Jimmy de la Torre

Education

University of Illinois at Urbana-Champaign
- Ph.D. in Quantitative Psychology — 2003
- M.A. in Psychology — 2002
- M.S. in Statistics — 2001

University of the Philippines-Diliman
- Master of Statistics — 1997
- B.S. in Psychology (*magna cum laude*) — 1992

Appointments

Professor, Faculty of Education, The University of Hong Kong — July 2016 – present
Chair Professor (National Taichung University of Education, Taiwan) — August 2014 – present
Honorary Professor (Universidad Autonoma de Madrid, Spain) — 2012 – 2022
Professor, Educational Psychology, Rutgers University — July 2014 – June 2016
Associate Professor, Educational Psychology, Rutgers University — July 2009 – June 2014
Assistant Professor, Educational Psychology, Rutgers University — September 2003 – June 2009

Honors and Awards

Faculty Knowledge Exchange Award — 2021
Bradley Hanson Award for Contributions to Educational Measurement (National Council on Measurement in Education) — 2017
Jason Millman Promising Measurement Scholar Award (National Council on Measurement in Education) — 2009
Presidential Early Career Award for Scientists and Engineers (White House) — 2009
National Science Foundation Faculty Early Career Development Award — 2008
National Academy of Education/Spencer Postdoctoral Fellowship — 2006

Grants

[22]Hong Kong Research Grants Council. *Advancing Educational and Psychological Measurement with Bayesian Learning: Methodological Developments and Practical Implementations.* (Co-I), January 2023 – December 2024.

[21]Community of Madrid through the Pluriannual Agreement with the Universidad Autónoma de Madrid (Spain). *Study of Statistical Procedures for Diagnostic Evaluation in Educational Contexts*. (Co-I), January 2022 - December 2023.

[20]Hong Kong Research Grants Council. *Optimizing the Diagnostic Value and Practicability of a Cognitive Diagnosis Modeling Framework for Multiple-choice Tests: Model Extensions and Practical Implementations.* (PI), October 2020 – September 2022.

[19]Hong Kong Research Grants Council. *Role of the Home and School in Children's Early English Language and Literacy Development in Hong Kong.* (Co-I), January 2020 – December 2022.

[18]Ministry of Economy and Competitiveness (Spain). *Bayesian Psychometric Analysis of Forced-Choice Items with Continuous Response Format Using the Dirichlet Distribution*. (Co-I), January 2019 – December 2021.

[17]Hong Kong Research Grants Council. *Methodological Developments to Enhance Diagnostic Modeling and Scoring of Multicategory Skills.* (PI), October 2018 – September 2020.

[16]Hong Kong Education Bureau. *Provision of Services for the Trends in International Mathematics and Science Study (TIMSS) 2019 in Hong Kong.* (Co-PI), April 2017 – March 2022.

[15]University of Hong Kong Research Services. *Adaptation, Calibration, and Invariance Evaluation of a Proportional Reasoning Assessment*. (PI), April 2017 – September 2019.

[14]Hong Kong Research Grants Council. *Learning and Assessment for Digital Citizenship*. (Co-PI), November 2016 – October 2021.

[13]Ministry of Economy and Competitiveness (Spain). *Psychometric Study of Ipsative Measures*. (Co-PI), January 2016 – December 2018.

[12]National Science Foundation. *Validating Proof Comprehension Tests in Mathematics*. (Co-PI), September 2013 – August 2015.

[11]Ministry of Economy and Competitiveness (Spain). *IRT Models for Forced-Choice Items*. (Co-PI), January 2013 – December 2015.

[10]*National Institute on Alcohol Abuse and Alcoholism. Innovative Analyses of Alcohol Intervention Trials for College Students.* (Co-PI), August 2010 – July 2013.

[9]National Science Foundation. *Emerging Research-Empirical--Proving Styles in University Mathematics.* (Co-PI), August 2010 – July 2013.

[8]U.S. Department of Education. *Graduate Assistance in Areas of National Need Fellowship Program - Graduate Fellowships in Educational Assessment, Evaluation and Research.* (PI), July 2010 – June 2015.

[7]National Science Foundation. *Development and Application of a Multilevel Evaluation Procedure for Examining State and School Educational Contexts.* (Co-PI), August 2010 – July 2013.

