. (2021). Inverted Classroom with Learning Landscapes in the Teaching of Music. *International Journal of Physics & Mathematics*, 4(1), 8–16.
- Hew, K. F., & Lo, C. K. (2018). Flipped Classroom Improves Student Learning in Health Professions Education: A Meta-Analysis. *BMC Medical Education*, 18(38), 1–12.
- Heyborne, W. H., & Perrett, J. J. (2016). To Flip or Not to Flip? Analysis of a Flipped Classroom Pedagogy in a General Biology Course. *Journal of College Science Teaching*, 45(4), 31–37.
- Hibbard, L., Sung, S., & Wells, B. (2016). Examining the Effectiveness of a Semi-Self-Paced Flipped Learning Format in a College General Chemistry Sequence. *Journal of Chemical Education*, 93, 24–30.
- Hsieh, J. S. C., Wu, W.-C. V., & Marek, M. W. (2016). Using the Flipped Classroom to Enhance EFL Learning. *Computer Assisted Language Learning*, 30(1–2), 1–25.

- Hu, R., Gao, H., Ye, Y., Ni, Z., Jiang, N., & Jiang, X. (2018). Effectiveness of Flipped Classrooms in Chinese Baccalaureate Nursing Education: A Meta-Analysis of Randomized Controlled Trials. *International Journal of Nursing Studies*, 79, 94–103.
- Jenkins, S. (2015). Flipping the Introductory American Politics Class: Student Perceptions of the Flipped Classroom. *PS: Political Science & Politics*, 48(4), 607–611.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). Cooperative Learning Returns to College: What Evidence is There that it Works? *Change: The Magazine of Higher Learning*, 30(4), 26–35.
- Kapur, M., Hattie, J., Grossman, I., & Sinha, T. (2022). Fail, Flip, Fix, and Feed – Rethinking Flipped Learning: A Review of Meta-Analyses and a Subsequent Meta-Analysis. *Frontiers in Education*, 7, 956416.
- Kim, M. K., Kim, S. M., Khera, O., & Getman, J. (2014). The Experience of Three Flipped Classrooms in an Urban University: an Exploration of Design Principles. *The Internet and Higher Education*, 22, 37–50.
- Kim, S. H., & Lim, J. M. (2021). A Systematic Review and Meta-Analysis of Flipped Learning among University Students in Korea: Self-directed Learning, Learning Motivation, Efficacy, and Learning Achievement. *The Journal of Korean Academic Society of Nursing Education*, 27(1), 5–15.
- Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment. *The Journal of Economic Education*, 31(1), 30–43.
- Lambach, D., & Kärger, C. (2021). Inverting the Classroom in Large-Enrollment Classes: A Beginner's Guide. *Journal of Political Science Education*, 17(4), 641–652.
- Lax, N., Morris, J., & Kolber, B. J. (2016). A Partial Flip Classroom Exercise in a Large Introductory General Biology Course Increases Performance at Multiple Levels. *Journal of Biological Education*, 51(4), 1–15.
- Lemmer, C. A. (2013). A View from the Flip Side: Using the "Inverted Classroom" to Enhance the Legal Information Literacy of the International LL.M. Student. *Law Library Journal*, 105(4), 461–491.
- Li, B.-Z., Cao, N.-W., Ren, C.-X., Chu, X.-J., Zhou, H.-Y., & Guo, B. (2020). Flipped Classroom Improves Nursing Student's Theoretical Learning in China: A Meta-Analysis. *PLoS ONE*, 15(8), e0237926.
- Liu, Y.-Q., Li, Y.-F., Lei, M.-J., Liu, P.-X., Theobald, J., Meng, L.-N., Liu, T.-T., Zhang, C.-M., & Jin, C.-D. (2018). Effectiveness of the Flipped Classroom on the Development of Self-Directed Learning in Nursing Education: A Meta-Analysis. *Frontiers of Nursing*, 5(4), 317–329.
- Lopes, A. P., & Soares, F. (2018). Perception and Performance in a Flipped Financial Mathematics Classroom. *The International Journal of Management Education*, 16, 105–113.
- Love, B., Hodge, A., Grandgenett, N., & Swift, A. W. (2014). Student Learning and Perceptions in a Flipped Linear Algebra Course. *International Journal of Mathematical Education in Science and Technology*, 45(3), 317–324.
