

HTA-rapport 2018: 23

Avkodningsträning vid dyslexi

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Sammanfattning

En uppföljande litteratursökning efter SBU:s rapport publicerad 2014 kring dyslexi fann tre nytillkomna systematiska översikter som har analyserat olika interventioner kring träning av läsning och läsförståelse. Resultatet visade att tilläggsträning av läsning gav en måttlig till signifikant förbättring av läsförmåga och läsförståelse, vilket ger stöd för att extra träning ökar läsfärdigheten hos elever med identifierad svagare läsförmåga.

Introduktion

Dyslexi, även kallad specifika läs- och skrivsvårigheter/dyslexi, är en i regel medfödd funktionsnedsättning. Dyslexi yttrar sig framför allt som svårigheter med ordavkodning vid läsning och problem med stavning, men kan också visa sig som problem med läsförståelse som en sekundär konsekvens. En uppskattning är att 5–8 procent av befolkningen har dyslexi. Någon exakt gräns för när en person har lässvårigheter av sådan art att det kan karakteriseras som dyslexi finns inte. Idag används ett stort antal metoder för att identifiera och stödja barn med dyslexi.

Det finns en form av insats för barn och ungdomar med dyslexi som har vetenskapligt underlag. Den kallas phonics på engelska och det innebär bl. a. att barnet tränar sambandet mellan fonem (språkljud) och grafem (bokstäver) på ett strukturerat sätt. Ofta börjar träningen på en mycket grundläggande nivå med fonemisk medvetenhet och en enkel koppling mellan fonem–grafem för att successivt övergå till mer avancerade principer om skriftspråket.

I en systematisk litteraturoversikt från SBU 2014 med titeln: Dyslexi hos barn och ungdomar framkom att det vetenskapliga stödet för specifika tränings-/interventionsprogram är begränsat eller saknas. Syftet var nu att kartlägga nytillkommen litteratur inom området.

Frågeställning

PICO

P	Träningsprogram för barn och ungdomar med läs- och skrivsvårigheter/dyslexi
I	Specifika träningsprogram för dyslexi
C	Inga tillägsprogram i relation till ordinarie undervisning
O	Utfallsmått: förändringar i läsförmåga och ordförståelse

Material och metoder

Inklusionskriterier

Barn och ungdomar 6 år och äldre, men yngre än 20 år

Exklusionskriterier

Studier som huvudsakligen fokuserar på tester av dyslexi. Studier före år 2014.
Andra publikationstyper än systematiska översikter.

Litteratursökning

Vi har gjort sökningar i databaserna Pub Med, PsycINFO, Eric och LIBA. Begränsningar gjordes till systematiska översikter, meta-analyser i "per review journals" från 2014 till 2018 på skandinaviskt eller engelskt språk.

Kvalitetsgranskning

De ingående studierna har inte kvalitetsgranskats.

Resultat

Litteratursökningen genererade 234 artiklar varav var 59 systematiska översikter. Alla artikelsammanfattningar från de systematiska översikterna lästes. Av dessa bedömdes 12 artiklar som relevanta. Dessa lästes i fulltext, varav 9 artiklar exkluderades, då de inte var avsåg undersökningar gjorda efter 2014. Tre artiklar kvarstod och ingår i svaret. Dessa översikter var fokuserade på läsning (reading) och inga tangerade begreppen stavning eller alternativa verktyg t.ex. mobil-appar m.m..

Tabell 1; Inkluderade systematiska översikter

Appendix; Exkluderade artiklar

Systematiska översikter

Teckenförklaring: ▲ : huvudsakligen positiv effekt av interventionen; ► : varken positiv eller negativ effekt; ▼ : negativ effekt av interventionen.

