

GLOSSARY OF KEY RESEARCH TERMS

Action research Research conducted by participants who are also members of the community where the research takes place (e.g. the school, classroom). It involves cyclical and iterative processes of planning, acting, observing and reflecting that allow for emergent findings and increased understanding about local practices.

Adaptive expertise The ability in teachers to be innovative and creative in using knowledge to solve novel problems. This is contrasted with routine expertise – a mastery of procedures which are used efficiently but not creatively.

Affective strategies Mental or behavioural techniques used to control the emotional aspects of language learning, such as stress.

Attributed beliefs Teacher beliefs that researchers infer on the basis of observations of what teachers do in their classrooms.

Auditory perceptual processing Phenomena associated with the bottom-up dimension of listening by providing listeners with an aural stimulus (word or short sentence presented with no contextual cues) and then asking the listener to choose from among several options in order to uncover listener word segmentation strategies.

Back-translation A process used to assure that a translated and original version of a questionnaire or a document is equivalent. The process involves translating the original version into the second language and then having a second person or group translate the second language version back into the original language. The original version and the (twice) translated version can then be compared to assure that they are equivalent.

Bootstrapping A nonparametric statistical procedure that produces a more stable and statistically accurate outcome.

Boundedness The delimitation of a case that enables us to distinguish what the case and its context do and do not consist of.

Breadth of vocabulary knowledge The number of words learners know.

Case study An approach which examines a single case, whether it be a single person, group, institution or community, either at one point in time or over a period of time. This allows for a project which produces in-depth descriptions of contexts, themes and issues.

Classroom observation A process whereby classroom events are observed, documented, analysed and interpreted.

Information is gathered and documented about processes and learning outcomes, participants' behaviours and actions, relationships as well as teaching/learning materials or other artefacts. Observation needs to be systematic to address validity and reliability concerns.

Codes Words and phrases that signify what is happening in the data – smaller pieces of meaning which when put together become themes.

Coding The process of searching for and recording codes within the data.

Cognitive dissonance Teachers' experience when they become aware of a tension or gap between their current beliefs and practices and others which they recognize as being of value. Cognitive dissonance is thought to play a role in facilitating changes in what teachers believe and do.

Cognitive strategies Techniques used to enhance memorization and recollection of language, such as lexical knowledge, grammatical knowledge, phonological knowledge, etc.

Collocation Words that frequently occur with other words in the language (e.g. chain smoker, domestic animal).

Component-skills approach An approach to reading research in which reading is viewed as being a set of sub-skills such as decoding, vocabulary knowledge, syntactic processing and metacognition.

Concurrent Quan + Qual MMR design A research design in mixed methods research (MMR) that consists of two independent quantitative and qualitative strands.

Confirmability A trustworthiness criterion in qualitative research which requires that researchers reveal the data they are basing their interpretation on or at

least make such data available. Other researchers should be able to examine the data to confirm or reject the claim that is made. Confirmability is analogous to the concept of replicability in quantitative research.

Construct An abstract concept such as intelligence, motivation or English proficiency that cannot be observed directly and needs to be measured empirically.

Construct representation The processes whereby researchers construct texts that represent the participants and the researcher that are seen as constructed rather than 'true' presentations of an observed reality.

Construct validity of an instrument The extent to which an instrument measures or captures what it is intended to measure rather than measuring something else.

Constructivism A theory in which learning is seen to occur through the interaction of existing and new experience. What teachers already know and believe thus have a powerful impact on what they learn through teacher education.

Control group A group of participants in experimental research who are treated or taught in the traditional or typical way rather than undergoing the experimental treatment.

Conversation analysis (CA) A sub-discipline of discourse analysis. CA research is based on the fine-grained analysis of stretches of actual talk. The patterns and the principles that emerge from this analysis form the basis of the insights of the research. These findings can be related to wider generalizations – for instance how speakers interrupt one another politely in different

circumstances or how laughter can show affiliation between speakers. CA differs fundamentally from corpus linguistics in that it is based on situated qualitative insights rather than frequency analyses.