[6]National Science Foundation. *Cognitive Diagnosis Working Group at the 2009 SAMSI Summer Program on Psychometrics*. (PI), July 2009.

[5]Ministry of Economy and Competitiveness (Spain). *Psychometric Study of Ipsative Measures*. (Co-PI), September 2008 – July 2012.

[4]National Science Foundation. *CAREER: A Comprehensive Modeling Approach to Cognitively Diagnostic Assessment: Methodological Developments and Practical Implementations.* (PI), July 2008 – August 2015.

[3]National Academy of Education/Spencer Postdoctoral Fellowship. *Designing Assessment to Support Learning: A New Approach to Test Construction and Analysis* (PI), July 2006 – July 2008.

[2]Rutgers University Research Council Program. *Q-matrix Development for the 2003 TIMSS Eighth-Grade Mathematics* (PI), June 2006 – May 2007.

[1]Institute of Education Sciences. *Skill Profile Comparisons at the State Level: An Application and Extension of Cognitive Diagnosis Modeling in NAEP*. (PI), June 2005 – December 2006.

Publications

Refereed Articles

[94]Kreitchmann, R. S., **de la Torre, J.**, Sorrel, M. A., Najera, P., & Abad, F. J. (in press). Improving reliability estimation in cognitive diagnosis modeling. *Behavior Research Methods*. https://doi.org/10.3758/s13428-022-01967-5

[93]Liang, Q., de la Torre, J., & Law, N. (in press). Latent transition cognitive diagnosis model with covariates: A three-step approach. *Journal of Educational and Behavioral Statistics*.

[92]Ng, A., Yuen, M., & **de la Torre, J.** (In press). Service learning online: Evaluation of a programme delivered during the Covid-19 pandemic in Hong Kong. *Pastoral Care in Education*.

[91]Qiu, X.-L., & **de la Torre, J.** (in press). A dual process item response theory model for polytomous multidimensional forced-choice items. *British Journal of Mathematical and Statistical Psychology*.

[90]Qiu, X.-L., **de la Torre, J.**, Ro, S., & Wang, W.-C. (in press). Computerized adaptive testing for ipsative tests with multidimensional pairwise-comparison items: Algorithm development and applications. *Applied Psychological Measurement*.

[89]Chen, H., Cai, Y. & **de la Torre, J.** (2022). Investigating second language (L2) reading subskill associations: A cognitive diagnosis approach. *Language Assessment Quarterly*. https://doi.org/10.1080/15434303.2022.2140050

[88]Ma, C., **de la Torre, J.**, Xu, G. (2022). Bridging parametric and nonparametric methods in cognitive diagnosis. *Psychometrika.* https://doi.org/10.1007/s11336-022-09878-2

[87]Pan, Q., Richert, F., **de la Torre, J.**, & Law, N. (2022). Measuring digital literacy during the COVID-19 pandemic: Experiences with remote assessment in Hong Kong. *Educational Measurement: Issues and Practices*. https://onlinelibrary.wiley.com/doi/epdf/10.1111/emip.12498

[86]Strachan, T., Cho, U. H., Ackerman, T., Chen, S-H., **de la Torre, J.**, & Ip, E. (2022). Evaluation of the linear composite conjecture for unidimensional IRT scale for multidimensional responses. *Applied Psychological Measurement*. https://doi.org/10.1177/01466216221084218

[85]Tan, Z., **de la Torre, J.**, Ma, W., Huh, D., Larimer, M. E., & Mun, E.-Y. (2022). A tutorial on cognitive diagnosis modeling for characterizing mental health symptom profiles using existing item responses. *Prevention Science.* https://doi.org/s11121-022-01346-8

[84]Tso, W. W. Y., Reichert, F., Law, N., Fu, K. W., **de la Torre, J.**, Rao, N., Leung, L. K., Wang, Y., Wong, W. H. S., & Ip, P. (2022). Digital competence as a protective factor against gaming addiction in children and adolescents: A cross-sectional study in Hong Kong. *The Lancet Regional Health – Western Pacific*. https://doi.org/10.1016/j.lanwpc.2022.100382

[83]**de la Torre, J.**, Qiu, X.-L., & Santos, K. C. (2021). An empirical Q-matrix validation method for the polytomous G-DINA model. *Psychometrika, 87*, 693-724.

