

KEY ELEMENTS IN TECHNICAL PRESENTATIONS

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Abstract—The paper offers an insight into the new ways of doing scientific research, focusing on the modern image of the scientist who, apart from performing his daily activities, needs to improve his oral communication skills in order to present his findings before an audience. The researcher converted into orator is supported in his presentation by various elements of verbal, nonverbal or paraverbal language, which combined harmoniously, should provide the most reliable formula to successfully disseminate an entire range of technical information.

Keywords—researcher, public speaker, technical presentation, verbal and nonverbal elements

I. INTRODUCTION

The new ways of doing scientific research in modern times have considerably overshadowed the classical image of the scientist – professionally selfish, individualistic and haughty, driven by the desire to compete with and defeat nature – and have promoted instead a portrait that highlights completely different features like deep involvement, teamwork, shared ideas and joint effort for the evolution of mankind. No matter how valuable the results of a research team, they would remain mere isolated pieces of information, familiar only to those involved in the research project, unless they exceeded the boundaries of laboratories, by their dissemination in the academic and research environments. Therefore, an essential stage of a research project is its public outreach; otherwise, all its findings might remain useless tools that have probably involved enormous human and material resources. In this respect, the best way to disseminate the results of a research project is their public presentation at scientific conferences.

The oral presentation of a scientific paper puts the researcher in front of the audience in a new position, most often very uncomfortable to him – that of public speaker. Away from the familiar environment of the laboratory where he carries out his daily activities, the researcher, an action man, finds himself all of a sudden before a great number of people, and is forced to develop communication skills that are most often unfamiliar to him or at the best, in latent state.

Because few are those endowed with the natural ability to speak relaxedly in public, this kind of communication appears challenging even to specialists. It is even more challenging when it comes to scientists, men or women of real facts and experiments, for whom direct communication is less important and consequently, this ability is poorly developed and rarely, even inexistent.

In front of a more or less numerous and critical public the researcher feels that he is walking on quick sands, his only support being his expertise and the material to be presented. Unfortunately, his professional experience is not enough to help him face this new situation, so he needs to activate instantly a skill that is not practiced sometimes at all.

II. NONVERBAL ASPECTS

As first impressions are always essential, the researcher converted into speaker must anticipate and be aware of the fact that, once in front of the public, all eyes will be set on him. Before he utters a word he will have been judged by his appearance, which harmoniously has to combine aspects that involve both his outfit and his attitude and behaviour. The importance of the nonverbal language is even greater considering that it accounts for 55% of the methods used in message transmission.

Regarding the appropriate clothing to be worn, the wide range of dress codes offers nowadays suggestions for all types of speakers and presentations. Therefore, inspired by the business environment where this aspect is highly emphasized, the more conservative speakers can choose *business standard* attire, while those who are always trendy can resort to *smart casual* apparel. Halfway between these two options there is, of course, a type of dress code that is meant to combine modernism and conservatism - *business casual*.

Although apparently the terms *smart casual*, *business casual* and *business standard* seem to precisely define the type of clothing they promote, the persons who need to adopt them find it difficult to distinguish their elements or the differences that separate them. Furthermore, their attempt is also hindered by the inexistence of a clearly defined boundary between these styles. The puzzled speaker is given a helping hand by the human resources specialists who accurately outline the characteristics of these dress codes, as follows: „*The*

smart casual look allows flexibility for personal taste in fashion and includes jackets, outfit-enhancing jewelry, dress pants, dress shirts, skirts, tailored sweaters, vests, ties, matching leather accessories, and leather pull on shoes and boots" (Susan M. Heathfield) [1]. Adopted by more relaxed and flexible persons, the *smart casual* dress code encourages men to wear brightly coloured or patterned shirts (usually collared shirts, polo shirts or tennis shirts) and ties, fashionable tops without logos or slogans, sports coats and jackets (jumper, knit-shirt, sweater, cardigan), designer trousers (with the avoidance of two different patterns for the trousers and jacket and bearing in mind that plain goes with anything), dockers, chinos, trendy jeans, dark socks and shoes (black or brown shoes, deck shoes, moccasins, boots). This style is also permissive with women, who are invited to put on bigger and unique jewelry and accessories, brightly coloured shirts and blouses, fashionable jackets (avoid denim), jumpers, knit-shirts, sweaters, cardigans, designer skirts and trousers, closed toe pumps (Mike Nudelman) [1], [2].

