



UNIVERSITAS NEGERI YOGYAKARTA
Graduate School Programme

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Master of Education in Mathematics

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STAFF HANDBOOK

Name	Endah Retnowati, S.Pd., M.Ed., Ph.D.		
Expertise	Mathematics Education		
Academic Career	Initial Academic Appointment	Institution	Year
		Universitas Negeri Yogyakarta	2002
Academic Background	1. Post Doctoral	-	-
	2. Doctoral Degree	University of New South Wales	2014
	3. Master Degree	University of New South Wales	2008
	4. Undergraduate Degree	Universitas Negeri Yogyakarta	2002
Employment	Position	Employer	Period
	1. Tenaga Pengajar/CPNS	Universitas Negeri Yogyakarta	01/12/2002 - 01/03/2005
	2. Asisten Ahli Madya	Universitas Negeri Yogyakarta	
	3. Asisten Ahli	Universitas Negeri Yogyakarta	01/03/2005 - 01/10/2015
	4. Instructor (Lektor Muda)	Universitas Negeri Yogyakarta	
	5. Assistant Professor (Lektor)	Universitas Negeri Yogyakarta	01/10/2015 - present
Research and development projects over the last 5 years	1. DIPA UNY "Efektivitas Pembelajaran Matematika Kolaboratif Berdasarkan Cognitive Load Theory" Periode: 2016 Partner: Dr. Sugiman, M.Si.; Dr. R. Rosnawati Amount of financing: IDR 20.000.000,-		
	2. DRPM Kemenristekdikti "Efektivitas Pembelajaran Matematika dengan Pendekatan Worked Example dalam Pengembangan Kemampuan Berfikir Tingkat Tinggi" Periode: 2017 Partner: Dr. Jailani; Wahyu Setyaningrum, Ph.D. Amount of financing: IDR 67.500.000,-		
	3. DIPA UNY "Pengaruh Pengaturan Element-Interactivity dalam Goal-free Problems Terhadap Keefektivan Pembelajaran Matematika Kolaboratif" Periode: 2017 Partner: Dr. Ali Mahmudi, M.Pd.; Dr. Sugiman, M.Si.; Dr. R. Rosnawati Amount of financing: IDR 20.000.000,-		

	<p>4. DIPA UNY "Peningkatan Kemampuan Berfikir Kritis dalam Perkuliahan Landasan Psikologis Pendidikan Matematika melalui Blendid Learning" Periode: 2018 Partner: Dr. Djamilah Bondan Widjajanti, M.Si. Amount of financing: IDR 7.500.000,-</p>				
	<p>5. DRPM Kemenristekdikti "Efektivitas Pembelajaran Matematika dengan Pendekatan Worked Example dalam Pengembangan Kemampuan Berfikir Tingkat Tinggi" Periode: 2018 Partner: Dr. Jailani; Wahyu Setyaningrum, Ph.D. Amount of financing: IDR 67.500.000,-</p>				
	<p>6. Kemenristekdikti "Efektivitas Pembelajaran Kolaboratif dengan pendekatan Worked Example dalam Pengembangan Kemampuan Berfikir Tingkat Tinggi" Periode: 2019 Partner: Dr. Jailani; Wahyu Setyaningrum, Ph.D. Amount of financing: IDR 64.500.000,-</p>				
	<p>7. DIPA UNY "Pembelajaran Matematika secara Kolaboratif: Worked Example First vs. Problem Solving First" Periode: 2018 Partner: Dr. Djamilah Bondan Widjajanti, M.Si. Amount of financing: IDR 18.000.000,-</p>				
Industry collaborations over the last 5 years	<p>1. Project Title: Pelatihan geogebra 2D dan 3D untuk Meningkatkan Kemampuan Teknologi Informasi Guru di DIY dalam Pembelajaran Matematika (2016) Partners: MGMP Gunung Kidul</p> <p>2. Project Title: Pengembangan Lembar Kerja Siswa Berdasarkan Cognitive Load Theory dalam Pembelajaran Geometri SMP (2017) Partners: MGMP Sleman</p> <p>3. Project Title: Pelatihan Penyusunan LKS Berbantuan Geogebra untuk Pengembangan Kemampuan Pemecahan Masalah (2017) Partners: MGMP Bantul</p> <p>4. Project Title: Workshop Pengembangan Model Pembelajaran Berbasis Teori Kecerdasan Majemuk bagi Guru-guru Anggota MGMP Matematika SMP di Kabupaten Kulon Progo (2018) Partners: MGMP Kulon Progo</p> <p>5. Project Title: Pengembangan Lembar Kerja Siswa Berdasarkan Cognitive Load Theory dalam Pembelajaran Aljabar SMP (2018) Partners: MGMP Kulon Progo</p> <p>6. Project Title: Workshop Pengembangan Soal Literasi Matematika Bagi Guru Matematika SMP di Kabupaten Kulon Progo (2019) Partners: MGMP Kulon Progo</p> <p>7. Project Title: Pelatihan Pengembangan Desain Pembelajaran Matematika Berdasarkan Cognitive Load Theory (2019) Partners: MGMP Kulon Progo</p>				
Patents and proprietary rights	<table border="1"> <thead> <tr> <th>Title</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td> 1. Patents: "Modul Braille: Geometri hubungan sudut akibat garis-garis sejajar dipotong garis transversal dengan pendekatan worked example" Oleh: Nur Azizah, Endah Retnowati No. Paten: 000142334 </td> <td>2019</td> </tr> </tbody> </table>	Title	Year	1. Patents: "Modul Braille: Geometri hubungan sudut akibat garis-garis sejajar dipotong garis transversal dengan pendekatan worked example" Oleh: Nur Azizah, Endah Retnowati No. Paten: 000142334	2019
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1. Patents: "Modul Braille: Geometri hubungan sudut akibat garis-garis sejajar dipotong garis transversal dengan pendekatan worked example" Oleh: Nur Azizah, Endah Retnowati No. Paten: 000142334	2019				