Tabell 1 Inkluderade systematiska översikter

Author, country	Year	Number of included studies	Intervention	Main findings	Effect summary
Austin, Vaughn, McClelland USA [4]	2017	12 studies	Multi-tiered reading interventions in small groups or one-on-one	The studies used different terminology. Two levels of intervention, Tier 2 and Tier 3. Group size in general was 1 to 5 students. Students who responded inadequately to Tier 2 interventions can make significant growth from Tier 3 compared with a control group of peers who were inadequate responders.	▲
Swanson et al., USA [5]	2017	Meta-analysis of 37 publications of 40 studies 2000-15	In general the intervention components were: Reading comprehension and vocabulary. The grade level varied from 4 to 12.	Effects of Tier 1 reading instruction on the reading outcomes of students in Grade 4-12. Significant positive effects for Tier 1 reading instruction on comprehension and vocabulary outcomes. A synthesis of the results for struggling readers indicates that they maintained or improved reading comprehension over struggling readers receiving typical instruction.	▲
Lee, Tsai, USA, Taiwan	2016	14 experimental intervention studies	8 types of interventions were identified	Reciprocal teaching demonstrated the largest effect size. Metalinguistic intervention showed a medium effect size, suggesting that explicitly teaches high-level oral language strategies positive improve reading performances of students with specific poor comprehension.	▲

Sökningen avsåg ny kunskap efter den av SBU genomförda rapporten om kunskapsläget fram till 2014. Tillskottet inskränkte sig till 3 översikter och som fokuserade på läsförmåga och läsförståelse. Inga artiklar kunde identifieras avseende stavning eller med tillägg av olika hjälpmedel t.ex. färgat glas. Sammanfattningsvis de studier som påträffades stödjer att fördjupad lästräning för barn och ungdomar med dyslexi har en positiv effekt.

Projektgrupp

Frågeställare: Leg. logopederna Susann Detlofson och Magdalena Andersson, Region Örebro län

Detta svar är sammanställt av: Åke Tegelberg, CAMTÖ

Intern granskare: Louise Olsson, CAMTÖ

Litteratursökning: Liz Holmgren, Linda Bejerstrand, Örebro universitets medicinska bibliotek

HTA-enheten CAMTÖ, www.regionorebrolan.se/hta-enheten

Referenser

Austin, C. R., et al. (2017). "Intensive Reading Interventions for Inadequate Responders in Grades K-3: A Synthesis." *Learning Disability Quarterly* 40(4): 191-210.

Swanson, E., et al. (2017). "The Impact of Tier 1 Reading Instruction on Reading Outcomes for Students in Grades 4-12: A Meta-Analysis." *Reading and Writing: An Interdisciplinary Journal* 30(8): 1639-1665.

Lee, S. H. and S.-F. Tsai (2017). "Experimental Intervention Research on Students with Specific Poor Comprehension: A Systematic Review of Treatment Outcomes." *Reading and Writing: An Interdisciplinary Journal* 30(4): 917-943.

Appendix; Exkluderade artiklar

Foorman, B. R., et al. (2018). "The Relative Impact of Aligning Tier 2 Intervention Materials with Classroom Core Reading Materials in Grades K-2." Grantee Submission 118: 477-504.

[This paper was published in "Elementary School Journal" (EJ1171896).]

Wanzek, J., et al. (2016). "Meta-Analyses of the Effects of Tier 2 Type Reading Interventions in Grades K-3." Educational Psychology Review 28(3): 551-576.

White, D. H. and L. Robertson (2015). "Implementing assistive technologies: A study on co-learning in the Canadian elementary school context." Computers in Human Behavior 51(Part B): 1268-1275.

Williams, K. J., et al. (2017). "A synthesis of reading and spelling interventions and their effects on spelling outcomes for students with learning disabilities." Journal of Learning Disabilities 50(3): 286-297.

Evans, B. J. and P. M. Allen (2016). "A systematic review of controlled trials on visual stress using Intuitive Overlays or the Intuitive Colorimeter." J Optom 9(4): 205-218.

Galuschka, K., et al. (2014). "Effectiveness of treatment approaches for children and adolescents with reading disabilities: a meta-analysis of randomized controlled trials." PloS One 9(2): e89900.

Griffiths, P. G., et al. (2016). "The effect of coloured overlays and lenses on reading: a systematic review of the literature." Ophthalmic and Physiological Optics 36(5): 519-544.

Lee, J. and S. Y. Yoon (2017). "The Effects of Repeated Reading on Reading Fluency for Students With Reading Disabilities." Journal of Learning Disabilities 50(2): 213-224.

Zhao, J., et al. (2016). "Comparing Bilingual to Monolingual Learners on English Spelling: A Meta-analytic Review." Dyslexia 22(3): 193-213.

