



## UNIVERSITAS NEGERI YOGYAKARTA

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### STAFF HANDBOOK

Name	<b>Endah Retnowati, S.Pd., M.Ed., Ph.D.</b>		
Expertise	Mathematics Education		
Academic Career	Initial Academic Appointment	<b>Institution</b>	<b>Year</b>
		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	<b>Position</b>	<b>Employer</b>	<b>Period</b>
	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
6. Associate Professor (Lektor Kepala)	Universitas Negeri Yogyakarta		
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  <a href="#">"Peningkatan Kemampuan Berfikir Kritis dalam Perkuliahan Landasan Psikologis Pendidikan Matematika melalui Blendid Learning"</a>            Periode: 2018            Partner: Dr. Djamilah Bondan Widjajanti, M.Si.            Amount of financing: IDR 7.500.000,-</p>				
	<p>5. DRPM Kemenristekdikti  <a href="#">"Efektivitas Pembelajaran Matematika dengan Pendekatan Worked Example dalam Pengembangan Kemampuan Berfikir Tingkat Tinggi"</a>            Periode: 2018            Partner: Dr. Jailani; Wahyu Setyaningrum, Ph.D.            Amount of financing: IDR 67.500.000,-</p>				
	<p>6. Kemenristekdikti  <a href="#">"Efektivitas Pembelajaran Kolaboratif dengan pendekatan Worked Example dalam Pengembangan Kemampuan Berfikir Tingkat Tinggi"</a>            Periode: 2019            Partner: Dr. Jailani; Wahyu Setyaningrum, Ph.D.            Amount of financing: IDR 64.500.000,-</p>				
	<p>7. DIPA UNY  <a href="#">"Pembelajaran Matematika secara Kolaboratif: Worked Example First vs. Problem Solving First"</a>            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: <b>MGMP Gunung Kidul</b></p> <p>2. Project Title: Pengembangan Lembar Kerja Siswa Berdasarkan Cognitive Load Theory dalam Pembelajaran Geometri SMP (2017)            Partners: <b>MGMP Sleman</b></p> <p>3. Project Title: Pelatihan Penyusunan LKS Berbantuan Geogebra untuk Pengembangan Kemampuan Pemecahan Masalah (2017)            Partners: <b>MGMP Bantul</b></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: <b>MGMP Kulon Progo</b></p> <p>5. Project Title: Pengembangan Lembar Kerja Siswa Berdasarkan Cognitive Load Theory dalam Pembelajaran Aljabar SMP (2018)            Partners: <b>MGMP Kulon Progo</b></p> <p>6. Project Title: Workshop Pengembangan Soal Literasi Matematika Bagi Guru Matematika SMP di Kabupaten Kulon Progo (2019)            Partners: <b>MGMP Kulon Progo</b></p> <p>7. Project Title: Pelatihan Pengembangan Desain Pembelajaran Matematika Berdasarkan Cognitive Load Theory (2019)            Partners: <b>MGMP Kulon Progo</b></p>				
Patents and proprietary rights	<table border="1"> <thead> <tr> <th>Title</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td> <p>1. Patents: <b>"Modul Braille: Geometri hubungan sudut akibat garis-garis sejajar dipotong garis transversal dengan pendekatan worked example"</b>  Oleh: Nur Azizah, <a href="#">Endah Retnowati</a>  No. Paten: 000142334</p> </td> <td>2019</td> </tr> </tbody> </table>	Title	Year	<p>1. Patents: <b>"Modul Braille: Geometri hubungan sudut akibat garis-garis sejajar dipotong garis transversal dengan pendekatan worked example"</b>  Oleh: Nur Azizah, <a href="#">Endah Retnowati</a>  No. Paten: 000142334</p>	2019
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	<p>2. Published book: "<b>Psychology of mathematics learning: Constructing knowledge</b>" Oleh: Endah Retnowati UNY Press, Yogyakarta ISBN: 978-602-498-052-8</p>	2019
	<p>3. Published edited book: "<b>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</b>"  Oleh: <a href="#">Endah Retnowati</a>, 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 style="text-align: center;"><b>Selected recent publications form a total of approx.:</b></p> <ol style="list-style-type: none"> <li>1. Chen, O., <a href="#">Retnowati, E.</a>, &amp; Kalyuga, S. (2019). <b>Effects of worked examples on step performance in solving complex problems</b>. <i>Educational Psychology</i>, 39(2), 188-202. doi:<a href="https://doi.org/10.1080/01443410.2018.1515891">https://doi.org/10.1080/01443410.2018.1515891</a>.