

Education

Program outline

This document outlines the scope of themes, which may be included in the Olympiad tests. The themes are grouped by areas and are followed by a list of recommended references in Russian and English.

The skill set of the winner of the Olympiad

The winner of the Open Doors Olympiad in Education must have the following professional skills corresponding to the types of professional competencies formed by Master degree programs in Education in Russian universities:

Analytical skills show the participant's ability to process information and use an evidence-based approach to education practice.

Project-oriented skills show the participant's ability to develop educational products, solve pedagogical problems and manage the process of education at different levels.

Research skills show the participant's potential to implement research projects and do fundamental research in education.

Analytical skills

1. Ability to structure and analyze large volumes of information of different types.
2. Ability to critically read and assimilate analytical materials on education.

Project-oriented skills

1. Ability to develop different types of educational activities, including digital ones based on the results of psychological and educational research.
2. Ability to use modern trends in science and education for solving professional theoretical and practical problems.

Research skills

1. Ability to plan and conduct research, process large volumes of data and interpret the results.
2. Ability to assess and analyze the processes and phenomena in education from different theoretical stand points.

Content

Section 1. Analytics and research in education

1. Research methodology: setting goals and research objectives, formulating hypotheses and research questions. Research design.
2. Qualitative, quantitative and mixed methods. Action research as a tool of the teacher.
3. Assessment in education: formative and evaluative.
4. Basic statistical methods of data analysis.

Section 2. Education as a multidisciplinary field

1. Education as an interdisciplinary field. The structure, principles and mechanisms of education from the point of view of different disciplines and theoretical positions.
2. Basic concepts of sociology of education, psychology of education, the economics of education.
3. Principles of education management, the development and implementation of state policy in the field of education.
4. Evidence-based approach in education: theories and concepts.

Section 3. Instructional design and didactics

1. The learning process and its patterns. Goal setting and the planning of learning outcomes. The content of education.
2. Methods and tools of teaching. Organizational forms of training.
3. Basic principles of instructional design. Theories and models of instructional design.

4. Needs analysis. Goals and learning outcomes. The concept of competencies.
5. Development of educational assignments. The development of test assignments and grading systems.
6. Technology-based teaching. The use of technologies in education.

Section 4. Special education

1. The main tasks of special education.
2. Sections of special education (typhlopedagogy, sign language pedagogy, oligophrenic pedagogy, speech therapy, etc.).
3. Inclusive education

Section 5. History and theory of education

1. The history of education: key figures
2. The context and reasons for the emergence of new ideas and concepts in education.

Section 6. Current trends in education

1. The use of new technologies in education. Massive open online courses (MOOCs). Gamification in education.
2. Hard skills. Soft skills. 4Cs: cooperation, communication, creativity, critical thinking.
3. Globalization, massification and marketisation in education.
4. Knowledge economy. Reducing inequality in education.

Recommended literature

Section 1. Analytics and research in education

1. Bhattacharjee, A. (2012). Social science research: Principles, methods, and practices.
2. Van Blerkom, M. (2008). *Measurement and statistics for teachers*. Routledge.
3. Taras, M. (2005). Assessment–summative and formative–some theoretical reflections. *British journal of educational studies*, 53(4), 466-478.
4. Building a bridge between research and educational practice, https://www.teachermagazine.com/au_en/articles/building-a-bridge-between-research-and-educational-practice
5. Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education*. New York: Routledge. <http://196.223.158.148/bitstream/handle/123456789/1640/Educational%20and%20Teaching-%20Louis%20Cohen%2C%20Lawrence%20Manion%20and%20Keith%20Morris-on-%20Research%20Methods%20in%20Education-%205th%20Edn-%202000.pdf?sequence=1&isAllowed=y>
6. Mike Lambert. (2019). *Practical Research Methods in Education: An Early Researcher’s Critical Guide*. Routledge.