[82]Liang, Q., **de la Torre, J.**, & Law, N. (2021). Do background characteristics matter in children's mastery of digital literacy? A cognitive diagnosis model analysis. *Computer in Human Behavior*, *122*, 106850.

[81]Ma, W., Terzi, R. & **de la Torre, J.** (2021). Detecting differential item functioning using multiple-group cognitive diagnosis models. *Applied Psychological Measurement, 45*, 37-53.

[80]Mehrazmay, R., Ghonsooly, B., & **de la Torre, J.** (2021). Detecting differential item functioning using cognitive diagnosis models: Applications of the Wald test and likelihood ratio test in a university entrance. *Applied Measurement in Education*. doi.org/10.1080/08957347.2021.1987906

[79]Najera, P., Sorrel, M. A., **de la Torre, J.**, & Abad, F. J. (2021). Balancing fit and parsimony to improve Q-matrix validation. *British Journal of Mathematical and Statistical Psychology*, *74*, 110-130.

[78]Yakar, L., Dogan, N., **de la Torre, J.** (2021). Retrofitting of polytomous cognitive diagnosis and multidimensional item response theory models. *Journal of Measurement and Evaluation in Education and Psychology, 12*, 97-111.

[77]Akbay, L., & **de la Torre, J.** (2020). Estimation approaches in cognitive diagnosis modeling when attributes are hierarchically structured. *Psicothema, 32*, 122-129.

[76]Finkelman, M., **de la Torre, J.**, & Karp, J. (2020). Cognitive diagnosis models and automated test assembly: An approach incorporating response times. *International Journal of Testing, 20*, 299-320.

[75]Hou, L., Terzi, R., & **de la Torre, J.** (2020). Wald test formulations in DIF detection of CDM data with the proportional reasoning test. *International Journal of Assessment Tools in Education, 7,* 145-158.

[74]Jin, K.-Y., Reichert, F., Cagasan, L. P., **de la Torre, J.**, & Law, N. (2020). Measuring digital literacy across three age cohorts: Exploring test dimensionality and performance differences. *Computers & Education, 157*, 103968.

[73]Kaplan, M., & **de la Torre, J.** (2020). A blocked-CAT procedure for CD-CAT. *Applied Psychological Measurement*, *44*, 49-64

[72]Ma, W., & **de la Torre, J.** (2020a). An empirical Q-matrix validation method for the sequential G-DINA model. *British Journal of Mathematical and Statistical Psychology, 73*, 142-163.

[71]Ma, W., & **de la Torre, J.** (2020b). Cognitive diagnosis modeling using the GDINA R package. *Journal of Statistical Software, 19(14)*, 1-26.

[70]Ma, W., Minchen, N., & **de la Torre, J.** (2020). Choosing between CDM and unidimensional IRT: The proportional reasoning test case. *Measurement: Interdisciplinary Research and Perspectives, 18,* 87-96.

[69]Najera, P., Sorrel, M. A., **de la Torre, J.**, & Abad, F. J. (2020). Improving robustness in Q-matrix validation using an iterative and dynamic procedure. *Applied Psychological Measurement*, *44*, 431-446.

[68]Reichert, F., Zhang, J., Law, N., Wong, G., & **de la Torre, J.** (2020). Exploring the structure of digital literacy competence assessed using authentic software applications. *Educational Technology Research & Development, 68,* 2991-3013.

[67]Santos, K., **de la Torre, J.**, & von Davier, M. (2020). Adjusting person fit index for skewness in cognitive diagnosis modeling. *Journal of Classification, 37*, 399-420.

[66]Sorrel, M. A., Barrada, J. R., **de la Torre, J.**, & Abad, F. J. (2020). Adapting cognitive diagnosis computerized adaptive testing item selection rules to traditional item response theory. *PLOS One.* doi: 10.1371/journal.pone.0227196

[65]Xu, X., **de la Torre, J.**, Zhang, J., & Guo, J. (2020). Estimating CDMs using the slice-within-Gibbs sampler. *Frontiers in Psychology.* doi.org/10.3389/fpsyg.2020.02260

[64]**de la Torre, J.**, & Akbay, L. (2019). Implementation of cognitive diagnosis modeling using the GDINA R package. *Eurasian Journal of Educational Research, 80,* 171-192.