Corpus/corpora A collection of texts, usually stored electronically, seen as representative of some subset of language and used for linguistic analysis. Corpora are designed to include certain types of language, for instance, teenagers' talk or broadcast radio or business meetings. Very large corpora are designed to allow researchers to find patterns in language and the greater the size of the corpus – as long as it is carefully designed – the stronger the conclusions are about these patterns.

Corrective feedback Feedback given to learners on their language errors.

Correlation coefficient A statistical measure ranging from -1 to $+1$ that indicates the strength of the relationship between variables. A correlation of 0 indicates no relationship at all, whereas a correlation of 0.9 indicates a strong positive relationship.

Correlational research A type of non-experimental research that investigates whether there is a true association between two variables. Correlational research differs from experimental research in that there is no manipulation of the independent variables under examination.

Credibility A trustworthiness criterion in qualitative research which requires researchers to accurately describe their definitions and the characterizations of the people or things under investigation. Credibility is more or less analogous to the concept of internal validity in quantitative research.

Credibility in action research In action research, internal credibility refers to the extent to which accounts of the research hold value and truth for the participants; external credibility relates to how convincing the outcomes appear to those outside the research.

Critical discourse analysis An approach which seeks to reveal the interests, values and power relations in any institutional and sociohistorical context through the ways that people use language.

Critical ethnography A strand of ethnography that seeks to understand the influence of class, race, gender and power relations on social relations and the production and reproduction of inequality with a view to facilitating social change.

Cross-cultural pragmatics Research that investigates differences between different native language groups in terms of pragmatic performance and perceptions of social variables.

Cross-sectional research Often associated with a quantitative research design, cross-sectional research involves collecting data on more than one case at a single point in time, typically with a relatively large number of participants.

Data coding A process of assigning codes to data. This process generally involves grouping instances in the data that share similarities together in categories. Data coding is related to data reduction as irrelevant data are not considered.

Data driven A model of language that begins from actual instances of written or spoken discourse and looks for patterns and generalizations that can be drawn from these instances.

Data Information gained through research that is used to respond to the research question or hypothesis.

Discourse Completion Task (DCT) A research instrument consisting of a situation description and a space for respondents to write what they would say in the situation. They are commonly used in pragmatics research but do not necessarily reflect real-world language use.

Deductive (top-down) reasoning

The process of drawing a specific conclusion from a set of premises or theories (i.e. from general to particular).

Dependability A trustworthiness criterion in qualitative research which requires that researchers account for any shifting conditions directly related to the people and things they are studying and any modifications they have made in their study as it has progressed. Dependability is analogous to reliability in quantitative research.

Dependent variable The variable upon which the independent variable is acting. For example, improvement in writing proficiency (the dependent variable) as a result of a particular approach to teaching (the independent variable).

Depth of vocabulary knowledge

The knowledge of individual words, including form, meaning, collocations and associations.

Descriptive statistics Basic statistics that describe measures of frequency (percentages), central tendency (mean, median, mode) and dispersion (such as standard deviation).

Direct vocabulary learning Language learning with a specific focus on vocabulary development (e.g. learning from word cards).

Discourse(s) Naturally-occurring, contextualized language use. For

Critical Discourse Analysis (CDA) and Feminist post-structuralist discourse analysis (FPDA), discourse is social, ideological and constitutive – of behaviours and ideas – at least potentially. More specifically, a discourse, a Foucauldian notion drawn on by both CDA and post-structuralism, refers to a socially constructed way of seeing the world and then representing it in language (and perhaps images), for example, a ‘Battle of the sexes’ discourse may be identified when some stretch of language use seems to assume that women’s and men’s interests are automatically opposed.

Effect size A measure of the strength of the relationship between two variables. Effect size differs from a statistically significant effect in that it considers whether the size of the observed effects is robust enough or realistic. Different effect sizes are calculated for different inferential statistical tests, such as Cohen’s *d* for two group mean differences, *r* squared for correlations, or eta squared for analysis of variance (ANOVAs).

