

# Classification of errors in the process of observation

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**Summary:** In article was written about classification of errors in the process of observation of students and teachers. The main error types in observation and correcting ways of these errors.

**Key words:** error, error types, classification of errors, observation, correcting of errors.

There is always the possibility of error in the observation process. Freeman reviews classifications of errors in representing data in psychological and social studies. Some of these errors frequently occur when making judgements and primarily concern language behavior<sup>2</sup>:

- a) error of central tendency
- b) error of leniency or generosity
- c) primacy or regency effect
- d) halo effect
- e) logical error

A first error occurs in using a rating scale. It is called the effect 'central tendency' in a series of judgements about objectivity of quantifiable stimuli, when the large stimuli are underestimated, and the small ones overestimated.

An error of leniency or generosity could arise in making favorable verbal judgements using personality scales. It is clarified that in the personality scales a number of questions relating to one particular personality trait are drawn together and the answers to these questions are given in the form of 'yes, 'no, 'sometimes, 'often which might not reflect objective reality.

A third error occurs as a result of the order in which perceptual events happen. The problem is that in behavior testing the first impression could have a distorting effect on later data collection and thus lead to errors. Bailey admits that in diary keeping, events that are embarrassing or painful when they occur 'often lose their sting after weeks of reflection.<sup>3</sup>

A fourth error, halo effect, it is described when the evaluator 'has the tendency when judging a personality trait to be influenced by a general impression or a salient characteristic.

Logical errors or error of theory reveals due to the theoretical assumptions of the observer. It is now widely accepted that observation is always 'theory laden. He continues that observations cannot be 'pure, free from the influence of background theories or hypotheses or personal hopes and desires. Bailey supports this assumption in that 'most research

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<sup>2</sup>Freeman D.. Teacher training development and decision making: a model of teaching and related strategies for language teacher education.1989. – P 69-86.

<sup>3</sup>Bailey K. M. Language teacher supervision: A case-based approach. – New York: Cambridge University Press, 2006. – P. 40-95.

methodologists are now aware that all data are theory-, method-, and measurement-dependent. As Bailey suggests in conducting pure research it is better to avoid reading the research literature in the field, to keep from biasing the results<sup>4</sup>.

Seliger and Shohamy<sup>5</sup> present classification of data collection procedures according to the degree of explicitness. On one end of the scale they set broad and general techniques which do not focus on a particular type of data and are considered to be of a low degree, while at the other end they tend to put procedures which are more explicit and structured and thus reveal high degree of explicitness. Collecting data by procedures of a low degree of explicitness is done by means of open and informal description, which tends to be done simultaneously with its occurrence. Typical procedures of this kind are field notes, records, diaries, journals, lesson reports, personal logs, life history accounts, informal interviews with the subjects of observation. Collecting data by means of procedures of a high degree of explicitness involves the use of formal and structured types of data collection procedures. Examples of such procedures are interaction schemes, checklists, observation schedules, observation tasks, formal interviews, surveys, structured questionnaires, case studies, rating numerical scales. Different procedures imply different techniques for data collection. Data obtained from more structured observations are presented in the form of checks, tallies, frequencies, and ratings, while data obtained from the informal observations are presented in the form of narration, field-notes, or transcripts.

According to this classification I am going to describe a range of procedures that are applied to pre-service classroom observation.

Field notes are records of naturalistic observation in the natural context of the behavior researched through direct listening and watching. The main focus of observation notes is accurate description rather than interpretation. An observer can write down interesting details on various aspects of school life in general and of the teaching process in particulars. 'Each observational note represents a happening or event - it approximates who, what, when, and how of the action observed. McKernan considers field notes as a useful tool as:

1. they are simple records to keep requiring direct observation
2. no outside observer is necessary
3. problems can be studied in the teacher's own time
4. they can function as an aide-memoire
5. they provide clues and data not dredged up by quantified means.

At the same time an observer should consider some drawbacks in the use of this technique presented by McKernan as follows<sup>6</sup>:

1. It is difficult to record lengthy conversations
2. They can be fraught with problems of researcher response, bias, and subjectivity
3. It is time-consuming to write up on numerous characters
4. They are difficult to structure
5. They should triangulate with other methods, as diaries, analytic notes.