Litteratursökning

Pubmed:180801

Söktermer		Antal träffar
Dyslexia		
1.	((("Dyslexia"[Mesh:noexp] OR dyslex*[Title/Abstract] OR dyslec*[-Title/Abstract] OR reading disabilit*[Title/Abstract] OR reading difficult*[Title/Abstract] OR reading impair*[Title/Abstract] OR reading disorder*[Title/Abstract] OR reading problem*[Title/Abstract] OR poor read*[Title/Abstract] OR struggling reader*[Title/Abstract] OR word blind*[Title/Abstract] OR reading achievement[Title/Abstract] OR reading development[Title/Abstract] OR reading abilit*[Title/Abstract]))))	11,910
Dyslexia		
2.	(((((("Phonetics"[Mesh] OR "Reading"[Mesh] OR "Psycholinguistics"[Mesh] OR "Self Concept"[Mesh:noexp] OR "Self Efficacy"[Mesh] OR "Self-Assessment"[Mesh]))) OR (phonolog*[Title/Abstract] OR phonem*[Title/Abstract] OR decoding[Title/Abstract] OR orthograph*[Title/Abstract] OR word recognition*[Title/Abstract] OR word reading[Title/Abstract] OR text reading[Title/Abstract] OR letter knowledge[Title/Abstract] OR reading skill*[Title/Abstract] OR reading comprehension[Title/Abstract] OR reading measure*[Title/Abstract] OR fluency[Title/Abstract] OR automatized naming[Title/Abstract] OR rapid naming[Title/Abstract] OR reading speed[Title/Abstract] OR naming speed[Title/Abstract] OR verbal processing speed[Title/Abstract] OR verbal memory[Title/Abstract] OR spelling*[Title/Abstract] OR listening comprehension[Title/Abstract] OR literac*[-Title/Abstract] OR self esteem*[Title/Abstract] OR self efficac*[Title/Abstract] OR self assessment*[Title/Abstract] OR knowledge development[Title/Abstract])))	193,664
Intervention		
3.	((("Early Intervention (Education)"[Mesh] OR "Education, Special"[-Mesh:noexp] OR "Teaching"[Mesh] OR "Peer Group"[Mesh] OR "therapy"[Subheading:noexp] OR "rehabilitation"[Subheading])) OR (assess*[Title/Abstract] OR intervention*[Title/Abstract] OR treatment*[Title/Abstract] AND training[Title/Abstract] OR instruction*[-Title/Abstract] OR rehabilitat*[Title/Abstract] OR therapy[Title/Abstract] OR remed*[Title/Abstract] OR reading recover*[Title/Abstract] OR compensat*[Title/Abstract] OR "special education"[Title/Abstract] OR lecture method*[Title/Abstract] OR teaching method*[Title/Abstract] OR "assistive technology"[Title/Abstract] OR "computer assisted"[Title/Abstract] OR "computer-based"[Title/Abstract] OR "reading program"[Title/Abstract] OR peer group*[Title/Abstract] OR peer mediat*[Title/Abstract] OR delayed posttest*[Title/Abstract] OR follow-up[Title/Abstract]))	

Söktermer		Antal träffar
Kombinerade set		
4.	1 AND 2 AND 3	1,911
Limit: engelska, svenska, norska, danska 2014-2018 systematiska rev., meta-analyser		
5.		20