Elicited data Data which is collected through a task that will trigger the use of a particular kind of reply or response. Elicited spoken data, by the nature of the process, restricts the type of data collected and reduces its authenticity. A recording of a dinner party conversation, then, would not be regarded as ‘elicited’. Data gathered in this latter way will be more authentic but may not include some aspect of language that the researcher wishes to investigate.

Emic An insider’s perspective on events – that is, as the events are experienced by the participants in the particular social setting.

Ethics Ensuring that research is conducted in an ethical manner, such as not abusing the participants in a study in any way, including abuses of time and effort.

Ethnographic approaches In wider research circles an ‘ethnographer’ is a researcher who embeds themselves in the social groups that they are investigating and carries out work from the perspective of that society. In this way, the insights gathered are less likely to be based on imposed or pre-existing models/categories and new patterns of behaviour and social meaning can be uncovered. Ethnographic research investigates the naturally occurring behaviours of a group of people in their community; describes the beliefs, values and attitudes of a group; and provides a holistic description of contexts and cultural themes.

Etic An outsider’s perspective on events.

Experimental group The group of learners in experimental research which receives a particular treatment or condition which is hypothesized to change the target behaviour (i.e. the dependent variable).

Experimental research A situation in which a researcher manipulates one or more variables (such as an approach to teaching speaking) while the others are kept constant in order to see the effect of manipulating the variable(s) on a dependent variable (such as speaking proficiency).

Explicit feedback An overt correction of erroneous utterances in learners’ discourse with or without explanations.

Explicit grammar instruction Presenting and explaining a pre-determined set of grammar

rules, usually but not necessarily followed by practice.

Explicit knowledge Conscious knowledge about a language (rules, conventions of use) that learners can often verbalize.

External validity The extent to which the results of quantitative research can be generalized to another situation (i.e. for different subjects/participants, settings, times). That is, to what degree the inferred (causal) relationship or differences between groups can be generalized to other persons, settings and times.

Factor analysis A statistical analysis used to explore or confirm relationships between related variables. It can be exploratory (EFA) or confirmatory (CFA) and is often used to validate questionnaires or tests.

Field notes Notes from researchers’ observations that are taken during the data collection process. The researcher may make brief notes during the observation and later expand these into field notes. These notes supplement information from other sources such as documents and interviews. There are two components of field notes: (1) description (e.g. setting, people, reaction, interpersonal relationship) and (2) reflection or observer comment (e.g. observer’s personal feelings, impression about the events, comments, speculations about data analysis).

Focus group An interview strategy in which a small group of participants sharing similar characteristics are interviewed together by the researcher.

Focus on Form (FonF) Reactive grammar instruction which occurs spontaneously in response to learners’ needs or errors as they

arise when learners engage in meaning-focused activities.

Free recall protocols A form of comprehension verification where research participants listen to a text and immediately afterwards write, most often in their native language, as much information as possible to convey what they understood.

Gender Not just a polite word for 'sex'. While gender often refers to what are frequently seen as rather different learned, social attributes of women and of men (and girls and boys), it can also be used critically to refer to socially constructed ideas about such attributes.

Genre analysis A branch of discourse analysis which seeks to understand the communicative character of discourse by looking at how individuals use language to engage in particular communicative situations.

Goodness-of-fit indices The statistical fit indices of a hypothesized structural model. These include chi-square, goodness-of-fit, root mean square residual fit indices. These indices are generated by the analytical software used, for example AMOS 21.

Grounded theory Grounded theory starts with data rather than theory. It employs a cyclical process of theory building and testing the developing theory against the data.

Hypothesis A predictive statement that can be tested empirically. It is mostly used in quantitative research.

Hypothesis testing This involves two types of hypotheses. A null hypothesis (H0) is the prediction that, for example, there is no linear relationship between variables. The alternative hypothesis (H1) is the opposite of the null hypothesis.