Section 2. Education in a multidisciplinary field

1. Hallinan, M. T. (Ed.). (2006). *Handbook of the Sociology of Education*. Springer Science & Business Media.
2. Psacharopoulos, G. (Ed.). (2014). *Economics of education: Research and studies*. Elsevier.
3. Johnes, G., & Johnes, J. (Eds.). (2007). *International handbook on the economics of education*. Edward Elgar Publishing.
4. Lovenheim, M., & Turner, S. E. (2017). *Economics of education*. Macmillan Higher Education.
5. Константиновский Д. Л. Неравенство в сфере образования: российская ситуация // Мониторинг общественного мнения: экономические и социальные перемены. - 2010. - № 5. - С. 40-66. (Konstantinovskiy D.L. Inequality

in education: the Russian situation // Monitoring of public opinion: economic and social changes. - 2010. - No. 5. - S. 40-66).

6. Kosareckij S. G., Pinskaja M. A., Zaharov A. B., Zvjagincev R. S., Mihajlova A. M., Shmis T., Parandekar S., Kunimoto Sh., Chugunov D., Zavalina P., Horvai A., Novak D., Ajedo K. Ravenstvo obrazovatel'nyh vozmozhnostej v Rossijskoj Federacii. Vsemirnyj bank, 2018. (Kosaretsky S.G., Pinskaya M.A., Zakharov A.B., Zvyagintsev R.S., Mikhailova A.M., Shmis T., Parandekar S., Kunimoto Sh., Chugunov D., Zavalina P., Horvai A., Novak D., Aedo K. Equality of educational opportunities in the Russian Federation. World Bank, 2018).

Section 3. Instructional design and didactics

1. David Carr (2005). Making Sense of Education. An Introduction to the Philosophy and Theory of Education and Teaching. RoutledgeFalmer
2. Bloom's Taxonomy of Learning Domains: The Three Types of Learning. Big Dog & Little Dog's Performance Juxtaposition. Retrieved 28 May 2009 from <http://www.nwlink.com/~donclark/hrd/bloom.html>
3. Reigeluth, C. M. (2018). An instructional theory for the post-industrial age. In R. West (Ed.), Foundations of Learning and Instructional Design Technology (1st ed.). Available at <https://lidtfoundations.pressbooks.com/chapter/an-instructional-theory-for-the-post-industrial-age/>
4. Ertmer. P. A., & Newby, T. J. (2018). Behaviorism, Cognitivism, Constructivism. In R. West (Ed.). Foundations of Learning and Instructional Design Technology (1st ed.). Available at <https://lidtfoundations.pressbooks.com/chapter/behaviorism-cognitivism-constructivism/>
5. Dousay, T. A. (2018). Instructional design models. In R. West (Ed.), Foundations of Learning and Instructional Design Technology (1st ed.). Available at <https://lidtfoundations.pressbooks.com/chapter/instructional-design-models/>
6. Needs analysis: how to determine training needs. Retrieved from <https://hr-guide.com/data/G510.htm>

Section 4. Special education

1. Mitchell D. What really works in special and inclusive education. Using evidence-based teaching strategies. London-New York: Routledge. 2008. 240 p. (Chapter 3. Strategy I: Inclusive education 'Adapt the mainstream to suit all learners')
2. The Costs of Inclusion / J. MacBeath, M. Galton, S. Steward et. al. Cambridge: Victoria Press, 2005. 78 p. URL: https://www.educ.cam.ac.uk/people/staff/galton/Costs_of_Inclusion_Final.pdf
3. Выготский Л.С. Основы дефектологии. СПб.: Лань, 2003. 654 с. Режим доступа: http://pedlib.ru/Books/1/0453/1_0453-1.shtml (Vygotsky L.S. Fundamentals of defectology. Saint Petersburg: Lan, 2003.654 p. Access mode: http://pedlib.ru/Books/1/0453/1_0453-1.shtml).