[63]Ma, W., & **de la Torre, J.** (2019). Category-level model selection for the sequential G-DINA model. *Journal of Educational and Behavioral Statistics, 44*, 45-77.

[62]Ma, W., & **de la Torre, J.** (2019). Digital module 05: Diagnostic measurement—The G-DINA framework. *Educational Measurement: Issues and Practice, 38,* 114-115.

[61]Skriner, L. C., Chu, B. C., Kaplan, M., Bodden, D. H. M., Bogels, S. M., Kendall, P. D., Nauta, M. H., Silverman, W. K., Wood, J. J., Barker, D. H., **de la Torre, J.**, Saavedra, L., & Xie, M. (2019). Trajectories and predictors of response in youth anxiety CBT: Integrative data analysis. *Journal of Consulting and Clinical Psychology, 87*, 198-211.

[60]Yigit, H., Sorrel, M. A., & **de la Torre, J.** (2019). Computerized adaptive testing for cognitively-based multiple-choice data. *Applied Psychological Measurement, 43,* 388-401.

[59]Mun, E.-Y., Huo, Y., White, H. R., Suzuki, S., & **de la Torre, J.** (2019) Multivariate higher-order IRT model and MCMC algorithm for linking individual participant data from multiple studies. *Frontiers in Psychology,* 10:1328. doi: 10.3389/fpsyg.2019.01328.

[58]Kuo, B.-C., Chen, C.-H., & **de la Torre, J.** (2018). A cognitive diagnosis model for identifying coexisting skills and misconceptions. *Applied Psychological Measurement, 42,* 179-191.

[57]Chen, J., & **de la Torre, J.** (2018). Introducing the general polytomous diagnosis modeling framework. *Frontiers in Psychology*. 9:1474. doi: 10.3389/fpsyg.2018.01474.

[56]**de la Torre, J.**, van der Ark, L. A., & Rossi, G. (2018). Analysis of clinical data from a cognitive diagnosis modeling framework. *Measurement and Evaluation in Counseling and Development, 51,* 281-296.

[55]Philipp, M., Strobl, C., **de la Torre, J.**, & Zeileis, A. (2018). On the estimation of standard errors in cognitive diagnosis models. *Journal of Educational and Behavioral Statistics, 43,* 88-115.

[54]Minchen, N., & **de la Torre, J.** (2018). A general cognitive diagnosis model for continuous-response data. *Measurement: Interdisciplinary Research and Perspective, 16,* 30-44.

[53]Terzi, R., & **de la Torre, J.** (2018). An iterative method for empirically-based Q-matrix validation. *International Journal of Assessment Tools in Education, 5,* 248-262.

[52]Mejía-Ramos, J. P., Lew, K., **de la Torre, J.**, & Weber, K. (2017). Developing and validating proof comprehension tests in undergraduate mathematics. *Research in Mathematics Education, 19,* 130-146.

[51]Minchen, N., **de la Torre, J.**, & Liu, Y. (2017). A cognitive diagnosis model for continuous response. *Journal of Educational and Behavioral Statistics, 42,* 651-677.

[550]Sorrel, M. A., Abad, F. J., Olea, J., **de la Torre, J.**, & Barrada, J. R. (2017). Inferential item fit evaluation in cognitive diagnosis modeling. *Applied Psychological Measurement, 41,* 614-631.

[49]Sorrel, M. A., **de la Torre, J.**, Abad, F. J., & Olea, J. (2017). Two-step likelihood ratio test for model comparison in cognitive diagnosis models. *Methodology, 13,* 39–47.

[48]**de la Torre, J.**, Carmona, G., Kieftenbeld, V., Tjoe, H., & Lima, C. (2016). Diagnostic classification models and mathematics education research: Opportunities and Challenges. [Monograph]. *Journal for Research in Mathematics Education,* 53–72.

[47]**de la Torre, J.**, & Chiu, C.-Y. (2016). A general method of empirical Q-matrix validation. *Psychometrika, 81,* 253-273.

[46]**de la Torre, J.**, & Chiu, C.-Y. (2016). On the consistency of Q-matrix estimation: A rejoinder. *Psychometrika, 82,* 528-529.