That is, that there will be a relationship between the variables.

Identity(ies) Ways of being in the world which are ongoing, individual and collective, socially and psychologically situated and socioculturally and sociohistorically constructed.

Implicit feedback The corrective intent of the feedback which is not self-evident (e.g. a recast).

Implicit knowledge Unconscious knowledge that can be quickly and easily accessed (e.g. in fluent speech).

Incidental vocabulary learning

Acquiring new words while engaged with the language, such as while reading extensively.

Independent variable A variable that is hypothesized to be related to a change in something (e.g. language learning). For example, the type of writing feedback students receive could be an independent variable that affects subsequent writing performance, which is the dependent variable.

Inductive (bottom-up) reasoning

The process of drawing a specific conclusion from a set of observations or data. To be absolutely certain of an inductive conclusion, researchers must observe all examples. Imperfect induction is a system in which researchers observe a sample of a group and infer from the sample what the characteristics of the entire population are likely to be.

Inferential statistics Statistics that are used to make inferences about population parameters, such as the relationship between two variables or between two groups on a variable of interest.

Informed consent The process whereby a research participant is informed

of all potential risks and benefits associated with participating in the research before giving their consent.

Institutional review board/ethics committee

The ethical review committee which oversees and approves research in universities.

Instrumental case study A study of a particular phenomenon, person, program or site that is motivated by interests and purposes beyond the case.

Interlanguage pragmatics Research that investigates learning of second language pragmatics; describes and explains development as well as the role of general target language proficiency in learning pragmatics.

Internal validity One of the fundamental types of validity in quantitative research (see external validity) which concerns the relationship between independent and dependent variables. It relates to the degree to which observed relationships between variables can be inferred to be causal-like (e.g. how strongly we can infer that variable A resulted in the observed effects (increased performance) in variable B.

Intervention A characteristic of research whereby innovative or changed practices may deliberately be introduced into the research.

Intrinsic case study A study of a particular phenomenon, person, program or site that is inherently interesting in itself.

Introspection A data collection technique that aims to have learners discuss their thoughts and behaviours while completing the event being studied, for example a think-aloud task.

Language ideologies Commonsense conceptions about language (e.g. as a communicative mode), specific languages (e.g. of a particular

variety as more or less prestigious), language learning (e.g. that vocabulary is best learned through memorization) and language users (e.g. speakers of a given variety are more socially desirable than speakers of a different variety).

Language learner strategies Processes and actions that are consciously deployed by language learners to help them to learn or use a language more effectively. These include strategies applied by learners when learning a language, using a language or taking language tests.

Latent variable A variable that cannot be observed, for example, motivation. A model using observed variables is hypothesized and the model is accepted or rejected depending on the results.

Lexical coverage The proportion of tokens in a text represented by a word family or word list.

Likert-scale item A type of item commonly used in questionnaires. Usually it is in the form of a statement that the respondent has to respond to, often choosing from five response options (e.g. strongly agree, agree, don't know/no opinion, disagree and strongly disagree).

Linguicism Prejudice or discrimination based on language. It can be traced to Skutnabb-Kangas and Phillipson's work in Linguistic Human Rights.

Literacy practices The ways people use written language in the home, the school and the community. These practices are socially constructed and are instrumental in shaping learner identity.

Longitudinal research A study in which data is collected from the same participants at more than one point in time. It is carried out

over a relatively long period of time, often with a small number of participants.

Macroethics Ethical protocols stipulated by university ethical review committees and professional organizations.

Magnitude The relative size of a difference or the relative strength of a relationship (as opposed to probability which is the relative confidence that a finding is not a spurious fluke of chance).

Meta-analysis An approach to analysis that systematically combines the results of previous studies that examined related research questions. It is a type of research synthesis. A meta-analysis is usually carried out by identification of a common measure of effect size. Meta-analysis yields a more robust estimate of the true effect size than that derived from a single study (see Effect size).