Section 5. History and theory of education

1. Fifty Modern Thinkers on Education. From Confucius to Dewey (2001). Edited by Joy A. Palmer. Routledge
2. Fifty Modern Thinkers on Education. From Piaget to the Present (2001). Edited by Joy A. Palmer. Routledge
3. Pisarev, D. I. Izbrannye pedagogicheskie sochinenija / D. I. Pisarev. – M.: Izdatel'stvo Jurajt, 2018. – 330 s., (Pisarev, D.I. Selected pedagogical works / D.I. Pisarev. – M.: Yurayt Publishing House, 2018. – 330 p.), (Pisarev, D.I. Selected pedagogical works / D.I. Pisarev. – M.: Yurayt Publishing House, 2018. – 330 p.), <https://biblio-online.ru/book/izbrannye-pedagogicheskie-sochineniya-414832>
4. Бим-Бад, Б. М. История и теория педагогики. Очерки: учебное пособие для вузов / Б. М. Бим-Бад. – 2-е изд., испр. и доп. – М.: Издательство Юрайт, 2018. – 253 с. (Bim-Bad, B.M. History and theory of pedagogy. Essays: textbook for universities / B.M. Bim-Bad. - 2nd ed., Rev. and add. - M.:Yurayt Publishing House, 2018. – 253 p.) <https://biblionline.ru/book/istoriya-i-teoriya-pedagogiki-ocherki-424723>.
5. Ситаров В.А. Теория обучения. Теория и практика: учебник для бакалавров. Москва. Юрайт. 2019 (раздел III) ; (Sitarov V.A. Learning theory. Theory and practice: a textbook for bachelors. Moscow. Yurayt. 2019 (section III)

Section 6. Current trends in education

1. Anderson, T. (Ed.) (2008). Theory and practice of online learning (2nd ed). Edmonton, Alberta, Canada: Athabasca University Press. (Part 1). Available <http://www.aupress.ca/index.php/books/120146>
2. P21_Worldlanguages: 21st Century Skills Map. Available at https://www.actfl.org/sites/default/files/pdfs/21stCenturySkillsMap/p21_worldlanguagesmap.pdf
3. Teaching and Learning 21st Century Skills: Lessons from the Learning Sciences. Asia Society. Partnership for Global Learning. Rand Corporation? April, 2012. Available at <https://asiasociety.org/sites/default/files/T/teaching-and-learning-21st-century-skills-rand.pdf>
4. Skills for the 21st Century: What Should Students Learn? May, 2015. Center for Curriculum Redesign. Boston, Massachusetts. Available at https://curriculumredesign.org/wp-content/uploads/CCR-Skills_FINAL_June2015.pdf
5. 21st Century Competences: Foundation Document for Discussion/ Phase 1: Towards Defining 21st Century Competences for Ontario. Winter 2016 Edition. Available at http://www.edugains.ca/resources21CL/About21stCentury/21CL_21stCenturyCompetencies.pdf
6. Assessment and Teaching 21st Century Skills: Status Report as of January, 2010. Available at <https://www.intel.com.tr/content/dam/www/public/emea/tr/tr/pdf/education/tools-and-resources/century21-skills-report.pdf>

Recommended online courses

Section 1. Analytics and research in education

1. Big Data and Education (Ryan Baker Associate Professor University of Pennsylvania) <https://www.edx.org/course/big-data-and-education?index=undefined&position=1>
2. Improvement Science in Education (Donald J. Peurach Professor of Educational Policy, Leadership, and Innovation in the School of Education University of

- Michigan, Anthony S. Bryk President Carnegie Foundation for the Advancement of Teaching) <https://www.edx.org/course/improvement-science-in-education>
3. Introduction to Data Wise: A Collaborative Process to Improve Learning & Teaching (Kathryn Parker Boudett Lecturer on Education & Director of the Data Wise Project Harvard University) <https://online-learning.harvard.edu/course/introduction-data-wise-collaborative-process-improve-learning-teaching?delta=0>
 4. What Works in Education: Evidence-Based Education Policies <https://www.edx.org/course/what-works-in-education-evidence-based-education-p>
 5. Academic writing for clarity and meaning <https://www.edx.org/course/academic-writing-for-clarity-and-meaning-2>