- Loviscach, J. (2020). Digitalisierung der Hochschullehre: Was wissen wir wirklich? In R. Bauer, J. Hafer, S. Hofhues, M. Schiefner-Rohs, A. Thillosen, B. Volk, & K. Wannemacher (Eds.), *Vom E-Learning zur Digitalisierung. Mythen, Realitäten, Perspektiven* (pp. 84–100). Münster, New York: Waxmann.
- Lyman, F. T. (1981). The Responsive Classroom Discussion: The Inclusion of All Students. In A. S. Anderson (Ed.), *Mainstreaming Digest* (pp. 109–113). College Park, MD: College of Education, University of Maryland.
- Means, B., Toyama, Y., Murphy, R., & Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers College Record*, 115(3), 1–47. <https://doi.org/10.1177/016146811311500307>
- Mennella, T. A. (2016). Comparing the Efficacy of Flipped vs. Alternative Active Learning in a College Genetics Course. *The American Biology Teacher*, 78(6), 471–479.
- Morin, B., Kecskemety, K. M., Harper, K. A., & Clingan, P. A. (2013). The Inverted Classroom in a First-Year Engineering Course. *Proceedings of the 120th ASEE Annual Conference & Exposition, Atlanta, Georgia*, 23.1220.1–23.1220.11.
- Muller, D., Bewes, J., Sharma, M., & Reimann, P. (2008). Saying the wrong thing: improving learning with multimedia by including misconceptions. *Journal of Computer Assisted Learning*, 24(2), 144–155. <https://doi.org/10.1111/j.1365-2729.2007.00248.x>
- Muller, D. A., Sharma, M. D., Eklund, J., & Reimann, P. (2007). Conceptual change through vicarious learning in an authentic physics setting. *Instructional Science*, 35(6), 519–533. <https://doi.org/10.1007/s11251-007-9017-6>

- Nader, M., & Dziuban, C. D. (2021). Analysis of Student Success and Retention in a Well Engaged Large Scale Flipped Engineering Classroom. *Proceedings of the 2021 ASEE Southeast Section Conference*.
- Neiske, I., & Spannagel, C. (in press). Szenarien digitaler Lehre: online, blended, hybrid und inverted. In N. Vöing (Ed.), *Praxishandbuch Hochschullehre (Bnd 2)*. Bielefeld: transcript.
- Newton, P. M., & Salvi, A. (2020). How Common Is Belief in the Learning Styles Neuromyth, and Does It Matter? A Pragmatic Systematic Review. *Frontiers in Education*, 5. <https://doi.org/https://doi.org/10.3389/feduc.2020.602451>
- Nielsen, P. L., Bean, N. W., & Larsen, R. A. A. (2018). The Impact of a Flipped Classroom Model of Learning on a Large Undergraduate Statistics Class. *Statistics Education Research Journal*, 17(1), 121–140.
- Noetel, M., Griffith, S., Delaney, O., Sanders, T., Parker, P., del Pozo Cruz, B., & Lonsdale, C. (2021). Video Improves Learning in Higher Education: A Systematic Review. *Review of Educational Research*, 91(2), 204–236. <https://doi.org/10.3102/0034654321990713>
- Özbay, Ö., & Çınar, S. (2021). Effectiveness of Flipped Classroom Teaching Models in Nursing Education: A Systematic Review. *Nurse Education Today*, 102, 104922.
- Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning Styles: Concepts and Evidence. *Psychological Science in the Public Interest*, 9(3), 105–119. <https://doi.org/https://doi.org/10.1111/j.1539-6053.2009.01038.x>
- Phillips, J., & Wiesbauer, F. (2022). The Flipped Classroom in Medical Education: A New Standard in Teaching. *Trends in Anaesthesia and Critical Care*, 42, 4–8.
- Pintrich, P. R. (1999). The Role of Motivation in Promoting and Sustaining Self-Regulated Learning. *International Journal of Educational Research*, 31, 459–470.
- Praetorius, A.-K., Klieme, E., Herbert, B., & Pinger, P. (2018). Generic Dimensions of Teaching Quality: the German Framework of Three Basic Dimensions. *ZDM*, 50, 407–426.