	<p>2. Published book: "Psychology of mathematics learning: Constructing knowledge" Oleh: Endah Retnowati UNY Press, Yogyakarta ISBN: 978-602-498-052-8</p>	2019
	<p>3. Published edited book: "Character Education for 21st Century Global Citizens: Proceedings of the 2nd International Conference on Teacher Education and Professional Development (INCOTEPD 2017), October 21-22, 2017, Yogyakarta, Indonesia, 1st Edition" Oleh: Endah Retnowati, Anik Ghufron, Marzuki, Kasiyan, Adi Cilik Pierawan, Ashadi Routledge ISBN: 978-1-138-09922-7 (Hbk), 978-1-315-10418-8 (eBook)</p>	2019
<p>Important publications over the last 5 years</p>	<p>Selected recent publications form a total of approx.:</p>	
	<p>1. Chen, O., Retnowati, E., & Kalyuga, S. (2019). Effects of worked examples on step performance in solving complex problems. <i>Educational Psychology</i>, 39(2), 188-202. doi:https://doi.org/10.1080/01443410.2018.1515891.</p>	
	<p>2. Ambaranti, F., & Retnowati, E. (2019). Exploring mathematics anxiety among senior high school students. <i>Journal of Physics: Conference Series</i>, 1200, 012004. doi:10.1088/1742-6596/1200/1/012004</p>	
	<p>3. Kurnia, I. A., & Retnowati, E. (2019). What is erroneous worked example and how is it looks like in social arithmetic?. <i>Journal of Physics: Conference Series</i>, 1200, 012020. doi:10.1088/1742-6596/1200/1/012020</p>	
	<p>4. Pertamawati, L., & Retnowati, E. (2019). Model-Eliciting Activities: Engaging students to make sense of the world. <i>Journal of Physics: Conference Series</i>, 1200, 012003. doi:10.1088/1742-6596/1200/1/012003</p>	
	<p>5. Retnowati, E., Ayres, P., & Sweller, J. (2018). Collaborative learning effects when students have complete or incomplete knowledge. <i>Applied Cognitive Psychology</i> 32(6), 681-692. doi:https://doi.org/10.1002/acp.3444.</p>	
	<p>6. Retnowati, E., Fathoni, Y., & Chen, O. (2018). Mathematics problem solving skill acquisition: Learning by Problem Posing or by Problem Solving?. <i>Jurnal Cakrawala Pendidikan</i>, 37(1). doi:https://doi.org/10.21831/cp.v37i1.18787</p>	
	<p>7. Latief, N.S.A., & Retnowati, E. (2018). Kesepian dan harga diri sebagai prediksi kecanduan internet pada remaja. <i>Jurnal Ecopsy: Jurnal Ilmu Psikologi</i>, 5(3), 130-137. doi:http://dx.doi.org/10.20527/ecopsy.v5i3.5593</p>	
	<p>8. Dhoruri, A., Sugiyono, S., Retnowati, E., Lestari, D., & Sari, E. (2018). Pelatihan Penyusunan Lembar Kegiatan Siswa (LKS) Matematika Berbantuan Geogebra Training to Create Mathematics Student Activity Sheet Using Geogebra. <i>Jurnal Pengabdian Masyarakat MIPA dan Pendidikan MIPA</i>, 2(1), 9-14. doi:https://doi.org/10.21831/jpmmp.v2i1.18688</p>	
	<p>9. Pambayun, H. P., & Retnowati, E. (2018). Penerapan teknik faded examples untuk meningkatkan kemampuan pemecahan masalah materi pengayaan trigonometri SMA. <i>Jurnal Riset Pendidikan Matematika</i>, 5(1), 73-81. doi:https://doi.org/10.21831/jrpm.v5i1.12149</p>	
	<p>10. Susanti, E., & Retnowati, E. (2018). Exploring mathematical critical thinking skills of Yogyakarta junior secondary school students. <i>Southeast Asian Mathematics Education Journal</i>, 8(1), 29-38.</p>	
	<p>11. Pratikno, H., & Retnowati, E. (2018). How Indonesian students use the Poya's general problem solving steps. <i>Southeast Asian Mathematics Education Journal</i>, 8(1), 39-48.</p>	