Section 2. Education in a multidisciplinary field

1. Leading for equity, diversity and inclusion in higher education
<https://www.coursera.org/learn/leading-for-equity-diversity-inclusion>
2. Introduction to economics theories <https://www.coursera.org/learn/intro-economic-theories>
3. Learning, Knowledge, and Human Development
<https://www.coursera.org/learn/learning-knowledge-human-development>
4. Understanding child development: from synapse to society
<https://www.coursera.org/learn/child-development>
5. Авторские школы (Author's schools)
<https://www.coursera.org/learn/authorschools>
6. Умная аналитика в управлении образованием (Smart analytics in education management) <https://www.coursera.org/learn/smart-analytics-education>

Section 3. Instructional design and didactics

1. Learning to Teach Online <https://www.coursera.org/learn/teach-online>
2. Assessment in Higher Education: Professional Development for Teachers
<https://www.coursera.org/learn/assessment-higher-education/>
3. Using Technology in Evidence-Based Teaching and Learning
https://www.futurelearn.com/courses/technology-teaching-learning?utm_campaign=Courses+feed&utm_medium=courses-feed&utm_source=courses-feed&utm_source=RakutenMarketing&utm_medium=Affiliate&utm_campaign=3347507:Class+Central&utm_content=10:1&utm_term=USNetwork&ranMID=44015&ranEAID=SAyYsTvLiGQ&ranSiteID=SAyYsTvLiGQ-AEzkh349ZIBbidUCW0iWw
4. Instructional Design for Effective Learning
<https://www.openlearning.com/education/courses/instructional-design-effective-learning/?cl=1>
5. University Teaching <https://www.coursera.org/learn/university-teaching>

Section 4. Special education

1. Leading for Equity, Diversity and Inclusion in Higher Education
<https://www.coursera.org/learn/leading-for-equity-diversity-inclusion>
2. Teaching & Learning in the Diverse Classroom
https://www.edx.org/course/teaching-learning-in-the-diverse-classroom?source=aw&awc=6798_1623400094_dbbd8054200c40ab5888328690669353&utm_source=aw&utm_medium=affiliate_partner&utm_content=text-link&utm_term=301045_https%3A%2F%2Fwww.class-central.com%2F
3. Disability Inclusion in Education: Building Systems of Support
<https://www.coursera.org/learn/disability-inclusion-education>
4. Helping Children with Reading and Writing Difficulties
<https://www.coursera.org/learn/dyslexia-difficulties>
5. Inclusive Teaching: Supporting All Students in the College Classroom
<https://www.edx.org/course/inclusive-teaching-supporting-all-students-in-the>

Section 5. History and theory of education

1. American Education Reform: History, Policy, Practice
<https://www.coursera.org/learn/edref>
2. New Learning: Principles and Patterns of Pedagogy
https://www.coursera.org/learn/newlearning?ranMID=40328&ranEAID=SAyYsTvLiGQ&ranSiteID=SAyYsTvLiGQ-YZl0kbBcTQOSyyVTcktlWA&siteID=SAyYsTvLiGQ-YZl0kbBcTQOSyyVTcktlWA&utm_content=10&utm_medium=partners&utm_source=linkshare&utm_campaign=SAyYsTvLiGQ
3. The idea of Educational Philosophy <https://www.coursera.org/lecture/teacher-curriculum/lecture-1-the-idea-of-educational-philosophy-VsXQa>
4. Introduction to educational theories
<https://www.staffs.ac.uk/course/introduction-to-educational-theory-1-module#entry-requirements>
5. Introduction to Learning and Teaching in Higher Education
<https://www.futurelearn.com/courses/learning-teaching-university>

Section 6. Current trends in education

1. Exploring Emerging Technologies for Lifelong Learning and Success
<https://www.coursera.org/learn/emerging-technologies-lifelong-learning#syllabus>
2. What Future for Education? <https://www.coursera.org/learn/future-education>
3. Literacy Teaching and Learning: Aims, Approaches and Pedagogies
<https://www.coursera.org/learn/literacy-teaching-learning>
4. New Learning: Principles and Patterns of Pedagogy
<https://www.coursera.org/learn/newlearning>
5. Assessment in Higher Education: Professional Development for Teachers
<https://www.coursera.org/learn/assessment-higher-education>