Psycinfo 180801

Söktermer		Antal träffar
Dyslexia		
1.	(DE "Reading Disabilities" OR DE "Dyslexia") OR (TI dyslex* OR AB dyslex* OR TI dyslectic* OR AB dyslectic* OR TI reading w1 disabilit* OR AB reading w1 disabilit* OR TI reading w1 difficult* OR AB reading w1 difficult* OR TI reading w1 impair* OR AB reading w1 impair* OR TI reading w1 disorder* OR AB reading w1 disorder* OR TI reading w1 problem* OR AB reading w1 problem* OR TI poor w1 read* OR AB poor w1 read* OR TI weak w1 read* OR AB weak w1 read* OR TI strugg* n2 reader* OR AB strugg* n2 reader* OR TI word w1 blind* OR AB word w1 blind* OR TI reading w1 writing w1 disabilit* OR AB reading w1 writing w1 disabilit* OR TI reading w1 achievement OR AB reading w1 achievement OR TI reading w1 development OR AB reading w1 development OR TI reading w1 abilit* OR AB reading w1 abilit*)	26,358
Dyslexia		
2.	(DE "Phonological Awareness" OR DE "Reading Skills" OR DE "Reading Speed" OR DE "Word Recognition" OR DE "Orthography" OR DE "Spelling" OR DE "Verbal Memory" OR DE "Self Concept" OR DE "Self Efficacy" OR DE "Literacy" OR DE "Listening Comprehension") OR (TI phonolog* OR AB phonolog* OR TI phonem* OR AB phonem* OR TI decoding OR AB decoding OR TI orthograph* OR AB orthograph* OR TI "word recognition" OR AB "word recognition" OR TI "word reading" OR AB "word reading" OR TI "text reading" OR AB "text reading" OR TI "letter knowledge" OR AB "letter knowledge" OR TI reading w1 skill* OR AB reading w1 skill* OR TI reading w1 comprehension* OR AB reading w1 comprehension* OR TI reading w1 measure* OR AB reading w1 measure* OR TI fluency OR AB fluency OR TI "automatized naming" OR AB "automatized naming" OR TI "rapid naming" OR AB "rapid naming" OR TI "reading speed" OR AB "reading speed" OR TI "naming speed" OR AB "naming speed" OR TI "verbal processing speed" OR AB "verbal processing speed" OR TI "verbal memory" OR AB "verbal memory" OR TI spelling OR AB spelling OR TI "listening comprehension" OR AB "listening comprehension" OR TI "self concept" OR AB "self concept" OR TI "self-esteem" OR AB "self-esteem" OR TI "self efficacy" OR AB "self efficacy" OR TI "self assessment" OR AB "self assessment" OR TI "knowledge development" OR AB "knowledge development" OR TI well-being OR AB well-being)	296,831

Söktermer		Antal träffar
Intervention		
3.	(DE "Intervention" OR DE "Early Intervention" OR DE "School Based Intervention" OR DE "Training" OR DE "Treatment" OR DE "Special Education" OR DE "Reading Education" OR DE "Remedial Education" OR DE "Literacy Programs" OR DE "Compensatory Education" OR DE "Parent School Relationship" OR DE "Parental Involvement" OR DE "Teacher Attitudes" OR DE "Teaching Methods" OR DE "Advance Organizers" OR DE "Audiovisual Instruction" OR DE "Computer Assisted Instruction" OR DE "Experiential Learning" OR DE "Group Instruction" OR DE "Individualized Instruction" OR DE "Lecture Method" OR DE "Lesson Plans" OR DE "Resource Teachers" OR DE "Peer Relations" OR DE "Peer Pressure") OR (TI assess* OR AB assess* OR TI intervention* OR AB intervention* OR TI treatment* OR AB treatment* OR TI training OR AB training OR TI instruction* OR AB instruction* OR TI therapy AND AB therapy OR TI rehabilit* OR AB rehabilit* OR TI remed* OR AB remed* OR TI "reading recovery" OR AB "reading recovery" OR TI enhanced w1 classroom* OR AB enhanced w1 classroom* OR TI lecture w1 method* OR AB lecture w1 method* OR TI teach* w1 method* OR AB teach* w1 method* OR TI special w1 educat* OR AB special w1 educat* OR TI compensat* OR AB compensat* OR TI assistive w1 technolog* OR AB assistive w1 technolog* OR TI "computer assisted" OR AB "computer assisted" OR TI "computer-based" OR AB "computer-based" OR TI "reading program*" OR AB "reading program*" OR TI peer w1 mediat* OR AB peer w1 mediat* OR TI peer w1 group* OR AB peer w1 group* OR TI follow-up OR AB follow-up OR TI "delayed posttest" OR AB "delayed posttest")	1,698695
Kombinerade set		
4.	1 AND 2 AND 3	7,371
Limit: engelska, svenska, norska, danska 2014-2018 systematic rev., meta-analysis, peer-review		
5.	Efter dubblettkontroll 11	27