[45]Hontangas, P. M., V., Leenen, **de la Torre, J.**, Ponsoda, I., Morillo, D., & Abad, F. J. (2016). Traditional scores versus IRT estimates on forced-choice tests based on a dominance model. *Psicothema, 28, 76-82.*

[44]Kuo, B.-C., Pai, H.-S., & **de la Torre, J.** (2016). Modified cognitive diagnostic index and modified attribute-level discrimination index for test construction. *Applied Psychological Measurement, 40,* 315-330.

[43]Ma, W., & **de la Torre, J.** (2016). A sequential cognitive diagnosis model for polytomous responses. *British Journal of Statistical and Mathematical Psychology, 69,* 253-275.

[42]Ma, W., Iaconangelo, C., & **de la Torre, J.** (2016). Model similarity, model selection, and attribute classification. *Applied Psychological Measurement, 40,* 200-217.

[41]Morillo, D., Leenen, I., Abad, F. J., Hontangas, P., **de la Torre, J.**, & Ponsoda, V. (2016). A dominance variant under the multi-unidimensional pairwise-preference framework: Model formulation and Markov chain Monte Carlo estimation. *Applied Psychological Measurement, 40,* 500-516.

[40]Sorrel, M. A., Olea, J., Abad, F. J., **de la Torre, J.**, Aguado, D., & Lievens, F. (2016). Validity and reliability of situational judgement test scores: A new approach based on cognitive diagnosis models. *Organizational Research Methods, 19,* 506-532.

[39]Tatsuoka, C., Clements, D. H., Sarama, J., Izsák, A., Orrill, C. H., **de la Torre, J.**, Tatsuoka, K., & Khasanova, E. (2016). Developing workable attributes for psychometric models based on the Q-matrix [Monograph]. *Journal for Research in Mathematics Education,* 73–96.

[38]Hontangas, P. M., **de la Torre, J.**, Ponsoda, V., Leenen, I., Morillo, D., & Abad, F. J. (2015). Comparing traditional and IRT scoring of forced-choice tests. *Applied Psychological Measurement, 39,* 598-612.

[37]Huo, Y., **de la Torre, J.**, Mun, E. Y., Kim, S-Y., Ray, A. E., Jiao Y., & White H. R. (2015). A hierarchical multi-unidimensional IRT approach for analyzing sparse, multi-group data for integrative data analysis. *Psychometrika, 80,* 834-855.

[36]Kaplan, M., **de la Torre, J.**, & Barrada, J. R. (2015). New item selection methods for cognitive diagnosis computerized adaptive testing. *Applied Psychological Measurement, 39,* 167-188.

[35]Mun, E.-Y., **de la Torre, J.**, Atkins, D. C., White, H. R., Ray, A. E., Kim, S.-Y., Jiao, Y., Clarke, N., Huo, Y., Larimer, M. E., Huh, D., & The Project INTEGRATE Team (2015). Project INTEGRATE: An integrative study of brief alcohol interventions for college students. *Psychology of Addictive Behaviors, 29,* 34-48.

[34]Chen, J., & **de la Torre, J.** (2014). A procedure for diagnostically modeling extant large-scale assessment data: The case of PISA reading assessment. *Psychology, 5,* 1967-1978.

[33]**de la Torre, J.**, & Minchen, N. (2014). Cognitively diagnostic assessments and the cognitive diagnosis model framework. *Psicología Educativa, 20,* 89-97.

[32]Garcia, P., Olea, J., & **de la Torre, J.** (2014). Application of cognitive diagnosis models to competency-based situational judgment tests. *Psicothema, 26,* 372-377.

[31]Hou, L., **de la Torre, J.**, & Nandakumar, R. (2014). Differential item functioning assessment in cognitive diagnosis modeling: Application of the Wald test to investigate DIF in the DINA model. *Journal of Educational Measurement, 51,* 98-125.

[30]Huo, Y., & **de la Torre, J.** (2014). An EM algorithm for the multiple-strategy DINA model. *Applied Psychological Measurement, 38,* 464-485.

[29]Tjoe, H., & **de la Torre, J.** (2014). On recognizing proportionality: Does the ability to solve missing value proportional problems presuppose the conception of proportional reasoning? *Journal of Mathematical Behavior, 33,* 1-7.

