Research Techniques in Education Practice Test 3

60 original multiple-choice questions for teacher test preparation (FPSC / FGEI / PPSC style). Choose one answer for each question. The full answer key is on the last page — worked explanations for every question are free on the test page at QuaidianPoint.com.

Name: _____ Class: _____ Score: _____ / 60

Research Problems: Meaning, Sources and Focus

Q1. What is meant by a research problem in education?

(A) A list of books used in a study
(B) The final chapter of a thesis
(C) A specific question or issue that a study sets out to investigate
(D) A statistical formula used for analysis

Q2. Which feature marks a well-formulated research problem?

(A) It already has a well-known answer
(B) It is specific, researchable and worth investigating
(C) It covers every topic in a subject
(D) It can be answered without collecting any data

Q3. A teacher notices that her Grade 7 pupils repeatedly fail questions on fractions. This observation is best described as which source of a research problem?

(A) A census report
(B) A sampling table
(C) A referencing style
(D) Classroom experience and observation of practice

Q4. Earlier studies on homework in urban schools exist, but none has examined homework in rural primary schools. This situation points to which source of a problem?

(A) A gap in the existing literature
(B) A completed data analysis
(C) A questionnaire pilot test
(D) A university admission rule

Q5. A researcher wants to check whether a well-known learning theory holds true for adult learners in evening classes. The problem most likely comes from which source?

(A) The researcher's own classroom experience
(B) An existing theory that needs to be tested in a new setting
(C) A gap noticed in earlier studies on the topic
(D) A suggestion made by an experienced supervisor

Q6. A new researcher discusses possible topics with her supervisor, who suggests studying teacher feedback because it is both neglected and practical. This is an example of a problem arising from which source?

(A) A random number table
(B) Suggestions from experienced researchers or supervisors
(C) A library opening schedule
(D) A mark sheet

Q7. Rising dropout rates among girls in a district are reported in local education data. A study of the causes of this dropout would be a problem arising from which source?

(A) A laboratory experiment
(B) A citation format
(C) A school holiday list
(D) A current educational or social concern

Q8. A researcher narrows the broad topic of science teaching to the effect of weekly practical work on Grade 9 biology scores in one district. This process is called what?

(A) Sampling the population
(B) Coding the data
(C) Referencing the sources
(D) Delimiting the research problem

Q9. What does a good statement of the problem do?

(A) It lists the names of all participants
(B) It reports the final results in advance
(C) It clearly states the issue, its background and why it needs study
(D) It copies the abstract of an earlier study

Q10. How does a research topic differ from a research problem?

(A) A topic is always a question and a problem is always a title
(B) A topic is a broad area, while a problem is a specific issue within that area
(C) A topic comes after data collection and a problem before it
(D) A topic needs no study and a problem needs no reading

Variables and Types of Research

Q11. In a study, the variable that the researcher changes or introduces is called what?

(A) The independent variable
(B) The dependent variable
(C) The control variable
(D) The intervening variable

Q12. The variable that is measured to see whether it changes after an intervention is called what?

(A) The independent variable
(B) The extraneous variable
(C) The dependent variable
(D) The constant variable

Q13. A researcher compares two teaching methods to see their effect on pupils' test scores. In this study, the teaching method is which variable?

(A) The dependent variable
(B) The intervening variable
(C) The independent variable
(D) The sampling variable

Q14. In a comparison of two teaching methods, the method itself (not the test scores) is which variable?

(A) The dependent variable
(B) The control variable
(C) The moderator variable
(D) The independent variable

Q15. A study of a new reading programme finds that pupils who already read well at home score higher, regardless of the programme. Prior reading ability here is best described as what?

(A) An independent variable
(B) A dependent variable
(C) An extraneous variable
(D) A research hypothesis

Q16. A researcher finds that praise improves performance mainly because it raises pupils' confidence. Confidence, which links praise to performance but is not directly observed, is best described as what?

(A) A dependent variable
(B) A sampling frame
(C) A questionnaire item
(D) An intervening variable

Q17. To compare two groups fairly, a researcher gives both groups the same textbook, the same test and the same lesson time. The textbook and lesson time are being used as what?

(A) Control variables
(B) Dependent variables
(C) Intervening variables
(D) Hypotheses

Q18. A variable such as height, weight or test score, which can take numerical values on a scale, is classified as what?

(A) A categorical variable
(B) A quantitative variable
(C) A constant variable
(D) A nominal hypothesis

Q19. A variable such as school type or mother tongue, which places cases into categories rather than numbers, is classified as what?

(A) A continuous variable
(B) A dependent constant
(C) A statistical test
(D) A qualitative or categorical variable

Q20. Research carried out mainly to expand knowledge, without an immediate practical application in mind, is known as what?

(A) Basic research
(B) Action research
(C) Applied research
(D) Historical research

Hypotheses and Literature Review

Q21. What is a research hypothesis?

