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Action research & hand-drawn-face-graph =
アクション・リサーチと手書き顔グラフ

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<https://nam-dinh-lecture.blogspot.com/2016/06/facegraph.html>

Action research to let people narrate about their health status by hand-drawn face graph

Hi, everyone. This time, I will talk about action research and face graph.

1 What is action research?

Action research is either research initiated to solve an immediate problem or a reflective process of progressive problem solving led by individuals working with others in teams or as part of a "community of practice" to improve the way they address issues and solve problems.

There are two types of action research: participatory action research and practical action research.

Denscombe writes that an action research strategy's purpose is to solve a particular problem and to produce guidelines for best practice.

Kurt Lewin, then a professor at MIT, first coined the term "action research" in 1944. In his 1946 paper "Action Research and Minority Problems" he described action research as

"a comparative research on the conditions and effects of various forms of social action and research leading to social action" that uses

"a spiral of steps, each of which is composed of a circle of planning, action and fact-finding about the result of the action".

2 My quest to empower people to narrate about their health status

When I was a medical student, I did not realize the importance of assisting communication. In hospitals, most of the patients have clear complaints related to one's disease. Medical interviews using appropriate diagnostic questions are usually effective to let patients communicate and give some narratives regarding their illness. Outside hospitals, however, in community health settings, most of the people are not sick. Medical interview techniques are not useful because most of the people do not have obvious complaints. Moreover, in Japan, most people are generally shy, and are not accustomed to going

into the details of their health status, and reveal and express, sometimes narrate about their health. However, in community health settings, obtaining people's remarks or narratives are important in various occasions, i.e. understanding health needs of individuals, giving sensitive advice, making suitable health promotion plan, etc.

Therefore, "how to help people to express and narrate about their health?" became my continuing research question since when I started to work in the community health department of Nagasaki University in the 1980s.

As for the initial trial setting, I focused on the health education setting following community-based health-checkup. At that time in Japan, laboratory-oriented numerals and their judgments (whether a given value lies within the normal range) are returned to each people as feedback. Health care providers can relate fragmented meanings of numerals, to compose a clinical entity and to make an appropriate clinical decision. Community people, however, have difficulty in conceiving a coherent image of health and wellness from these numerals. In these health education settings, people just sit and listen, and say nothing. No conversations. No remarks. No narratives. In this situation, I sought a possibility of assisting people to conceive a coherent image of one's health and start to talk or narrate about their health. One day, I got an idea of using face graph.

3 Chernoff faces, as starting point

Chernoff faces (Chernoff face-graph) was invented by Herman Chernoff (1923-), an American applied mathematician, statistician, and physicist. In 1973, he published a paper of displaying multivariate data in the shape of a human face (Chernoff faces).

The individual facial parts, such as eyes, ears, mouth and nose represent values of the variables by their shape, size, placement and orientation. The main idea behind using human faces is that we easily recognize faces and notice small changes.

4 From Chernoff faces to hand-drawn-face-graph

At first, I introduced a simple face graph using a laptop computer to help people's recognition of numerical data. This computer assisted face graph was, however, not so comfortable for the aged people, who prefer mutual communication rather than the one-sided appraisal.

Then, new ideas came up to improve the situation; such as 1) to humanize face drawing process, and 2) to enjoy face drawing as a starting point of dialogue between community people and health specialists.

To substantiate the idea, a new worksheet was developed to draw a face by hand. By this worksheet, both of community people and specialists can draw a face from a personal laboratory data, under the guidance of additional lines.

5 First design of a face graph worksheet

A key point of designing worksheet is how to assign a specific range of numerical values to corresponding facial features. To solve this problem, Schlosberg's work of experimental psychology was referred. Harold Schlosberg (1904–1964) was an American psychologist. Schlosberg (1952) classified 72 pictures of the male face using two rating scales : (1) pleasantness-unpleasantness, and (2) attention-rejection. I adopted Schlosberg's first dimension and assigned three-valued positions to each of facial features. This figure shows my hand-drawn face graph design using a maximum of seven

features which vary. Three positions (a, b, c) of facial features were corresponded to 'pleasantness', 'intermediate' and 'unpleasantness', respectively. In applying this face to the actual data, five facial characteristics (F1, F2, F5, F6, F7) were selected to correspond to four laboratory variables (Table 2).

6. Expansion of hand-drawn-face-graph

In example 1, a worksheet is expanded to include other body parts (such as trunk) and lifestyles such as smoking and drinking. By linking self-checking questionnaire and face-graph, respondents are encouraged to self-check their health status and draw the result as face graph.

In the next example, a worksheet was designed to focus lifestyle of students. Students are encouraged to use this worksheet and visualize their daily risky behavior.

In the case of computer assisted face graph, only specialists can operate and modify face graph. However, by the use of worksheet, every healthcare professionals, as well as local people, can design their unique worksheet.

The next example shows face graph independently developed by a public health nurse working at Town Fukushima, Nagasaki Pref. in 1988.

7 Participatory approach and face graph

After I had started to use face graph in community settings, I realized that people animated to talk about their health-checkup results using face graph. In comparison to the traditional calm and silent health education settings, the new setting was chaos. To describe this chaos, many adjectives, such as 'communicative', 'participative', 'narrative', 'constructive' etc. were imagined. To deepen and advance my research perspective, I need to specify and refine key ideas to follow further. One fall day in 1989, my friend, Dr. Jun Nishihara, a geographer, suggested me to check the participatory rural appraisal. By this way, I encountered the work of Dr. Robert Chamber and realized that my trial of face-graph can be positioned as 'participatory' approach.

So far, I have talked about hand-drawn-face-graph, and related research disciplines, such as "action research" and "participatory research".

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Moriyama's work

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