[28]Chen, J., & **de la Torre, J.** (2013). A general cognitive diagnosis model for expert-defined polytomous attributes. *Applied Psychological Measurement, 37,* 419-437.

[27]Chen, J., **de la Torre, J.**, & Zhang, Z. (2013). Relative and absolute fit evaluation in cognitive diagnosis modeling. *Journal of Educational Measurement, 50,* 123-140.

[26]**de la Torre, J.**, & Lee, Y.-S. (2013). Evaluating the Wald test for item-level comparison of saturated and reduced models in cognitive diagnosis. *Journal of Educational Measurement, 50, 355–373.*

[25]**de la Torre, J.**, Tjoe, H., Rhoads, K., & Lam, D. (2013). Conceptual and theoretical issues in proportional reasoning. *International Journal for Studies in Mathematics Education, 6,* 21-38.

[24]Sun, J., Xin, T., Zhang, S., & **de la Torre, J.** (2013). A polytomous extension of the generalized distance discriminating method. *Applied Psychological Measurement, 37,* 503-521.

[23]Tjoe, H., & **de la Torre, J.** (2013a). Designing cognitively-based proportional reasoning problems as an application of modern psychological measurement models. *Journal of Mathematics Education, 16,* 17-23.

[22]Tjoe, H., & **de la Torre, J.** (2013b). The identification and validation process of proportional reasoning attributes: An application of a cognitive diagnosis modeling framework. *Mathematics Education Research Journal, 26,* 237-255.

[21]Lee, Y.-S., **de la Torre, J**., & Park, Y. S. (2012). Cognitive diagnosticity of IRT-constructed assessment: An empirical investigation. *Asia Pacific Education Review, 13,* 333-345.

[20]**de la Torre, J**. (2011). The generalized DINA model framework. *Psychometrika, 76,* 179-199.

[19]**de la Torre, J.**, Song, H., & Hong, Y. (2011). A comparison of four methods of IRT subscoring. *Applied Psychological Measurement, 35,* 296-316.

[18]Camilli, G., **de la Torre, J.**, & Chiu, C-Y. (2010). A non-central *t* regression model for meta-analysis. *Journal of Educational and Behavioral Statistics, 35,* 125-153.

[17]**de la Torre, J.**, & Hong, Y. (2010). Parameter estimation with small sample size: A higher-order IRT model approach. *Applied Psychological Measurement, 34,* 267-285.

[16]**de la Torre, J.**, Hong, Y., & Deng, W. (2010). Factors affecting the item parameter estimation and classification accuracy of the DINA model. *Journal of Educational Measurement, 47,* 227-249.

[15]**de la Torre, J.**, & Lee, Y. S. (2010). A note on the invariance of the DINA model parameters. *Journal of Educational Measurement, 47,* 115-127.

[14]**de la Torre, J.** (2009). A cognitive diagnosis model for cognitively-based multiple-choice options. *Applied Psychological Measurement, 33,* 163-183.

[13]**de la Torre, J.** (2009). DINA model and parameter estimation: A didactic. *Journal of Educational and Behavioral Statistics, 34*,115-130.

[12]**de la Torre, J.** (2009). Improving the quality of ability estimates through multidimensional scoring and incorporation of ancillary variables. *Applied Psychological Measurement, 33,* 465-485.

[11]**de la Torre, J.**, & Karelitz, T. (2009). Impact of diagnosticity on the adequacy of models for cognitive diagnosis under a linear attribute structure. *Journal of Educational Measurement, 46,* 450-469.

[10]**de la Torre, J.**, & Song, H. (2009). Simultaneous estimation of overall and domain abilities: A higher-order IRT model approach. *Applied Psychological Measurement, 33,* 620-639.

[9]Camilli, G., Prowker, A., Dossey, J. A., Lindquist, M. M., Chiu, T. W., Vargas, S., & **de la Torre, J.** (2008). Summarizing Item Difficulty Variation with Parcel Scores. *Journal of Educational Measurement, 45,* 363-390.

[8]**de la Torre, J.** (2008). An empirically-based method of Q-matrix validation for the DINA model: Development and applications. *Journal of Educational Measurement, 45,* 343-362.