Eric 180801

Söktermer		Antal träffar
Dyslexia		
1.	(DE "Dyslexia" OR DE "Reading Difficulties") OR (TI dyslex* OR AB dyslex* OR TI dyslectic* OR AB dyslectic* OR TI reading w1 disabilit* OR AB reading w1 disabilit* OR TI reading w1 difficult* OR AB reading w1 difficult* OR TI reading w1 impair* OR AB reading w1 impair* OR TI reading w1 disorder* OR AB reading w1 disorder* OR TI reading w1 problem* OR AB reading w1 problem* OR TI poor w1 read* OR AB poor w1 read* OR TI weak w1 read* OR AB weak w1 read* OR TI strugg* n2 reader* OR AB strugg* n2 reader* OR TI word w1 blind* OR AB word w1 blind* OR TI reading w1 writing w1 disabilit* OR AB reading w1 writing w1 disabilit* OR TI reading w1 achievement OR AB reading w1 achievement OR TI reading w1 development OR AB reading w1 development OR TI reading w1 abilit* OR AB reading w1 abilit*)	20,792
Dyslexia		
2.	(DE "Phonological Awareness" OR DE "Decoding Reading" OR DE "Phoneme Grapheme Correspondence" OR DE "Phonemes" OR DE "Phonemic Awareness" OR DE "Reading Skills" OR DE "Reading Comprehension" OR DE "Reading Fluency" OR DE "Reading Rate" OR 76,539 19 DE "Word Recognition" OR "Spelling" OR DE "Self Concept" OR DE "Self Esteem" OR DE "Self Concept Measures" OR DE "Self Efficacy") OR (TI phonolog* OR AB phonolog* OR TI phonem* OR AB phonem* OR TI decoding OR AB decoding OR TI orthograph* OR AB orthograph* OR TI "word recognition" OR AB "word recognition" OR TI "word reading" OR AB "word reading" OR TI "text reading" OR AB "text reading" OR TI "letter knowledge" OR AB "letter knowledge" OR TI reading w1 skill* OR AB reading w1 skill* OR TI reading w1 comprehension* OR AB reading w1 comprehension* OR TI reading w1 measure* OR AB reading w1 measure* OR TI fluency OR AB fluency OR TI "automati?ed naming" OR AB "automati?ed naming" OR TI "rapid naming" OR AB "rapid naming" OR TI "reading speed" OR AB "reading speed" OR TI "naming speed" OR AB "naming speed" OR TI "verbal processing speed" OR AB "verbal processing speed" OR TI "verbal memory" OR AB "verbal memory" OR TI spelling OR AB spelling OR TI "listening comprehension" OR AB "listening comprehension" OR TI "self concept" OR AB "self concept" OR TI "self-esteem" OR AB "self-esteem" OR TI "self efficacy" OR AB "self efficacy" OR TI "self assessment" OR AB "self assessment" OR TI "knowledge development" OR AB "knowledge development")	119,745

Söktermer		Antal träffar
Intervention		
3.	(DE "Reading Instruction" OR DE "Basal Reading" OR DE "Corrective Reading" OR DE "Directed Reading Activity" OR DE "Individualized Reading" OR DE "Remedial Reading" OR DE "Sustained Silent Reading" OR DE "Audio Books" OR DE "Assistive Technology" OR DE "Electronic Learning" OR DE "Computer Uses in Education" OR DE "Computer Assisted Instruction" OR DE "Computer Assisted Testing" OR DE "Computer Managed Instruction" OR DE "Integrated Learning Systems" OR DE "Online Courses" OR DE "Virtual Classrooms" OR DE "Intervention" OR DE "Early Intervention" OR DE "Prereferral Intervention" OR DE "Response to Intervention" OR DE "Training" OR DE "Training Methods" OR DE "Reading Consultants" OR DE "Reading Teachers" OR DE "Resource Teachers" OR DE "Family School Relationship" OR DE "Parent School Relationship" OR DE "School Role" OR DE "Teacher Attitudes" OR DE "Peer Groups" OR DE "Peer Influence" OR DE "Peer Relationship") OR (TI assess* OR AB assess* OR TI intervention* OR AB intervention* OR TI treatment* OR AB treatment* OR TI training OR AB training OR TI instruction* OR AB instruction* OR TI therapy AND AB therapy OR TI rehabilit* OR AB rehabilit* OR TI remed* OR AB remed* OR TI "reading recovery" OR AB "reading recovery" OR TI enhanced w1 classroom* OR AB enhanced w1 classroom* OR TI lecture w1 method* OR AB lecture w1 method* OR TI teach* w1 method* OR AB teach* w1 method* OR TI special w1 educat* OR AB special w1 educat* OR TI compensat* OR AB compensat* OR TI assistive w1 technolog* OR AB assistive w1 technolog* OR TI "computer assisted" 502,386 20 OR AB "computer assisted" OR TI "computer-based" OR AB "computer-based" OR TI "reading program*" OR AB "reading program*" OR TI peer w1 mediat* OR AB peer w1 mediat* OR TI peer w1 group* OR AB peer w1 group* OR TI follow-up OR AB follow-up OR TI "delayed posttest" OR AB "delayed posttest")	695,923
Kombinerade set		
4.	1 AND 2 AND 3	7,874
Limit: engelska, svenska, norska, danska 2014-2018 systematic rev., meta-analysis, peer review		
5.	Efter dubblettkontroll 18	24

