

Research Techniques in Education Practice

Test 9

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

Section 1: Meaning, Purpose and Types of Research

Q1. Educational research is most useful to a classroom teacher when it:

- (A) Confirms every existing teaching habit without question
- (B) Provides dependable evidence for choosing and improving teaching approaches
- (C) Lengthens staff meetings with extra reports
- (D) Replaces lesson planning with administrative orders

Q2. Basic research in education is primarily concerned with:

- (A) Solving one teacher's immediate timetable problem
- (B) Evaluating a single textbook for a single class
- (C) Training teachers in a new administrative procedure
- (D) Expanding general knowledge and developing theory

Q3. Applied research is best described as research that:

- (A) Uses existing knowledge to solve a practical educational problem
- (B) Tests a theory with no concern for any practical outcome
- (C) Describes past events without analysing their causes
- (D) Studies a single learner in exhaustive biographical detail

Q4. A teacher tries a new grouping strategy, records what happens, reflects on the result, and adjusts the strategy for the next lesson. This best illustrates:

- (A) Historical research
- (B) A single case study of one school
- (C) The action research cycle in classroom practice
- (D) An experimental study with random assignment

Q5. Research objectives are normally formulated:

- (A) After the problem is identified, to state clearly what the study intends to achieve
- (B) Only after the data have been analysed
- (C) In the final chapter, as a summary of the findings
- (D) Before any research problem is identified

Q6. In the action research cycle, after a teacher has acted on a plan and observed its effects, the next step is to:

- (A) Publish the results without any further review
- (B) Repeat exactly the same plan without change
- (C) Move to a completely unrelated classroom problem
- (D) Reflect on the evidence and revise the plan for the next cycle

Q7. The delimitations section of a research proposal mainly states:

- (A) Every study ever done on the topic
- (B) The boundaries and limits the researcher sets for the study, such as its scope and population
- (C) The final results in advance
- (D) The personal diary of the researcher

Q8. A researcher reads the closing sections of several theses and notes the topics their authors recommend for further study. This is an example of identifying a problem from:

- (A) A classroom observation made during one lesson
- (B) The personal opinion of a single school head
- (C) Recommendations for further research in published studies
- (D) A casual conversation with a parent at a school gate

Q9. The methodology chapter of a research report should mainly:

- (A) List the researcher's personal opinions about the topic
- (B) Repeat the full literature review in shorter form
- (C) Present the final conclusions and recommendations
- (D) Describe the design, sample, tools and procedure clearly enough for the study to be understood and replicated

Section 2: Research Problem, Variables and Hypotheses

Q10. A researcher keeps class size the same for all groups while varying homework frequency. Class size in this study is:

- (A) A control variable, held constant so it cannot explain the result
- (B) The independent variable
- (C) The dependent variable
- (D) An intervening variable

Q11. A study follows the same group of pupils over three years to track how their reading skills grow. This design is best called:

- (A) A cross-sectional survey
- (B) A historical study
- (C) A longitudinal study
- (D) A single case experiment

Q12. A student's motivation comes between the teaching method and the pupils' achievement, helping to explain the link, but it is not directly measured. Such a factor is best called a(n):

- (A) Independent variable
- (B) Intervening variable
- (C) Dependent variable
- (D) Research hypothesis

Q13. A researcher keeps the length of the lesson, the textbook and the test the same for both groups, changing only the teaching method. The factors kept the same are:

- (A) Dependent variables
- (B) Intervening variables
- (C) Extraneous variables that were ignored
- (D) Control variables

Q14. Which of the following claims would a statistical test most directly examine as a statement of no effect?

- (A) Homework frequency has no significant effect on mathematics scores
- (B) More homework always raises scores
- (C) Homework harms weaker pupils
- (D) Homework and scores rise together

Q15. A hypothesis that predicts pupils taught by a new method will score higher than pupils taught by the usual method is:

- (A) Null hypothesis
- (B) Directional alternative hypothesis
- (C) Non-directional hypothesis
- (D) Sampling plan

Q16. A research question differs from a hypothesis mainly in that a research question:

- (A) States a predicted answer in advance
- (B) Is the statement tested statistically
- (C) Asks what will be found, without predicting the answer in advance
- (D) Is written only in the final chapter

Q17. A hypothesis is most useful to a researcher when it is:

- (A) Testable, clear and stated in advance of data collection
- (B) Deliberately vague so that any result can support it
- (C) Changed after every new observation during analysis
- (D) Written only after the conclusions are already known

Q18. Which practice best protects the rights of research participants?