- Prenzel, M., Kristen, A., Dengler, P., Ettl, R., & Beer, T. (1996). Selbstbestimmt motiviertes und interessiertes Lernen in der kaufmännischen Erstausbildung. *Zeitschrift für Berufs- und Wirtschaftspädagogik (Beiheft 13)*, 108–127.
- Prince, M. (2004). Does Active Learning Work? A Review of the Research. *Journal of Engineering Education*, 93(3), 223–231.
- Purba, S. E. E., Kristiani, Sangka, K. B., & Hussain, O. K. (2021). The Flipped Classroom: An Overview of its Impact in Economics Learning. *International Journal of Pedagogy and Teacher Education*, 5(1), 26–34.
- Roach, T. (2014). Student Perceptions Toward Flipped Learning: New Methods to Increase Interaction and Active Learning in Economics. *International Review of Economics Education*, 17, 74–84.
- Roediger, H. L., III, & Karpicke, J. D. (2006). The Power of Testing Memory. *Perspectives on Psychological Science*, 1(3), 181–210.
- Rowland, C. A. (2014). The Effect of Testing Versus Restudy on Retention: A Meta-Analytic Review of the Testing Effect. *Psychological Bulletin*, 140(6), 1432–1463.
- Ryan, M. D., & Reid, S. A. (2016). Impact of the Flipped Classroom on Student Performance and Retention: A Parallel Controlled Study in General Chemistry. *Journal of Chemical Education*, 93, 13–23.
- Salomon, G. (1984). Television is "Easy" and Print is "Tough": The Differential Investment of Mental Effort in Learning as a Function of Perceptions and Attributions. *Journal of Educational Psychology*, 76(4), 647–658.
- Saterbak, A., Volz, T. M., & Wettergreen, M. A. (2019). Impact of Flipping a First-Year Course on Students' Ability to Complete Difficult Tasks in the Engineering Design Process. *International Journal of Engineering Education*, 35(2), 685–697.
- Schärftl, C. (2020). Notwendigkeit einer digitalen Transformation des Rechtsunterrichts – Virtual Enhanced Inverted Classroom (VEIC) und Constructive Alignment 4.0 als Lehren aus der COVID19-Pandemie. *Zeitschrift für Didaktik der Rechtswissenschaft*, 7(4), 280–311.
- Sharp, J. H., & Sharp, L. A. (2017). A Comparison of Student Academic Performance with Traditional, Online, and Flipped Instructional Approaches in a C# Programming Course. *Journal of Information Technology Education: Innovations in Practice*, 16, 215–231.
- Shi, Y., Ma, Y., MacLeod, J., & Yang, H. H. (2020). College Students' Cognitive Learning Outcomes in Flipped Classroom Instruction: A Meta-Analysis of the Empirical Literature. *Journal of Computers in Education*, 7(1), 79–103.

- Shu, T. (2018). Application of Mooc-based Flipped Classroom in the Teaching Reform of Piano Course. *Educational Sciences: Theory & Practice*, 18(5), 2494–2500.
- Strayer, J. F. (2012). How Learning in an Inverted Classroom Influences Cooperation, Innovation and Task Orientation. *Learning Environments Research*, 15(2), 171–193.
- Strelan, P., Osborn, A., & Palmer, E. (2020). The Flipped Classroom: A Meta-Analysis of Effects on Student Performance Across Disciplines and Education Levels. *Educational Research Review*, 30, 100314.
- Sweller, J., van Merriënboer, J. J. G., & Paas, F. G. W. C. (1998). Cognitive Architecture and Instructional Design. *Educational Psychology Review*, 10(3), 251–296.
- Tan, C., Yue, W.-G., & Fu, Y. (2017). Effectiveness of Flipped Classrooms in Nursing Education: Systematic Review and Meta-Analysis. *Chinese Nursing Research*, 4, 192–200.