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<sup>4</sup> Bailey, K. M.. Language teacher supervision: A case-based approach. –New York: Cambridge University Press, 2006

<sup>5</sup> Seliger, H. W. and Shohamy E.. Second language research methods. – Oxford: Oxford University Press, 1989. – P. 450-501.

<sup>6</sup> McKernan J. Curriculum action research: a handbook of methods and resources for the reflective practitioner. – London: Kogan Page. 1996.

The case studies. Elliot and Ebbutt<sup>7</sup> treat case study as a research technique in which teachers identify, diagnose and attempt to resolve major problems they faced in teaching for understanding. Richards considers case materials help students to explore how teachers in different settings 'arrive at lesson goals and teaching strategies, and to understand how expert teachers draw on pedagogical schemes and routines in the process of teaching. McKernan reminds that the researcher or an observer should use a 'conceptual framework, which can relate to existing science. So, the researcher employs various concepts to make sense of the observed data<sup>8</sup>.

Richards enumerates advantages for using case studies in teacher education:

1. students are provided with vicarious teaching problems that present real issues in context;
2. students can learn how to identify issues and frame problems;
3. cases can be used to model the process of analysis and inquiry in teaching;
4. students can acquire an enlarged repertoire and understanding of educational strategies.
5. cases help stimulate the habit of reflective inquiry.

Diary/journal. Some research employs both terms equally. Allport has made the point that 'the spontaneous, intimate diary is the personal document par excellence. Many researchers have kept diaries as self-evaluative tool of their own experience. The most notable study of a diary keeping method is described by Bailey. She has used the diary study approach as one option for the classroom-centered research project required in the practicum. The resulting journals have focused on issues related to lesson planning and creativity, time management, problems faced by non-native teachers of English, classroom control, group work, and difficult student-teacher relations. Baily's sense of result is that diaries were often extremely useful exercises for the teachers-in-preparation, both in generating behavioral changes and in developing self-confidence.

Requirements to write the diary entries she identifies as follows:

- to set aside time each day immediately following the class, in pleasant place free of interruptions;
- the time allotted to writing about the language teaching or learning experience should at least equal the time spent in class;
- to set up the conditions for writing so that the actual process of writing is or can become relatively free. It's difficult in getting started.

In recording entries in the original uncensored version of the diary, one should not worry about style, grammar, or organization. The goal is to get complete and accurate data while the recollections are still fresh. Her studies reveal some problems in keeping diaries. In actual practice, students experience difficulties in describing events freely, the process of writing seems to be tedious for them; they do not get used to criticize, reflect, express frustration, and raise questions in written form. Some students were reluctant to edit their private journals.

It is considered that the journal is not a personal diary. They emphasize that the journal is a place to go beyond notes made during observation by exploring, reacting, making connections. The journal entries are intended to be polished pieces of writing. But as diaries, as journal are not assessed. The problem with assessment is in that there is no rigid regulation about the frequency of entries per day or week. It depends on the nature and structure of the course. At the same time writing every week is considered to be productive since the journal is meant to be ongoing. Sometimes students need to process what they are reading and make connections among a number of readings.

Benefits of using journals Porter sees as:

- 1) students can get help with areas of course content where they are having difficulty; get a teachers' response;
- 2) they promote autonomous learning, encouraging students to take responsibility for their own learning and to develop their own ideas;

<sup>7</sup>Elliott B., & Calderhead, J.. Mentoring for teacher development possibilities and caveats. In T. Kerry, & S. Mayes (Eds.), Issues in mentoring. –London: The Open University Press, 1995. – P. 25-29.

<sup>8</sup> Richards, J. C.. Beyond Training. – Cambridge: Cambridge University Press, 1988

- 3) students can gain confidence in their ability to learn, to make sense of difficult material, and to have original insights;
- 4) the journal encourages students to make connections between course content and their own teaching;
- 5) the journals create interaction beyond the classroom, both between teacher and student, and among students. It allows an ongoing dialogue between teacher and students;
- 6) the journals make class more process oriented. Students input can in part shape the curriculum. The teacher can use this information to restructure the course.