At the opposite end of the flexibility in fashion is the *business standard* dress code that reflects seriousness and sobriety, sometimes even rigidity, basically through the dark-coloured clothes that it promotes. For men, this style proposes collared formal double cuffed white shirt with a tie, plain dark suit jacket or pinstripe suit jacket, suit trousers matching with the jacket, formal socks (the same colour as the suit, mid-calf length, with no logos, patterns or pictures), formal lace-up leather shoes (black or as dark as the socks) or leather oxfords, overcoat or raincoat (if the weather requires) and accessories (leather belt, cufflinks, watch). As for women, the *business standard* dress code requires the same dark colours and relies on the classical formal suit made up of a usually white shirt or blouse, suit jacket, suit skirt (at least knee length and matching with the jacket) or trousers with creases, formal closed toe and low-heel shoes, dark coat or raincoat (if the weather requires), accessories (watch and jewelry) and sometimes, even a scarf [2], [3].

Those who wish to take the middle course between the above mentioned dress codes can choose a third style - *business casual* that highlights „a professional, business-like image while enjoying the advantage of more casual and relaxed clothing". Depending on the style they prefer - relaxed or corporate -, the males who adopt this code usually wear from formal collared shirts with a tie to coloured polo and tennis shirts (short and long sleeve, tucked in), tailored blazer, knit shirt, cardigan or sweaters (pullover or jumper) in a variety of colours and patterns, trousers (cotton, corduroy, khakis, dockers or slacks), dark socks (mid-calf length), relaxed but elegant dark leather shoes or loafers, dark coat. At their turn, females can select from a generous clothes offer, from a fashionable combination of long or short-sleeved tops, knee-length skirts or dresses, dark slacks, to open or closed-toe low-heel shoes and subtle accessories (Mike Nudelman) [2], [4].

The combination of various elements of the existing dressing styles, adapted to the needs of the academic environment, has determined the occurrence of a particular and original dress code - *academic casual*, which aims to provide a dressing solution that is halfway between the overly casual style (blue-jeans, short pants and T-shirts) and the overdressed style (full suits and ties). Completely lacking strictness, this dress code highlights unsophisticated male outfits composed of button-up shirt, dark V-shaped sweater, a tie (compulsory), khakis, and female outfits similar to those of males, that can be completed with pantsuits, dresses and skirts that are long enough not to be provocative, flats, and subtle accessories and make-up. Being a more friendly style, which brings the speaker closer to his daily work environment, the *academic casual* dress code boosts self-confidence, as it reduces at a subconscious level, the gap between the familiar environment of the laboratory and the „hostile" environment of the public presentation.

Once the appropriate clothing has been selected the researcher-orator can show up before the audience, where his role does not come down to merely transmit information but, more importantly, to influence and keep under control the public, whose opinions must be formed or changed in a certain direction. In this respect, the researcher must walk from the very beginning with a lot of self-confidence in front of the audience, inducing the feeling that he is the one to lead them determinedly in a new „scientific adventure". The first step in this endeavour is capturing the people's attention because the short breaks between the presentations always favour short face-to-face or phone conversations, repeated standing up and sitting down movements, which generate a general hustle and bustle that is quite annoying for the next speaker. The speaker can put an end to this background noise almost instantly by using small tricks like displaying a smile, keeping the silence after entering the presentation area or telling a joke, things that confuse the listeners who, driven by curiosity, stop doing anything else and focus instead on what is about to happen. Of the utmost importance is the fact that the speaker must not betray any shade of weakness, so he should avoid beginning his discourse by apologizing for his emotiveness, shyness, nervousness or lack of experience in public presentations, potential technical problems, delays in starting the presentation, etc.

Another important nonverbal aspect that comes to aid the speaker is the optimal use of the presentation area. Relying mostly on graphics and images that powerfully stimulate the visual sense, technical presentations require a complex setting that includes apart from the podium and lectern, indispensable aids like overhead projector, flipchart, whiteboard, and other electronic devices. Although provided with such an equipped presentation area, the speaker has to pay great attention to the way he makes use of this space, trying first of all, not to cover the room in quick steps (especially if the room is wide), otherwise the audience might be distracted from the message that is being transmitted. The speaker usually