Metacognitive instruction The pedagogical procedures that enable learners to better self-regulate their learning and by increasing awareness about (1) themselves as learners; (2) the nature and demands of learning; and (3) strategies for learning.

Metacognitive strategies Mental or behavioural techniques used to enhance the planning, monitoring and evaluation of one's learning.

Microethics Everyday ethical dilemmas that arise in specific research contexts.

Mixed methods research A study that has both quantitative and qualitative components. The purpose of mixed methods research is to achieve a fuller understanding of a complex issue and to verify one set of findings against the other.

Multimodal Traditionally, we might think of 'spoken mode' and

'written mode' as the two major ways that people communicate. However, it has always been the case that different modes can be in play at the same time – for instance, when someone dictates a message – and that other modes of communication have been used (for instance, miming or sign language). Increasingly, researchers into spoken language are becoming interested in 'multi-modal' settings and how these can be analysed. These range from the study of gesture in digitally captured video of speakers to online synchronous (real time) use of chat, video, pictures and talk.

Multimodal discourse Discourse which employs and integrates more than one mode of presentation, such as words and graphics, speech and gesture.

Narrative form The way stories are constructed, including the organization of ideas, the sequences of events, choice of words, textual coherence.

Narrative inquiry An approach to doing research that focuses on the stories people tell about their lives. Researchers are interested in understanding the meaning research participants make of their life experiences, often drawing on biographies, life stories, life narratives and oral histories.

Narrative knowledging The meaning making, learning and knowledge construction by participants, researchers and audience of the research reports that takes place during the entire narrative inquiry process.

Naturalistic data Data that is collected in a natural context without a researcher's attempt to control or manipulate the environment.

Neurolinguistics The study of language and the brain. It falls into two main

areas in relation to researching speaking; study of the normal brain patterns during talk; study of the damaged brain as it affects talk. The second of these is the older discipline as various speech defects stem from particular areas of the brain becoming damaged. This allows researchers to connect brain function to speech processing and production. More recently, the capacity to scan the brain during different kinds of task has allowed more sophisticated understanding of lexical retrieval and speech processing.

Non-observational methods Methods of data collection used to capture people's reflections, thoughts, attitudes or feelings about the issue under investigation – that is, about things that cannot be directly observed.

Normal distribution A statistical term related to the spread of the data around the mean. Normal distribution is bell-shaped. In a perfect normal distribution, the mean, median and mode have equal values.

Null hypothesis The default hypothesis that there is no significant difference between two groups/populations.

Observation A basic method for obtaining data in qualitative research that involves the observation of a particular phenomenon, such as a particular set of lessons. The kind of observation carried out in qualitative research is more global and holistic than the systematic, structured observation used in quantitative research.

Observational methods Methods of data collection used to capture behaviours and interactions, for example audio/video recording, observational notes, descriptive journals or photographs.

Observed variable An item or a subscale of items measuring the same variable.

Outliers Extreme cases or values which are not typical of the group of participants in a study. Outliers can distort statistical results.

Participant observation Three terms are commonly associated with participant observation. *Complete observer* is when the observer does not take part in the activities but simply observes what is going on. *Participant as observer* is when the observer actively participates in the activities being examined. *Observer as participant* is when the observer interacts with the participants sufficiently to establish a rapport with them but does not become involved in the activities of the group.

Participants People (e.g. learners, teachers) who take part in research by providing information about themselves that is used as research data. The term 'participants' is preferred to the term 'subjects'.

Posttest A test instrument used to collect data following a research intervention period.

Pragmatism to research A philosophical position that underscores the idea that what has practical and functional value is important and valid in a research design.

Pretest A test instrument used to collect data before a research intervention period.

Probability The degree to which a statistical finding is likely to occur by chance (see statistical validity). The p -value (p = probability) is the likelihood that researchers will be wrong in the statistical inferences that they make from the data. $p < 0.05$ (i.e. there are 5 in 100 chances of being wrong) is commonly used

in applied linguistics research. If the probability based on the result of the statistical analysis is less than the significance level, the null hypothesis can be rejected.