- Teichgräber, U., Mensel, B., Franiel, T., Herzog, A., Cho-Nöth, C.-H., Mentzel, H.-J., Ingwersen, M., & Aschenbach, R. (2021). Virtual Inverted Classroom to Replace In-Person Radiology Lectures at the Time of the COVID-19 Pandemic – a Prospective Evaluation and Historic Comparison. *BMC Medical Education*, 21(611), 1–10. <https://doi.org/10.1186/s12909-021-03061-4>
- van Alten, D. C. D., Phielix, C., Janssen, J., & Kester, L. (2019). Effects of Flipping the Classroom on Learning Outcomes and Satisfaction: A Meta-Analysis. *Educational Research Review*, 28, 100281.
- Vitta, J. P., & Al-Hoorie, A. H. (2020). The Flipped Classroom in Second Language Learning: A Meta-Analysis. *Language Teaching Research*, 1–25.
- Vo, H. M., Zhu, C., & Diep, N. A. (2017). The effect of blended learning on student performance at course-level in higher education: A meta-analysis. *Studies in Educational Evaluation*, 53, 17–28. <https://doi.org/10.1016/j.stueduc.2017.01.002>
- Wang, J., Jou, M., Lv, Y., & Huang, C.-C. (2018). An Investigation on Teaching Performances of Model-Based Flipping Classroom for Physics Supported by Modern Teaching Technologies. *Computers in Human Behavior*, 84, 36–48.
- Wanner, T., & Palmer, E. (2016). From Flipped to Flopped to Flexible Classrooms in Higher Education? – Critical Reflections from Australia. In S. Barker, S. Dawson, A. Pardo, & C. Colvin (Eds.), *Show Me The Learning. Proceedings ASCILITE 2016 Adelaide* (pp. 605–610).
- Weinstein, R. D. (2015). Improved Performance via the Inverted Classroom. *Chemical Engineering Education*, 49(3), 141–148.
- Whitman Cobb, W. N. (2016). Turning the Classroom Upside Down: Experimenting with the Flipped Classroom in American Government. *Journal of Political Science Education*, 12(1), 1–14.
- Xu, P., Chen, Y., Nie, W., Wang, Y., Song, T., Li, H., Li, J., Yi, J., & Zhao, L. (2019). The Effectiveness of a Flipped Classroom on the Development of Chinese Nursing Students' Skill Competence: A Systematic Review and Meta-Analysis. *Nurse Education Today*, 80, 67–77.
- Yang, C., Luo, L., Vadillo, M. A., Yu, R., & Shanks, D. R. (2021). Testing (Quizzing) Boosts Classroom Learning: A Systematic and Meta-Analytic Review. *Psychological Bulletin*, 147(4), 399–435.
- Zhang, L. (2018). English Flipped Classroom Teaching Model based on Cooperative Learning. *Educational Sciences: Theory & Practice*, 18(6), 3652–3661.
- Zhang, Q., Cheung, E. S. T., & Cheung, C. S. T. (2021). The Impact of Flipped Classroom on College Students' Academic Performance: A Meta-Analysis Based on 20 Experimental Studies. *Science Insights Education Frontiers*, 8(2), 1059–1080.
- Zhao, Y., Lei, J., Lai, B. Y. C., & Tan, H. S. (2005). What Makes the Difference? A Practical Analysis of Research on the Effectiveness of Distance Education. *Teachers College Record*, 107(8), 1836–1884.



This document is subject to the Creative Commons Zero (CC0) License.
To create this document, we used L^AT_EX.

Christians Social Media Kanäle:
BeReal: <https://bere.al/cspannagel>
Bluesky: <https://bsky.app/profile/cspannagelbsky.social>
Discord: <https://tinyurl.com/chrisp-discord>
Facebook: <https://www.facebook.com/chrispannagel>
GitHub: <https://github.com/dunkelmunkel>
Instagram: <https://www.instagram.com/dunkelmunkel/>

LinkedIn: <https://www.linkedin.com/in/christian-spannagel-31b7b4a1/>
Mastodon: <https://scholar.social/@cspannagel>
Snapchat: <https://www.snapchat.com/add/spannagelc>
Telegram: <https://t.me/cspannagel>
Tellonym: <https://tellonym.me/christian.spannagel>
TikTok: https://www.tiktok.com/@_cspannagel_
Threads: <https://www.threads.net/@dunkelmunkel>
Twitch: <https://www.twitch.tv/cspannagel>
X/Twitter: <https://twitter.com/dunkelmunkel>
Youtube: <https://www.youtube.com/pharithmetik>