limits his movements to the podium or the area housing the different aids and electronic devices, but in his attempt to destroy this imaginary boundary between him and the public, he can step outside this precisely limited area and try to approach the listeners physically and most importantly, psychologically. As he gets closer to the public, the orator must also cover the entire space in front of the listeners with small steps and an almost imperceptible movement so that he can maintain their interest in his speech. During this approach, in which keeping alive the interest of the audience is a challenging task, the speaker's look appears like an escape as it helps him to gently fasten his eyes upon the listeners who are on the point of being diverted by other things in the room. Irrespective of his position in the conference room, the speaker's look must slowly cover the entire audience, starting with the upper left corner and creating an imaginary "Z" letter down to the lower right corner of the room. Along with the eyes that should always be fixed on the public, other nonverbal elements come to support the dominating attitude of the orator: a body posture characterized by straight or pulled back shoulders, legs slightly apart, body permanently oriented to the public, gracious use of hands, avoidance of holding the arms crossed or along the body and of leaning on a table, chair or other piece of furniture, etc.

III. DISCOURSE PRESENTATION

The starting point of any technical presentation must consider the type and purpose of the discourse (*e.g.* status or progress report, tutorial, product information, project result report, technical paper, technical proposal, etc. [5]), as well as the target audience (*e.g.* a knowledgeable or, on the contrary, a less informed audience) and its motivation (*e.g.* an audience that is present there by free will or was forced to attend the presentation).

The entire public presentation will be governed by the unequal ratio between the speaker and his audience. The speaker will have to strive to capture the listeners' attention, anticipate and control some of their reactions and lead the discussion in the desired direction in such a way that the audience should be lured by his speech and let themselves be guided willingly into the topic that is being presented.

Although the approached topic may not be always very interesting, the discourse itself and its presentation must detect and exploit its strengths. At the same time, the discourse must follow the classical formula of the introduction followed by the content and ending with the conclusion.

Depending on the listeners' knowledge of the presented topic, the introduction can either consist of a simple and rapid presentation, or a longer and detailed one. As for the content of the material to be presented it must rely on the chronological succession of the events, as well as on the natural and logical evolution from easy → difficult, general → particular, familiar → unfamiliar, old → new, uncontroversial → controversial. The speaker, who may be more or less shy, nervous and

familiar with oral communication, can choose from several presentation styles, ranging from reading the entire material in front of the audience, presenting freely the completely memorized material to the free presentation, marked by improvised elements, of the main ideas of the paper. The first two methods should, of course, be avoided because they disturb the natural interaction between the orator and his audience: the first one is boring, interrupts the permanent eye contact between the speaker and the public, and creates the feeling that the speaker is faltering and unprepared in the topic that he presents; with the second method, the speaker might fail to remember some aspects, which could make him get stuck in a point of no possibility to resume his speech. The most desirable method remains the free presentation whose main attributes – spontaneity, dynamism and flexibility – are challenging for a great number of orators. Those who have the courage to adopt this type of presentation can resort to various aids that must be, though, used prudently and moderately. One of the most important such aids are the notes taken by any orator while preparing his speech, notes that can contain from a few key-words to a few main ideas, or even an outline of the entire speech. It would be the best for the speaker not to use at all any of these aids, as he may appear vulnerable in front of the public who might consider that he is not well-informed on the topic. Unfortunately, due to some personal characteristics (*e.g.* shyness, emotiveness, stage fear, etc.) and the lack of experience in public communication, the speaker needs to take into account such aids, even if sometimes just for his psychological comfort, without really using them. At the same time, an overspecialized speech requires a lot of accurate information and data that cannot be memorized but have to be written down to be further read to the public. All in all, in case the notes are absolutely necessary, they must be used subtly, quickly, almost imperceptibly, in order to reduce as much as possible the interruption of the eye contact between the speaker and the public.

As sight is the most receptive sense when it comes to the acquisition of information, the visual aids are intended to serve both the speaker and the audience. Thus, the speaker facilitates the transmission of information using such devices like overhead projector, flip chart, chalkboard, whiteboard, slide projector or laptop computer connected to a projector, etc. In any oral presentation, particularly a technical one, it is very helpful to make use of slides, transparencies, images, illustrations and even real objects that are relevant to the topic, with a particular emphasis on the first two aids, which are meant to synthesize and highlight the main ideas. In the excitement to provide attractive materials, the speaker must avoid the trap of using slides that are too coloured, with too much information or written in illegible fonts (24-point font size, boldface): „*it's best to have no more than eight lines of print on a slide or transparency, and better not to use all capital letters since this makes for harder reading. A page of text or an illustration photocopied from a book or journal rarely*

makes a good overhead. When you present written information on the screen, don't crowd it. Provide ample margins and plenty of white space between and around the lines. You might want to use bullets, checks, or other marks to emphasize points, but resist the temptation to go overboard with the variety of fonts and clip art now available. Don't let any artwork overwhelm the information on the screen" [5].