Process-oriented research Research that provides opportunities for participants to reveal or for researchers to uncover how or why research participants may have responded as they did.

Process-product research An approach to research which seeks to establish causal links between variables, such as between particular teaching behaviours and student learning.

Productive vocabulary knowledge Knowledge of words in spoken or written forms.

Product-oriented research Research that focuses on data only, as determined by some measurement instrument (e.g. test scores or questionnaire responses), without any interest in the processes that led to a given score.

Professed beliefs Teachers' stated beliefs, as expressed, for example, in questionnaires or interviews, also called espoused beliefs.

Psychometrics An approach to assessment derived from psychology which evaluates the quality of tests by using a range of statistical procedures.

Publication bias The tendency for statistically significant results to eventually appear published much more often than statistically non-significant results, which are more likely to remain unpublished.

Purposive sampling Researchers identify the characteristics of participants or samples prior to data collection and base the sampling on this. Purposive sampling is often associated with qualitative research.

Qualitative research An approach that seeks to make sense of social phenomena as they occur in natural settings. Rather than setting up a controlled environment, qualitative researchers are more interested in understanding contexts as they actually are. Qualitative researchers do not aim for quantification or standardization in the data collection and analysis of the data.

Quantitative data Numerical data derived from quantitative measures such as language tests and Likert-scale questionnaires.

Quantitative research A research approach that draws on numeric data. Variables are clearly defined, measurement is standardized and data are generally analysed using statistical methods.

Quasi-experimental research The underlying principles of quasi-experimental research are the same as experimental research. The difference is that there has been no random assignment of participants to groups.

Random assignment A process of randomization in assigning participants to the experimental treatments. With random assignment, each participant has an equal and independent chance of being assigned to any group. Thus, the assignment is independent of the researcher's personal judgement or the characteristics of the participants themselves.

Random selection A technique that aims to generate a sample that represents a larger population. Random selection is related to external validity in experimental and survey research.

Rater A trained person who judges the quality of a candidate's performance of a speaking or writing task according to specified criteria.

Reader response While there are many theories of reader response, the idea is that a given response to a text cannot be predicted by the text itself and that different readers will have different (perhaps equally valid) responses to the same text. Relatedly, the idea of the ‘writer’s intention’ is deprivileged (Barthes’ notion of the ‘death of the author’).

Reading fluency The ability to read rapidly with ease and accuracy. Fluency involves processing skills such as speed of word recognition and syntactic parsing.

Reading strategies Activities and behaviours that readers engage in to assist them in comprehending a text, such as predicting text content or guessing meaning from context.

Receptive vocabulary knowledge Recognition of word forms and meaning as evidenced when listening and reading.

Reflexivity Processes of critical self-reflection on a researcher’s biases, theoretical predispositions, preferences that locate the researcher as a presence in the research and in the text.

Reliability The quality of instruments/ measures and results of a study. The reliability of an instrument or measure is concerned with the degree to which a research instrument or measure produces consistent information (e.g. whether the data would be the same if the instrument were administered repeatedly). The reliability of a result of a study is concerned with whether the result would be likely to reappear if the study were replicated under the same conditions.

Replicability A requirement that researchers provide enough information about a study to allow other researchers to replicate or

repeat the study exactly as it was originally conducted. This includes information about the participants involved in the study, how they were selected, the instruments that were used and the data collection and analysis procedures.

Replication The process of conducting a new study closely based on a previous study. The aim is to find out whether the new study will yield the same finding as in the original study. However, exact replication is often impossible in applied linguistics research and hence *conceptual replication* may be achieved (i.e. the research concept is replicated, rather than the context and time).

Representation Representation tends to be of something or someone in a written, visual or multimodal text or set of texts. It can be seen as ideological as it invariably involves selecting from a pool of available choices and hence is not a ‘mirror’ on ‘reality’. Representation can be seen as constitutive (as in Critical Discourse Analysis (CDA)).