	<p>12. Blegur, I. K. S., & Retnowati, E. (2018). Designs of goal free problems for learning central and inscribed angles. Journal of Physics: Conference Series, 1097, 012128. doi: 10.1088/1742-6596/1097/1/012128</p>
	<p>13. Nurjanah, A., & Retnowati, E. (2018). Analyzing the extraneous cognitive load of a 7th grader mathematics textbook. Journal of Physics: Conference Series, 1097, 012131. doi: 10.1088/1742-6596/1097/1/012131</p>
	<p>14. Oktaviani, K. N., & Retnowati, E. (2018). Faded-Examples for Learning Contextual Mathematics Problem-Solving Skills. Journal of Physics: Conference Series, 1097, 012114. doi: 10.1088/1742-6596/1097/1/012114</p>
	<p>15. Rohman, H. M. H., & Retnowati, E. (2018). How to teach geometry theorems using worked examples: A cognitive load theory perspective. Journal of Physics: Conference Series, 1097, 012104. doi: 10.1088/1742-6596/1097/1/012104</p>
	<p>16. Retnowati, E., & Marissa. (2018). Designing worked examples for learning tangent lines to circles. Journal of Physics: Conference Series, 983(1), 012124. doi: 10.1088/1742-6596/983/1/012124</p>
	<p>17. Retnowati, E., & Maulidya, S. R. (2018). Designs of goal-free problems for trigonometry learning. Journal of Physics: Conference Series, 983, 012125. doi: 10.1088/1742-6596/983/1/012125</p>
	<p>18. Retnowati, E., Murdiyani, N. M., Marsigit, Sugiman, & Mahmudi, A. (2018). Improving pedagogic competence using an e-learning approach for pre-service mathematics teachers. Journal of Physics: Conference Series, 983, 012126. doi: 10.1088/1742-6596/983/1/012126</p>
	<p>19. Nurhayati, S., Retnowati, E., & Alzyhdy, Y.A. (2018). Can students develop self-regulated learning through worked examples? Proceeding of international conference of teacher education and professional development, Universitas Negeri Yogyakarta, Indonesia, 22 October 2018.</p>
	<p>20. Setiawati, F., Ayriza, Y., Retnowati, E., & Amelia, R. (2017). The Response Patterns of the Career Interest Instrument Based on Holland's Theory. ANIMA Indonesian Psychological Journal, 32(3), 128-147. doi:10.24123/aipj.v32i3.628</p>
	<p>21. Pangesti, F. T. P., & Retnowati, E. (2017). Pengembangan bahan ajar geometri SMP berbasis cognitive load theory berorientasi pada prestasi belajar siswa. Pythagoras: Jurnal Pendidikan Matematika, 12(1), 33-46. doi:http://dx.doi.org/10.21831/pg.v12i1.14055</p>
	<p>22. Retnowati, E., & Aqiila, A. (2017). EFEKTIVITAS STRATEGI PENGELOMPOKAN BERPASANGAN DALAM PEMBELAJARAN MATEMATIKA MODEL CORE. Jurnal Cakrawala Pendidikan, 36(1), 13-23. doi:https://doi.org/10.21831/cp.v35i1.12628</p>
	<p>23. Retnowati, E. (2017). Faded-example as a Tool to Acquire and Automate Mathematics Knowledge. Journal of Physics: Conference Series, 824(1), 012054.</p>
	<p>24. Maulidya, S. R., Hasanah, R. U., & Retnowati, E. (2017). Can goal-free problems facilitate students' flexible thinking?. AIP Conference Proceeding, 1868, 050001-050006. doi: 10.1063/1.4995128</p>
	<p>25. Retnowati, E., Ayres, P., & Sweller, J. (2016). Can Collaborative Learning Improve the Effectiveness of Worked Examples in Learning Mathematics?. Journal of Educational Psychology, 109(5), 666-679. doi:http://dx.doi.org/10.1037/edu0000167.</p>

	<p>26. Putri, T. R., & Retnowati, E. (2016). Perbedaan efektivitas model pembelajaran kooperatif tipe Student Team Achievement Division (STAD) dan model pembelajaran individu berbasis Cognitive Load Theory (CLT) untuk siswa SMP ditinjau dari kemampuan pemecahan masalah matematika. Paper presented at the Seminar Nasional Matematika dan Pendidikan Matematika, Universitas Negeri Yogyakarta.</p> <p>27. Retnowati, E. (2016). Strengthening collaborative classroom action research as a means of continuous teacher professional development. Proceeding of International conference on teacher education and professional development (INCOTEPD) Yogyakarta State University, 17-19 Mei 2016.</p> <p>28. Sugiman, Rosnawati, R., Retnowati, E. & Rizkianto, I. (2014). The development of a virtual mathematics teaching aid based on cognitive load theory. Proceedings of the International Conference on Research, Implementation and Education of Mathematics and Sciences, Yogyakarta State University, Indonesia, 18-20 May, pp. 487-494.</p>		
<p>Activities in specialist bodies over the last 5 years (<i>Membership without a specific role need not be mentioned</i>)</p>	Organization		
	1. Indonesian Mathematical Society	Role Member	Period 2014 - present
	2. International Cognitive Load Theory Association (ICLTA)	Member	2015 - present