LIBA (Linguistics and Language Behavior Abstracts) 180801

Söktermer		Antal träffar
Dyslexia		
1.	(SU.EXPLODE("Dyslexia" OR "Reading Deficiencies") OR SU("Dyslexia")) OR (ab(dyslex* OR dyslec* OR "reading skills" OR "reading disabilit*" OR "reading impairment" OR "reading disorders" OR "reading problem*") OR ti(dyslex* OR dyslec* OR "reading skills" OR "reading disabilit*" OR "reading impairment" OR "reading disorders" OR "reading problem*") OR ab("poor reader*" OR "weak reader*" OR "word blind" OR "reading achievement" OR "reading development") OR ti("poor reader*" OR "weak reader*" OR "word blind" OR "reading achievement" OR "reading development"))	11,439
Dyslexia		
2.	SU.EXPLODE("Reading Rate") OR SU.EXPLODE("Reading Writing Relationship") OR SU.EXPLODE("Phonological Processing") OR SU.EXPLODE("Self Evaluation") OR SU.EXPLODE("Self Concept") OR SU.EXPLODE("Listening Comprehension") OR SU.EXPLODE("Reading Ability") OR SU.EXPLODE("Reading Comprehension") OR SU.EXPLODE("Fluency") OR SU.EXPLODE("Grapheme Phoneme Correspondence") OR SU.EXPLODE("Phonological Awareness") OR SU.EXPLODE("Orthography") OR ab(phonology* OR phone* OR decoding OR orthography* OR spell* OR "letter reading" OR "letter knowledge" OR "reading comprehension" OR fluency OR "automati*ed naming" OR "rapid naming") OR ti(phonology* OR phone* OR decoding OR orthography* OR spell* OR "letter reading" OR "letter knowledge" OR "reading comprehension" OR fluency OR "automati*ed naming" OR "rapid naming") OR ab("self concept" OR "self-esteem" OR "self efficacy" OR "self-assessment" OR "knowledge development" OR "well-being") OR ti("self concept" OR "self-esteem" OR "self efficacy" OR "self-assessment" OR "knowledge development" OR "well-being")	68,311

Söktermer		Antal träffar
Intervention		
3.	MAINSUBJECT.EXPLODE("Audiolingual Language Teaching") OR MAINSUBJECT("Computer Assisted Instruction") OR MAINSUBJECT.EXPLODE("Literacy Programs") OR MAINSUBJECT.EXPLODE("Language Therapy") OR MAINSUBJECT.EXPLODE("Spelling Instruction") OR (MAINSUBJECT.EXPLODE("Remedial Reading") OR MAINSUBJECT.EXPLODE("Reading Instruction")) OR (MAINSUBJECT.EXPLODE("Audiovisual Language Teaching") OR MAINSUBJECT.EXPLODE("Language Experience Approach") OR MAINSUBJECT.EXPLODE("Language Teaching Methods")) OR (ab(assess* OR intervention* OR treatment* OR train* OR intruction* OR therapy OR rehabilit* OR remed* OR "reading recovery" OR "lecture method" OR "teaching method" OR "special education" OR "computer assisted" OR peer* OR "computer-based" OR "follow-up") OR ti(assess* OR intervention* OR treatment* OR train* OR intruction* OR therapy OR rehabilit* OR remed* OR "reading recovery" OR "lecture method" OR "teaching method" OR "special education" OR "computer assisted" OR peer* OR "computer-based" OR "follow-up"))	99,468
Kombinerade set		
4.	1 AND 2 AND 3	2,430
Limit: engelska, 2014-2018, peer-review journal		
5.	Efter dubblettkontroll 234	276