Research synthesis An analysis of research evidence relating to a specific research question based on an analysis of previous studies on the topic. This can involve an examination of either quantitative or qualitative research. Research synthesis is a powerful tool in that it provides an overview of the overall body of research evidence.

Retrospection A data collection technique that aims to have learners introspect after completing the event being studied. Frequently used instruments can include interviews, questionnaires and diaries. Unlike introspection, retrospection occurs once a task has been completed. Participants are asked to report on what they were thinking while they carried out the task.

Reverse-coded items When creating a number of individual items to measure a particular construct, it sometimes is necessary to include items that are negatively stated. For example, one question in the scale might be 'Speaking English is necessary for my job', while a reverse-coded item measuring the same scale might state 'Learning English is not important for my occupation.' When inputting the data, it is imperative to input the value on the opposite end of the scale (e.g. if using a 5-point scale, a '2' response would be reverse-coded and inputted as '4').

Routine formula A fixed, situationally bound, highly frequent expression that can be learned as a chunk, also known as conventional expression.

Sampling Because of the difficulty or impossibility of surveying an entire population, a sample of that population can be identified and used for research purposes. It is imperative that the process of sampling be well-planned, so that the sample used is representative of the intended population. Sampling can include probability sampling (e.g. random, stratified random, systematic, cluster) and nonprobability sampling.

Schematic structure The typical rhetorical patterning of a text in terms of an organized sequence of moves or discoursal acts. This can be seen as a system of conventions or resources of meaning for generating expected texts, sometimes also referred to as 'generic structure'.

Second language classroom research

A term describing the number of ways that researchers study classroom language processes and phenomena in order to understand language classrooms better.

Self-regulation The underlying degree to which learners are proactively managing their language learning and language use.

Sensitivity analysis A planned investigation within a given study that allows the researcher to probe a suspected source of error in the analysis, that is, to ascertain the extent to which a result or observation may change when an alternative analysis is employed. Meta-analysts, for example, may decide to investigate the extent to which the average magnitude of an effect for a given group of primary studies would change when effect sizes from published and unpublished studies are aggregated together versus separately.

Sequential Qual → Quan MMR

design A mixed methods research (MMR) design which consists of two chronological strands with a qualitative strand occurring first.

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Significance level A pre-specified fixed probability of rejecting the null hypothesis when it is true. A significance level is determined by the researcher in consideration of the consequences of rejecting a true null hypothesis.

Small stories Snippets of talk-in-interaction, embedded in conversations and interviews. They are analysed discursively, more or less taking into account the local and broader context of construction and other ethnographic data, if available.

Sociocultural strategies Behavioural techniques used to enhance learning through planned interaction with the surrounding environment and

people, such as working with more able learners, or seeking contexts conducive to learning.

Speech act An utterance that is performed with a certain intention of the speaker and effect on the hearer, for example promising, ordering, greeting, warning, inviting and congratulating.

SPSS Statistical Package for the Social Sciences – a statistical program to help with the analysis of quantitative data.

Statistical validity This validity is similar to internal validity in quantitative research. Researchers ask whether the observed relationship between the independent and dependent variables was a true relationship, incidental, or found by chance.

Stimulated recall A type of interview where the interviewee is encouraged to talk about a previous experience (e.g. a lesson) and a ‘stimulus’, such as a video recording of the lesson or some teaching material, is used to facilitate the conversation.

Strand in mixed methods research

A component of a study that encompasses the basic process of conducting quantitative or qualitative research: posing a question, collecting and analysing data and interpreting results.

Strategies for language learning The strategies deployed by a learner when actively learning a language, such as cognitive, metacognitive, affective, or social strategies (when organized by function).

Strategies for language use The strategies deployed when a learner is using the language, such as coping strategies or communication strategies.

Structural equation modeling A series of statistical techniques that

can be used to explore complex relationships between variables.

Style Socially identifiable ways of speaking (akin to but also different from notions of dialect).

Systemic functional linguistics A theory of language developed by Michael Halliday based on the idea that language is a system of choices used to express meanings in context.