(A) A summary of all previous studies
(B) A tentative, testable statement predicting a relationship between variables
(C) A list of questions for an interview
(D) The final conclusion of a study

Q22. A researcher wants to test whether a new reading scheme affects scores, and first states that it makes no difference. That preliminary statement is a:

(A) Null hypothesis
(B) Research objective
(C) Sampling frame
(D) Conclusion

Q23. A claim that a new method does improve scores, stated before data collection, is best called a:

(A) Null hypothesis
(B) Limitation of the study
(C) Delimitation of the study
(D) Research (alternative) hypothesis

Q24. A hypothesis that predicts the direction of a difference, for example that one group will score higher than another, is called what?

(A) A non-directional hypothesis
(B) A directional hypothesis
(C) A null hypothesis
(D) A descriptive hypothesis

Q25. A hypothesis that is tested statistically is usually first stated in which form?

(A) Directional form, predicting which group will do better
(B) As a research question with no predicted answer
(C) Null form, stating no difference or no relationship
(D) As a conclusion drawn from the results

Q26. A researcher writes: There is no significant difference in reading scores between pupils taught with Method A and Method B. This statement is which type of hypothesis?

(A) A directional hypothesis
(B) A null hypothesis
(C) An alternative hypothesis
(D) A research question

Q27. A researcher writes: Pupils taught through group discussion will score higher in science than pupils taught through lectures. This statement is which type of hypothesis?

(A) A directional hypothesis
(B) A null hypothesis
(C) A non-directional hypothesis
(D) A sampling plan

Q28. Which quality is essential for a good hypothesis?

(A) It is so broad that it cannot be disproved
(B) It uses vague terms with no clear meaning
(C) It can be tested with evidence collected in the study
(D) It states the conclusion before data are collected

Q29. What is the main purpose of a literature review in a research study?

(A) To collect data from participants
(B) To summarise and evaluate previous studies and identify a gap for the new study
(C) To analyse test scores statistically
(D) To publish the final results

Q30. Which of the following is a primary source for a literature review?

(A) A textbook summarising many studies
(B) An encyclopaedia entry on education
(C) A newspaper editorial about schools
(D) An original journal article reporting the author's own study

Sampling: Population, Sample and Techniques

Q31. What is the difference between a population and a sample in research?

(A) The population is always small and the sample is always large
(B) The population is the whole group of interest, while a sample is a smaller part selected from it
(C) The population is the researcher and the sample is the supervisor
(D) The population and the sample are the same group in every study

Q32. In simple random sampling, the selection of one member must:

(A) Depend on the researcher's personal judgement
(B) Not affect the chance of any other member being selected
(C) Follow a fixed interval through the list
(D) Use whole classes as sampling units

Q33. The first step in stratified sampling is to:

(A) Select volunteers from whoever is available
(B) Draw a random sample from the whole population at once
(C) Divide the population into strata based on a characteristic relevant to the study
(D) Choose the sample size for the largest stratum only

Q34. A researcher randomly selects five whole schools and includes every pupil in those schools in the study. This technique is called what?

(A) Systematic sampling
(B) Cluster sampling
(C) Purposive sampling
(D) Quota sampling

Q35. From a list of 500 teachers, a researcher selects every tenth teacher after a random start. This technique is called what?

(A) Stratified sampling
(B) Snowball sampling
(C) Convenience sampling
(D) Systematic sampling

Q36. A researcher deliberately selects only head teachers with at least ten years of experience because their views are most relevant. This technique is called what?

(A) Purposive sampling
(B) Simple random sampling
(C) Cluster sampling
(D) Systematic sampling

Q37. A researcher collects data from the students who happen to be present in the college canteen on one afternoon. This technique is called what?

(A) Stratified sampling
(B) Snowball sampling
(C) Convenience sampling
(D) Systematic sampling

Q38. A researcher needs 30 male and 30 female teachers but selects them by availability rather than by chance. This technique is called what?

(A) Simple random sampling
(B) Cluster sampling
(C) Quota sampling
(D) Snowball sampling

Q39. A researcher studying teachers in unregistered private schools asks each participant to suggest other similar teachers. This technique is called what?

(A) Stratified sampling
(B) Systematic sampling
(C) Snowball sampling
(D) Cluster sampling

Q40. Why does a researcher prefer a representative sample?

(A) So that data collection takes no time at all
(B) So that no analysis is needed
(C) So that every member of the population is included
(D) So that findings can reasonably be generalised to the wider population

Research Tools, Data and Designs

Q41. Which advantage best describes a questionnaire as a research tool?

(A) It can gather data from a large number of people at low cost
(B) It always guarantees honest answers
(C) It needs no planning or piloting
(D) It works only with very small groups

Q42. An interview is most useful when a researcher wants what?

(A) Answers with no contact at all
(B) Data from thousands of people in one day
(C) Scores that need no interpretation
(D) In-depth information and the chance to ask follow-up questions

Q43. Observation as a research tool is best described as what?