Anecdotal records McKernan refers to narrative-verbatim descriptions of meaningful incidents and events which have been observed in the behavioral setting. They focus on narrative, conversation and dialogue and provide short, sharp incisive summaries of points that stick in the mind after the event. Anecdotal records are treated to be useful in teacher training education because they directly observe behavioral data which enable students to 'see the incident and gain 'inside perspective. One of the key tasks for the observer is to watch for the beginning and ending of 'episodes of behavior. McKernan sets some disadvantages of anecdotal records that are similar to diary keeping and journal as any piece of descriptive writing, such as:

1. they require extensive time to observe, write and interpret;
2. maintenance of 'objectivity' is difficult;
3. observers require training in the use of anecdotes;
4. they are often reported without taking accounts of setting;
5. read out of context, they can be misunderstood and misinterpreted;
6. some observers focus on 'negative or 'undesirable events only.'

Personal action logs McKernan defines as record sheets which document a researchers' activities over a lengthy time period 'to get a full-blown representation of a day. He clarifies the purpose of log-keeping as 'to direct trainees' attention towards areas they may have overlooked or avoided; to measure the trainees' assessment against our own; to make adjustments, if necessary, to the course design and/or content. Logs may be kept in chart summary form, describing the main events with time sampling or in a more descriptive form similar to a diary. At the same time personal logs are recommended to keep over a lengthy period of time and in connection with more extensive accounts, such as field notes, diaries and audio transcripts to validate findings.

The use of check-lists suggests the formulation of well-defined and 'clearly delineated behavior categories, which in turn presupposes more than a superficial acquaintance with the data. It is used to focus 'the observers' attention to the presence, absence, or frequency of occurrence of each point of the prepared list as indicated by checkmarks. Thus a prerequisite for obtaining reliable and valid data from check-lists is a set of clearly defined categories. For this reason, a check-list would be unsuitable for recording behavior with which the observer was not completely familiar or for recording the complete range of activities in a free-field situation. The researchers confirm that although in principle a large number of categories are feasible, in practice an observer is unable to cope reliably with more than fifteen. Different methodologists notice that as the number of categories increase, the problems involved in scanning these. That is why Hutt and Hutt offer from a practical view to have check-lists as compact as possible, since they are most commonly used in those situations where the observer is attempting to record unobtrusively and with the minimum of distraction to the subject.

The greatest advantage of check lists is the facility and speed with which they can be analyzed, as observer just ticks off phenomenon against an appropriate category by mere observation. Measures that might be easily obtained are as follows:

1. frequency with which there is a change in activity;
2. number of different activities;

3. number of stimuli encountered;
4. duration of specific activity;
5. changes in nature and duration of activities with time.

However, McKernan admonishes that the arrangement of the points is crucial in that sequence in task completion should be logical and sequential. An observer or designer of this instrument must ensure that:

1. points to be observed are listed in their actual sequence of happening;
2. all similar attributes are included in categories;
3. all the relevant and specified points are listed.

Over the years' numerous observation schemes have been developed for recording classroom interaction. Chaudron, modifying the analysis originated by Long (1980), identifies twenty-four various schemes. In his review Chaudron points out that Long has included only those instruments which were designed to observe verbal interaction in a classroom, whereas the range of categories is great due to various purposes of observation. Chaudron interprets categories as<sup>9</sup>:

- a) social interactive b) pedagogical
- c) objectivebehaviour
- d) semantic or cognitive content of behaviours
- e) type and grouping of participants

For teacher training purpose Chaudron recommends to apply eleven schemes among it is conducted in real time coding and categories of schemes refer to low degree of inference. Advantages of interaction schemes as the basis of reflection in experiential knowledge are described by Wallace<sup>10</sup> and he claims that these systems

- 1) objectify the teaching process;
- 2) provide a reliable record (by a trained observer);
- 3) promote self-awareness in the teacher;
- 4) provide a meta-language, which enables teachers to talk about their profession;
- 5) make teacher training more effective by improving the quality of teaching.

At the same time systematic observation schemes have some critics. Main critique is levelled at the use of pre-specified categories to 'code or classify the behavior of teachers and pupils, which cannot capture and reflect the whole complexity of classroom life.