</li> <li>2. Ambaranti, F., &amp; <a href="#">Retnowati, E.</a> (2019). <b>Exploring mathematics anxiety among senior high school students</b>. <i>Journal of Physics: Conference Series</i>, 1200, 012004. doi:10.1088/1742-6596/1200/1/012004</li> <li>3. Kurnia, I. A., &amp; <a href="#">Retnowati, E.</a> (2019). <b>What is erroneous worked example and how is it looks like in social arithmetic?</b>. <i>Journal of Physics: Conference Series</i>, 1200, 012020. doi:10.1088/1742-6596/1200/1/012020</li> <li>4. Pertamawati, L., &amp; <a href="#">Retnowati, E.</a> (2019). <b>Model-Eliciting Activities: Engaging students to make sense of the world</b>. <i>Journal of Physics: Conference Series</i>, 1200, 012003. doi:10.1088/1742-6596/1200/1/012003</li> <li>5. <a href="#">Retnowati, E.</a>, Ayres, P., &amp; Sweller, J. (2018). <b>Collaborative learning effects when students have complete or incomplete knowledge</b>. <i>Applied Cognitive Psychology</i> 32(6), 681-692. doi:<a href="https://doi.org/10.1002/acp.3444">https://doi.org/10.1002/acp.3444</a>.</li> <li>6. <a href="#">Retnowati, E.</a>, Fathoni, Y., &amp; Chen, O. (2018). <b>Mathematics problem solving skill acquisition: Learning by Problem Posing or by Problem Solving?</b>. <i>Jurnal Cakrawala Pendidikan</i>, 37(1). doi:<a href="https://doi.org/10.21831/cp.v37i1.18787">https://doi.org/10.21831/cp.v37i1.18787</a></li> <li>7. Latief, N.S.A., &amp; <a href="#">Retnowati, E.</a> (2018). <b>Kesepian dan harga diri sebagai prediksi kecanduan internet pada remaja</b>. <i>Jurnal Ecopsy: Jurnal Ilmu Psikologi</i>, 5(3), 130-137. doi:<a href="http://dx.doi.org/10.20527/ecopsy.v5i3.5593">http://dx.doi.org/10.20527/ecopsy.v5i3.5593</a></li> <li>8. Dhoruri, A., Sugiyono, S., <a href="#">Retnowati, E.</a>, Lestari, D., &amp; Sari, E. (2018). <b>Pelatihan Penyusunan Lembar Kegiatan Siswa (LKS) Matematika Berbantuan Geogebra Training to Create Mathematics Student Activity Sheet Using Geogebra</b>. <i>Jurnal Pengabdian Masyarakat MIPA dan Pendidikan MIPA</i>, 2(1), 9-14. doi:<a href="https://doi.org/10.21831/jpmmp.v2i1.18688">https://doi.org/10.21831/jpmmp.v2i1.18688</a></li> <li>9. Pambayun, H. P., &amp; <a href="#">Retnowati, E.</a> (2018). <b>Penerapan teknik faded examples untuk meningkatkan kemampuan pemecahan masalah materi pengayaan trigonometri SMA</b>. <i>Jurnal Riset Pendidikan Matematika</i>, 5(1), 73-81. doi:<a href="https://doi.org/10.21831/jrpm.v5i1.12149">https://doi.org/10.21831/jrpm.v5i1.12149</a></li> <li>10. Susanti, E., &amp; <a href="#">Retnowati, E.</a> (2018). <b>Exploring mathematical critical thinking skills of Yogyakarta junior secondary school students</b>. <i>Southeast Asian Mathematics Education Journal</i>, 8(1), 29-38.</li> <li>11. Pratikno, H., &amp; <a href="#">Retnowati, E.</a> (2018). <b>How Indonesian students use the Poya's general problem solving steps</b>. <i>Southeast Asian Mathematics Education Journal</i>, 8(1), 39-48.</li> </ol>	

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

	<p>26. Putri, T. R., &amp; <a href="#">Retnowati, E.</a> (2016). <b>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.</b> Paper presented at the Seminar Nasional Matematika dan Pendidikan Matematika, Universitas Negeri Yogyakarta.</p>		
	<p>27. <a href="#">Retnowati, E.</a> (2016). <b>Strengthening collaborative classroom action research as a means of continuous teacher professional development.</b> Proceeding of International conference on teacher education and professional development (INCOTEPD) Yogyakarta State University, 17-19 Mei 2016.</p>		
	<p>28. Sugiman, Rosnawati, R., <a href="#">Retnowati, E.</a> &amp; Rizkianto, I. (2014). <b>The development of a virtual mathematics teaching aid based on cognitive load theory.</b> 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>	<p style="text-align: center;"><b>Organization</b></p>	<p style="text-align: center;"><b>Role</b></p>	<p style="text-align: center;"><b>Period</b></p>
	<p>1. Indonesian Mathematical Society</p>	<p>Member</p>	<p>2014 - present</p>
	<p>2. International Cognitive Load Theory Association (ICLTA)</p>	<p>Member</p>	<p>2015 - present</p>