- (A) Recording interviews without telling participants
- (B) Pressuring reluctant teachers to complete a questionnaire
- (C) Using participants' real names in published examples
- (D) Allowing participants to withdraw at any stage without penalty

Section 3: Literature Review and Sampling

Q19. A literature review that merely lists studies one after another, without synthesis, is weak mainly because it:

- (A) Uses too many references for one study
- (B) Is always too long to read
- (C) Fails to show how the studies connect or where the gap lies
- (D) Contains no statistical analysis

Q20. When a researcher uses the exact words of another author in a report, correct referencing requires that the researcher:

- (A) Change a few words and present the passage as original writing
- (B) Place the words in quotation marks and cite the source
- (C) Mention the author only in the acknowledgements
- (D) Omit the source if the passage is shorter than one paragraph

Q21. In sampling terminology, the population of a study is:

- (A) The small group actually studied in detail
- (B) The list of names used to draw the sample
- (C) The statistical test applied to the data
- (D) The complete group to which results are to be generalised

Q22. Simple random sampling is characterised by the fact that:

- (A) Every member of the population has an equal chance of selection
- (B) Only the most willing volunteers are included
- (C) The researcher hand-picks experts for their special knowledge
- (D) Whole schools are selected as intact clusters

Q23. The main difference between stratified sampling and cluster sampling is that:

- (A) Stratified sampling uses no random selection at all
- (B) Cluster sampling studies every member of the population
- (C) Stratified sampling selects randomly within every group, while cluster sampling selects whole groups at random
- (D) Stratified sampling is used only for small populations

Q24. Cluster sampling is most appropriate when:

- (A) A complete list of individuals is available and the population is small
- (B) The population is widely spread and naturally occurs in intact groups such as schools or classes
- (C) The researcher needs only a few expert informants
- (D) Participants must be found through referrals from other participants

Q25. In systematic sampling, the researcher selects:

- (A) A fixed quota from each subgroup without randomisation
- (B) Only those who happen to be easiest to reach
- (C) Every kth member from a list after a random start
- (D) Participants recommended by earlier participants

Q26. A researcher studying experienced head teachers deliberately selects only heads with more than ten years of service. This is:

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

Q27. A researcher distributes questionnaires to the teachers present in the staff room on the day of the visit because they are readily available. This is:

- (A) Convenience sampling
- (B) Stratified random sampling
- (C) Systematic sampling
- (D) Quota sampling

Q28. A researcher deliberately selects only experienced science teachers because their views are central to the question. This is:

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

Q29. Quota sampling differs from stratified random sampling mainly because quota sampling:

- (A) Uses only one group from the population
- (B) Fills fixed category numbers without random selection within categories
- (C) Studies every member of the population
- (D) Uses no categories at all

Q30. A teacher tries group work, observes that weaker students still stay silent, and then plans paired work for the next lesson. This best illustrates:

- (A) A single survey with no follow-up action
- (B) A historical study of past classroom practice
- (C) A true experiment with random assignment
- (D) The action research cycle of acting, observing and replanning

Section 4: Research Tools, Data and Designs

Q31. A questionnaire is least suitable when a researcher needs to:

- (A) Reach many people cheaply
- (B) Compare answers across groups
- (C) Probe complex personal reasons in depth through follow-up questions
- (D) Collect the same items from everyone

Q32. A semi-structured interview is characterised by:

- (A) A prepared guide of topics with freedom to probe and follow up
- (B) Identical fixed questions with no follow-up allowed
- (C) No questions prepared in advance at all
- (D) Questions sent only by post or email

Q33. Non-participant observation means that the observer:

- (A) Watches and records behaviour without joining in the activity being observed
- (B) Takes part in the lesson as a co-teacher
- (C) Interviews every participant after the lesson
- (D) Distributes a questionnaire during the observation

Q34. A Likert-type rating scale is commonly used to measure:

- (A) A student's exact score on a mathematics test
- (B) The height and weight of school children
- (C) Attitudes and opinions by asking agreement with statements
- (D) The number of books in a school library

Q35. Enrolment figures published by a ministry, reused by a researcher who did not collect them, are:

- (A) Primary data
- (B) Qualitative interview data
- (C) Experimental data
- (D) Secondary data

Q36. Test scores expressed as numbers and analysed statistically are an example of:

- (A) Qualitative data
- (B) Quantitative data
- (C) Historical data
- (D) Secondary opinion data

Q37. In an experimental design, the essential feature is that the researcher:

- (A) Studies events exactly as they occurred in the past
- (B) Describes a single case in great depth without comparison
- (C) Manipulates the independent variable and controls other conditions
- (D) Surveys opinions without any comparison group

Q38. Quasi-experimental designs are most often used in schools because:

- (A) Random assignment to new groups is often impossible in real classrooms
- (B) They need no comparison group at all
- (C) They study only events from the distant past
- (D) They collect no quantitative data

Q39. A survey design is best suited to:

- (A) Establishing a strict cause-and-effect relationship in a laboratory
- (B) Describing the characteristics, opinions or practices of a large group at one point in time
- (C) Tracing the history of a school over fifty years
- (D) Studying one exceptional student in exhaustive detail

Q40. Ex post facto research is characterised by the fact that the researcher:

- (A) Manipulates the independent variable before measuring outcomes
- (B) Randomly assigns students to treatment and control groups
- (C) Creates a new teaching method and tests it immediately
- (D) Studies an effect after the presumed cause has already occurred, without manipulation