Teacher cognition The study of the unobservable dimension of teaching, such as beliefs, attitudes, knowledge and emotions.

Teachers’ beliefs Anything that a teacher considers to be true.

Test construct A defined skill or ability that is targeted by a test or assessment procedure.

Test reliability The extent to which a particular test or assessment procedure provides a consistent measure of the learners’ knowledge or ability.

Test validation The process of obtaining evidence that a particular test or assessment procedure produces results which can meaningfully be interpreted as representing the level of the learners’ language knowledge or ability.

Thematic analysis An analysis which looks for themes that emerge entirely from the data.

Thematic headings Headings which grow out of the thematic analysis which are used to structure the discussion of the data.

Thick description Devised by Geertz, the term thick description is often associated with ethnographic or case study research. Thick description refers to a detailed description of a phenomenon or event that includes the researcher’s interpretation of what they have observed.

Think-aloud methodology A type of verbal report that attempts to tap the thought processes of learners while they are actually engaged in a learning activity. After some initial training in the process, participants 'think aloud' when prompted by the researcher.

Timing in mixed methods research A temporal relationship between the quantitative and qualitative strands within the study.

Tokens Individual occurrences of words (i.e. tokens = total number of words in a text).

Transfer The extent to which knowledge and skills possessed in one language transfer to another language.

Transferability A qualitative trustworthiness criterion which requires researchers to describe the research design, context and conditions so that other researchers can decide for themselves if the interpretations apply to another context with which they are familiar. Transferability is analogous to the concept of generalizability in quantitative research.

Transformative A philosophical perspective that defines knowledge as influenced by historical and contextual factors with special emphasis on issues of power and social justice.

Transmission models of teacher learning Strategies for teacher learning where the emphasis is on the communication of knowledge from trainers (who have the knowledge) to teachers (who lack it).

Triangulation A research strategy that involves analysing data from multiple sources (e.g. surveys and interviews), multiple groups of participants (e.g. students, teachers, and parents) and multiple research techniques (e.g. observation and

interviews) to thoroughly examine the matter under investigation. Triangulation aims to collect multiple perspectives on an event so that the researcher can gain a more complete understanding of the topic under examination.

True mixed methods research study

A study that implies mixing of quantitative and qualitative methods at different stages in a study process.

Trustworthiness The term for validity in qualitative research. Trustworthiness is often a preferred term in qualitative research because it takes account of the different nature of the research methods and epistemological assumptions made in qualitative research compared to those used in quantitative research.

Type I error An error type that occurs when the null hypothesis is rejected when it is true – that is, when a null hypothesis is wrongly rejected.

Type II error An error type that occurs when a false null hypothesis is not rejected.

Validation Procedures or steps taken by the researcher to make sure that the measure or instrument to be used for the research is valid and that proper inferences can be made about the construct of interest based on the data.

Validity The extent to which the research actually studies what it claims to study. The *validity of an instrument* concerns whether the instrument actually measures what it claims to measure. For instance, a questionnaire designed to explore language learners' motivation which actually examines learners' anxiety is not a valid instrument. The instrument may, however, be reliable because individuals may

consistently provide the same responses on different occasions. The *validity of the research* refers to the accuracy of the inferences, interpretations or actions made on the basis of the data.

Variable An operationalized construct that can have different values or scores. Variable derives from the word 'vary', suggesting that individuals can vary in terms of their scores of the aspect under examination.

Vocabulary retention Storage of new word knowledge beyond short-term memory.

Warrant Providing justification or 'evidence' for one's analytic claims.

Talmy (this volume) argues that discourse analysis can be a fruitful way of warranting claims in critical ethnography.

Washback The way that a test influences the teaching and learning activities of students who are preparing to take the test.

Weighting in mixed methods research Relative importance of quantitative and qualitative methods for answering the study's questions.

Word family A word and its common derivatives and inflexed forms.

Word list A list of words grouped by frequency and/or specialization for research or teaching/learning purposes.