(A) Asking participants to fill in a form
(B) Testing pupils with a written paper
(C) Reading old school records
(D) Watching and recording behaviour in its natural setting

Q44. A researcher uses a scale with the points Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree to measure teachers' attitudes. What does a respondent's mark on such a scale show?

(A) The degree or strength of an opinion or attitude
(B) A category with no order, like the subject a teacher teaches
(C) A count of how often the respondent performed an action
(D) A rank position, like first or second in a class

Q45. Board examination records used by a researcher for a new study are an example of which type of data?

(A) Primary data
(B) Secondary data
(C) Experimental data
(D) Interview data

Q46. In an experimental design, what combination allows the strongest claim about cause and effect?

(A) A single group with no comparison
(B) Data collected after the event only
(C) Manipulation of a variable, a control group and random assignment
(D) Opinions gathered from experts

Q47. A researcher tests a new method using two intact classes because pupils cannot be reassigned to new groups. This design is best described as what?

(A) Quasi-experimental
(B) True experimental
(C) Historical
(D) Case study

Q48. A survey design is mainly used to do what?

(A) Prove a cause beyond doubt
(B) Reconstruct events from the past
(C) Describe the characteristics, opinions or practices of a population from a sample
(D) Study one pupil in great depth

Q49. A study that examines whether reading habits and examination scores move together, without changing either variable, uses which design?

(A) Experimental design
(B) Historical design
(C) Action research
(D) Correlational design

Q50. An in-depth study of a single school over a whole term, using interviews, documents and observation together, is best described as what?

(A) A survey
(B) An experiment
(C) A case study
(D) A historical study

Research Designs, Statistics, Ethics and Report Writing

Q51. A researcher studies pupils whose parents divorced several years ago to see whether family background is linked to their school performance. Since the event has already happened and cannot be manipulated, this is which design?

(A) Ex post facto research
(B) True experimental research
(C) Action research
(D) Survey research

Q52. A researcher uses old school registers, letters and inspection reports to reconstruct how teacher training developed in a district. This is which design?

(A) Experimental research
(B) Correlational research
(C) Case study research
(D) Historical research

Q53. Which statement correctly describes measures of central tendency?

(A) The mean is the average, the median is the middle value and the mode is the most frequent value
(B) The mean is the middle value and the median is the average
(C) The mode is the spread of scores around the mean
(D) The median is the highest score in a set

Q54. Which statement correctly links standard deviation and correlation?

(A) Standard deviation shows spread around the mean, while correlation shows the strength and direction of a relationship
(B) Standard deviation shows direction and correlation shows the average
(C) Both standard deviation and correlation measure only the average
(D) Correlation measures spread and standard deviation measures cause

Q55. A researcher wants to know whether the average scores of two independent groups differ more than chance would explain. Which test is appropriate?

(A) A chi-square test
(B) A t-test
(C) A rating scale
(D) A case study

Q56. A researcher wants to know whether choice of subject stream is associated with gender, where both variables are categories. Which test is appropriate?

(A) A t-test
(B) A chi-square test
(C) A mean
(D) A median

Q57. In action research, a teacher plans a change, tries it in class, observes the result and reflects on what to do next. This repeating sequence is known as what?

(A) The sampling frame
(B) The null hypothesis
(C) The referencing system
(D) The action research cycle

Q58. Informed consent requires that participants:

(A) Understand the study's purpose and risks and agree freely to take part
(B) Are paid for every answer they give
(C) Know the researcher's personal opinions
(D) Agree to be named in the published report

Q59. A researcher publishes quotations that reveal pupils' names and schools without permission. This practice mainly violates which ethical principle?

(A) Confidentiality
(B) Random sampling
(C) Validity
(D) Referencing

Q60. Which order correctly shows the usual structure of a thesis or dissertation?

(A) Results, introduction, methodology, literature review, conclusion
(B) Methodology, results, introduction, conclusion, literature review
(C) Introduction, literature review, methodology, results, discussion and conclusion
(D) Literature review, results, discussion, introduction, methodology

Answer Key

Q1: C	Q11: A	Q21: B	Q31: B	Q41: A	Q51: A
Q2: B	Q12: C	Q22: A	Q32: B	Q42: D	Q52: D
Q3: D	Q13: C	Q23: D	Q33: C	Q43: D	Q53: A
Q4: A	Q14: D	Q24: B	Q34: B	Q44: A	Q54: A
Q5: B	Q15: C	Q25: C	Q35: D	Q45: B	Q55: B
Q6: B	Q16: D	Q26: B	Q36: A	Q46: C	Q56: B
Q7: D	Q17: A	Q27: A	Q37: C	Q47: A	Q57: D
Q8: D	Q18: B	Q28: C	Q38: C	Q48: C	Q58: A
Q9: C	Q19: D	Q29: B	Q39: C	Q49: D	Q59: A
Q10: B	Q20: A	Q30: D	Q40: D	Q50: C	Q60: C

Worked explanations for all 60 questions:
quaidianpoint.com/pedagogy-research-techniques-in-education-practice-test-3/