[7]**de la Torre, J.** (2008). Multidimensional scoring of abilities: The ordered polytomous response case. *Applied Psychological Measurement, 32,* 355-370.

[6]**de la Torre, J.**, & Deng, W. (2008). Improving person fit assessment by correcting the ability estimate and its reference distribution. *Journal of Educational Measurement, 45,* 159-177.

[5]**de la Torre, J.**, & Douglas, J. (2008). Model evaluation and multiple strategies in cognitive diagnosis: An analysis of fraction subtraction data. *Psychometrika, 73,* 595-624.

[4]**de la Torre, J.**, Camilli, G., Vargas, S., & Vernon, R. F. (2007). Illustration of a multilevel model for meta-analysis. *Measurement and Evaluation in Counseling and Development, 40,* 169-180.

[3]**de la Torre, J.**, Stark, S., & Chernyshenko, O. (2006). Markov chain Monte Carlo estimation of item parameters for the generalized graded unfolding model. *Applied Psychological Measurement, 30,* 216-232.

[2]**de la Torre, J.**, & Patz, R. J. (2005). Making the most of what we have: A practical application of MCMC in test scoring. *Journal of Educational and Behavioral Statistics, 30*, 295-311.

[1]**de la Torre, J.**, & Douglas, J. (2004). Higher-order latent trait models for cognitive diagnosis. *Psychometrika, 69*, 333-353.

Book Chapters

[8]de la Torre, J., & Santos, K. C. (forthcoming). On the relationship between unidimensional item response theory and higher-order cognitive diagnosis models. In L. A. van der Ark, W. Emons, & R. R. Meijer (Eds.), *Methodology of Educational Measurement and Assessment*. New York: Springer.

[7]de la Torre, J., & Sorrel, M. A. (forthcoming). Cognitive diagnosis modeling. In H. Colonius, E. Dzhafarov & G. Ashby (Eds.), *New Handbook of Mathematical Psychology: Volume 3*. New York: Cambridge University Press.

[6]Sun, Y., & de la Torre, J. (2020). Improving attribute classification accuracy in high dimensional data: A four-step latent regression approach. In H. Jiao & R. W. Lissitz (Eds.), *Innovative Psychometric Modeling and Methods* (pp. 17-44). Charlotte, NC: Information Age Publishing.

[5]de la Torre, J., & Minchen, N. D. (2019). The G-DINA model framework. In M. von Davier & Y.-S. Lee (Eds.), *Handbook of diagnostic classification models* (pp. 155-169). New York: Springer.

[4]Deonovic, B., Chopade, P., Yudelson, M., de la Torre, J., & von Davier, A. (2019). Application of cognitive diagnostic models to learning and assessment systems. In M. von Davier & Y.-S. Lee (Eds.), *Handbook of diagnostic classification models* (pp. 437-460). New York: Springer.

[3]Santos, K. C., & de la Torre, J. (2018). Cognitive diagnosis modeling: An overview and illustration. In C. Magno & A. David (Eds.), *Philippine and global perspectives on educational assessment* (pp. 88-110). Manila: Philippine Educational Measurement and Evaluation Association.

[2]Thummaphan, P., Li, M., & de la Torre, J. (2016). Models for cognitive diagnostic modeling. In V. Kijtorntham (Ed.), *Methodological and theoretical articles for behavioral science research in community and school*. Bangkok: Behavioral Science Research Institute.

[1]de la Torre, J. (2012). Application of the DINA model framework to enhance assessment and learning. In M. Mok (Ed.), *Self-directed learning oriented assessments in the Asia-Pacific* (pp. 92-110). New York: Springer.

Software

Ma, W., & de la Torre, J. (2022). GDINA: The generalized DINA model framework. R package version 2.9.3. (95,003 downloads as of November 30, 2022).

Keynote, Plenary and Spotlight Presentations

[17]*A flexible CDM that optimizes the diagnostic value of multiple-choice data: Model development and real data application.* Annual Meeting of the Psychometric Society, Bologna, Italy. (2022, July).

[16]*Do background characteristics matter in children's mastery of digital literacy? A cognitive diagnosis model analysis*. 2021 Annual Conference of Chinese Association of Psychological Testing, Taipei, Taiwan. (2021, November).