Delamont and Hamilton identify seven criticisms of systematic observational systems:

- 1) Systematic observation provides data only about 'average or 'typical classrooms, teachers and pupils.
- 2) All the interactional analysis systems ignore the temporal and spatial context in which the data are collected as most systems use data gathered during very short periods of observation the observer is not expected to record information about the physical setting.
- 3) Interaction analysis systems are usually concerned only with overt, observable behavior. In the case if intentions lay behind the direct behavior an observer must himself impute the intention.
- 4) Interaction analysis systems are concerned with 'what can be categorized or measured. They may obscure, distort or ignore the qualitative features which they claim to investigate, by having ill-defined boundaries between the categories.

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<sup>9</sup>Chaudron, C.. Second language classrooms: research on teaching and learning. –Cambridge: Cambridge University Press, 1988

<sup>10</sup> Wallace, M. J.. Training foreign language teachers. –Cambridge: Cambridge University Press, 1988

5) Interaction analysis systems focus on 'small bits of action or behavior rather than global concepts. Delamont and Hamilton clarifies that there is a tendency to generate a superabundance of data which must be linked either to the complex set of descriptive concepts or to a small number of global concepts.

6) The systems utilize pre-specified categories.

7) Placing arbitrary boundaries on continuous phenomena obscures the flux of social interaction.

Walker and Adelman emphasize the problems of recording child-child talk and objectivity of incorporating this kind of talk into the normal flow of teacher-centered classroom. They illustrate that there is no research instrument to code the spontaneous talk or social function of jokes and humor. 'Talk is seen to be a highly complex, problematic activity, rich in contradictory and bizarre meanings and frequently with difficulties and confusions<sup>11</sup>'. This organization is taken for granted in observation schemes.

McKernan reviews various styles of rating scales - category, numerical, graphic and pictorial. They all share the common feature of having a rater place an object, person or idea along a sequential scale in terms of estimated value to the rater. Rating scales are treated as helpful instrument to measure non-cognitive areas where an observer is interested in cooperativeness, industriousness, tolerance, enthusiasm, group skills. At the same time McKernan notes that all rating sheets need to:

- a) include observable behavior;
- b) rate significant outcomes as opposed to minor or trivial behaviors;
- c) employ clear, unambiguous scales - never to use less than three, nor more than ten points on a scale;
- d) arrange for several raters to observe the same phenomena to increase reliability of ratings;
- e) keep items short and to the point.

Rating scales are opposed to direct observation as an assessment strategy. Nevertheless, Sattler points out that rating scale may not correspond with data obtained by the way of direct observation. He suggests that the internal consistency and 'inter-rater reliability are important features of behavior rating scales. Another criticism of observational data obtained through ratings is in that they involve human judgment and the sample of behavior may be limited.

Selective verbatim. This technique is described by McKernan. Unlike interaction analysis the selective verbatim techniques is directed at studying 'selective verbal reactions. These are interactions that reflect effective or ineffective teaching. The procedure involves recording of the actual words and further analysis. The main advantage of the selective verbatim technique is in that it allows an observer to concentrate on one aspect of the teaching/learning behavior at a time and it provides an objective non-interpretive record of verbal behavior, which can be analyzed later.

Observation tasks. An observation task is 'a focused activity to work on while observing a lesson in progress. Like a selective verbatim technique, it focuses on one or a small number of aspects of the teaching/learning process but covers nonverbal behavior as well. The purpose of the task is to collect actual facts or patterns of interaction that emerge in a lesson. The advantage of the collecting information with the help of selective tasks is that 'it provides a convenient means of collecting data that frees the observer from forming an opinion or making a non-the-spot evaluation during the lesson.

To draw general conclusion about the techniques of observation I can say that some of them suggest either too broad or too narrow studying of the teaching process. It does not suit the main objectives of the Observation Weeks at the Teaching Practicum that are targeted to acquaint trainees with all the facets of the complex teaching/learning process gradually, to practice and develop trainees' observation skills.

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<sup>11</sup>Walker R. and Adelman, C.. Strawberries. In M. Stubbs and S. Delamont, editors., Explorations in classroom observation. – London: John Wiley & Sons, 1976. – P 133-150.