Q41. Correlational research is primarily used to:

- (A) Determine whether two variables vary together and how strongly
- (B) Prove that one variable causes another variable
- (C) Describe the past development of an institution
- (D) Manipulate a treatment under controlled conditions

Q42. When a historian checks whether an old school record is genuine and accurate before using it, this checking is called:

- (A) Random sampling of documents
- (B) Surveying present opinions
- (C) Historical criticism of sources
- (D) Experimental control

Section 5: Descriptive and Inferential Statistics Basics

Q43. The mean of a set of scores is:

- (A) The most frequently occurring score
- (B) The middle score when scores are arranged in order
- (C) The difference between the highest and lowest scores
- (D) The sum of all scores divided by the number of scores

Q44. For an even number of scores, the median is found by:

- (A) Taking the most frequently occurring score
- (B) Taking the mean of the two middle scores
- (C) Taking the difference between the highest and lowest scores
- (D) Taking the score that occurs exactly twice

Q45. In the scores 5, 8, 8, 11, 14, 14, 14 and 19, the mode is:

- (A) 8
- (B) 14
- (C) 11
- (D) 12

Q46. Standard deviation is best understood as a measure of:

- (A) How spread out scores are around their mean
- (B) The most common score in a distribution
- (C) The middle point of a distribution
- (D) The total number of scores collected

Q47. A correlation coefficient of +0.82 between study hours and test scores suggests:

- (A) No relationship between the two variables
- (B) A weak negative relationship
- (C) That study hours cause high scores in every case
- (D) A strong positive relationship

Q48. Descriptive statistics are used to:

- (A) Test hypotheses about a wider population
- (B) Estimate population values from a sample
- (C) Summarise and describe the data actually collected
- (D) Decide whether a result is statistically significant

Q49. Inferential statistics differ from descriptive statistics because they:

- (A) Only present scores in tables and charts
- (B) Only calculate averages for the sample
- (C) Only describe qualitative interview responses
- (D) Use sample data to draw conclusions about a population

Q50. The median is most useful as a measure of central tendency when scores:

- (A) Are all identical
- (B) Include extreme scores that would distort the mean
- (C) Are categories with no order
- (D) Come from a single pupil only

Q51. A chi-square test is most appropriate when the data are:

- (A) Frequencies in categories, such as numbers of students choosing each option
- (B) Exact scores measured on a continuous scale
- (C) Paired measurements from the same group over time
- (D) Correlation coefficients between two variables

Q52. When a researcher says a result is significant at the 0.05 level, this means the observed difference:

- (A) Is large enough to matter in every classroom
- (B) Proves the research hypothesis with certainty
- (C) Is unlikely to have occurred by chance alone, with a probability of 5 percent or less
- (D) Applies to all schools in the country without exception

Q53. A case study design is best used when a researcher wants to:

- (A) Survey opinions across a whole province at one time
- (B) Compare the means of two large randomly assigned groups
- (C) Investigate a single school, class or learner in great depth
- (D) Trace the history of education over several decades

Q54. A correlation of -0.68 indicates:

- (A) A strong positive relationship
- (B) Almost no relationship
- (C) A perfect positive relationship
- (D) A fairly strong negative relationship

Section 6: Action Research Cycle, Ethics, Report Writing and Referencing

Q55. The main purpose of action research is to:

- (A) Create universal laws of learning for all countries
- (B) Improve practice in a particular setting through cycles of action and reflection
- (C) Study only events that happened in the past
- (D) Test hypotheses using randomly assigned samples

Q56. In action research, reflection after observation is important mainly because it:

- (A) Helps the practitioner judge what worked, what did not, and how to improve the next cycle
- (B) Allows the researcher to discard all collected data
- (C) Proves that the first plan was perfect
- (D) Replaces the need for any further planning

Q57. In research ethics, the right to withdraw means that participants:

- (A) May leave the study at any time without penalty
- (B) Must complete every question once they have started
- (C) Are paid only if they stay to the end
- (D) Are named in the published report

Q58. Confidentiality in research is best protected when the researcher:

- (A) Publishes participants' names alongside their answers
- (B) Keeps identities private and reports results without linking answers to named individuals
- (C) Shares raw questionnaires with anyone who asks for them
- (D) Stores identifiable data in an unlocked public place

Q59. Plagiarism in a research report is:

- (A) Quoting a source accurately with full acknowledgement
- (B) Paraphrasing an idea in one's own words with a citation
- (C) Presenting another person's words or ideas as one's own without acknowledgement
- (D) Listing every source consulted in a bibliography

Q60. A thesis or dissertation normally ends with:

- (A) A new research problem stated without any findings
- (B) A list of tools that were never used in the study
- (C) Raw questionnaires with participants' names attached
- (D) A summary of findings, conclusions, recommendations and references

Answer Key

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

Worked explanations for all 60 questions:

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