[15]*An empirical Q-matrix validation method for the polytomous G-DINA model*. 2021 Global Chinese Conference on Education Information and Assessment, Taichung, Taiwan. (2021, May).

[14]*Cognitive diagnosis models: A quick overview, some applications, and recent developments.* 28th Thai Association of Measurement, Evaluation, and Research Conference, Phitsanulok, Thailand. (2020, February).

[13]*A coherent framework for building a personalized assessment and learning system.* International Conference on Artificial Intelligence and Technology-Enhanced Language Learning, Shanghai, China. (2019, October).

[12]*Recent advances in cognitive diagnosis computerized adaptive testing*. Seventh International Meeting of the International Association of Computerized Adaptive Testing, Minneapolis, MN. (2019, June).

[11]*Towards a framework for effectively using educational measurement to inform instruction and learning*. 2019 Global Chinese Conference on Educational Information and Assessment, Taichung, Taiwan. (2019, May).

[10]*Retrofitting cognitive diagnosis models to extant large-scale assessments: Major issues and some solutions*. Sixth International Congress on Measurement and Evaluation in Education and Psychology, Pristina, Kosovo. (2018, September).

[9]*Developing a cognitively diagnostic assessment: An example from start to finish*. Fifth International Eurasian Educational Research Congress, Antalya, Turkey. (2018, May).

[8]*Developments and applications of cognitive diagnosis models*. Methods and Analyses in Educational Research Symposium, Mehmet Akif Ersoy University, Burdur, Turkey. (2017, November).

[7]*Analysis of clinical data from a cognitive diagnosis modeling framework*. Annual Conference of the Chinese Association of Psychological Testing, Taichung, Taiwan. (2014, December).

[6]*Not your grandma's psychometrics: Cognitive diagnosis modeling and proportional reasoning assessment*. International Conference in Science and Mathematics Education. Quezon City, Philippines. (2014, October).

[5]*New item selection methods for cognitive diagnosis computerized adaptive testing*. Fourth Congress on Measurement and Evaluation in Education and Psychology, Ankara, Turkey. (2014, June).

[4]*Cognitive diagnosis modeling: A general framework and an application to language testing*. Second Language Testing and Teaching Conference, Changzhou, China (2014, May).

[3]*Comparing item selection methods in cat for cognitive diagnosis*. Cognitive Diagnosis Modeling and Assessment Workshop and Conference, Taichung, Taiwan. (2013, June).

[2]*Cognitive diagnosis with latent variable models: An introduction and recent developments.* Thirteenth Faculty-Student National Conference on Statistical Sciences, Quezon City, Philippines. (2012, October).

[1]*Some developments in the G-DINA model framework*. European Methodological Congress, Santiago de Compostela, Spain. (2012, July).

Professional Affiliations

American Educational Research Association
National Council on Measurement in Education
Psychometric Society

Professional Service

AERA Assessment and Cognition Special Interest Group – Chair (April 2021 – April 2024)

Modernization in Measurement Advisory Panel Member, Education Quality and Accountability Office, Ontario, Canada (2020 – 2022)

Applied Psychological Measurement – Associate Editor (2012 – present)

Frontiers in Education – Associate Editor (2020 – present)
Applied Measurement in Education – Editorial Board Member (2019 – present)
Educational Assessment – Editorial Board Member (2022 – present)
Educational Measurement: *Issues and Practice* – Editorial Board Member (2022 – 2024)
International Journal of Testing – Editorial Board Member (2019 – present)
Journal of Measurement and Evaluation in Education and Psychology – Editorial Board Member (2021 – present)
Measurement: Interdisciplinary Research and Perspectives – Editorial Board Member (2019 – present)
The Educational Measurement and Evaluation Review – Editorial Board Member (2011 – present)
Journal of Educational Measurement - Editor (2014 – 2016); Advisory Editor (2008 – 2013)
Educational Psychology: International Journal of Experimental Educational Psychology – Consulting Editor (April 2016 – present)
Jason Millman Promising Measurement Scholar Award Committee (2012 – 2015; 2022-2025)
AERA Division D Outstanding Quantitative Dissertation Award (Member, 2009 – 2010; Co-Chair, 2010 – 2012).
Bradley Hanson Award for Contributions to Educational Measurement (Member, 2006 – 2009; Chair, 2007 – 2009)