Along with the use of the above mentioned visual aids, the orator can attempt an evasion from the presentation area, in order to experience an even greater approach to the public by passing out handouts, hard copies of the slides, scanned materials, brochures, or even samples. These tricks not only distract for a short while the public's attention from the orator (who can in the meantime, take a breath or organize his materials), but they can also be used by the listeners to make annotations or as a backup plan in case the other devices might fail. It is extremely important that the handouts or printed materials (essential visual supports for the issue that is being debated) should be passed out one by one and that the public should go through these materials under the guidance of the speaker. In case all materials are distributed at the same time, the audience may focus on organizing and reading the materials, thus failing to pay attention to the speaker.

Of the same importance is the time allowed for the oral presentation, a time frame that must be both respected, not to affect other speakers, and exploited originally, not to bore the audience. Regardless of the time allowed, the technical presentation must take into account key-elements like introduction, content, conclusions, recommendations, possible questions and debates generated by the topic. During the presentation, the speaker must permanently focus on and be guided by the main ideas of the discourse, so that he does not digress from the point or misuse the time allowed. Moreover, a particular attention must be paid to the anticipation by the speaker of the points that the public may find difficult to understand; consequently, the orator must allow a larger amount of time to detail such difficult points. Even if the amount of information to be presented is considerable and some aspects require further explanations, the slides must not be run rapidly, which could entail the listeners' loss of interest in the presentation or their inability to keep up with the speaker. The closing of the presentation is as important and must consider only the conclusions derived from the experiments and discussions, without raising new questions that could generate further debates.

Last but not least, a vital element during the presentation is adopting an appropriate paraverbal language that facilitates the message transmission by the orator. Thus, in order to control his voice during the oral presentation, the speaker must take into account essential elements like: adequate exploitation of the timbre, that is, of the pitch, frequency and intonation (neither too shrilled, nor too husky), appropriate volume (neither too high and annoying, nor too low as to make the public prick up their ears), average and constant speed while

delivering the discourse, correct breathing and use of pause, elements that are intended to emphasize different parts of the message.

Along with the good organization and presentation of the material, the orator must also account for an element that relates to the unpredictability of the oral presentation – background noise. Provided with an entire range of aids, a good orator must permanently keep under control this inconvenient, which can be the result of a boring presentation or, most often, of a combination of circumstances in which the discourse is delivered: too cold or hot conference room, uncomfortable chairs, bad illumination, inadequate day (e.g. Sunday), unsuitable time of the day (e.g. lunch time), strong noise coming from the outside, etc.

IV. CONCLUSION

Although a researcher's work involves lots of hours spent daily in the laboratory, which discourages oral communication, his mission would not be accomplished unless his findings were made public. The oral presentation appears like the best way to do this, as the speaker is pushed to break out of his comfort zone and embrace the unfamiliar by stimulating some indispensable communication skills.

As the key to a successful oral communication is „to transfer information efficiently and effectively - that is, with a minimum of noise" [5], the researcher turned into speaker must rely both on a very well conceived and organized material, and most of all, on an impeccable presentation that should arouse the audience's interest in the topic. In order to meet these needs, various elements of verbal, nonverbal or paraverbal language come to help the speaker who, combining them harmoniously, should obtain the most reliable formula to successfully disseminate an entire range of technical information.

REFERENCES

- [1] ***www.businessinsider.com, *Here's What 'Smart Casual' Code Really Means*, by Smith Jacquelyn, posted on 25.08.2014.
- [2] ***www.dresscodeguide.com
- [3] ***www.humanresources.about.com, the article *Dress for Work Succes: A Business Casual Dress Code*, by Susan M. Heathfield.
- [4] ***www.businessinsider.com, *Here's What 'Business Casual' Really Means*, by Smith Jacquelyn, posted on 19.08.2014.
- [5] Beer, D.; Mc.Murrey, D., *A Guide to Writing as an Engineer*, 3rd edition, John Wiley & Sons, Inc., p.201;