Chapter 12
Abstracts

What key skills are needed when writing an Abstract?

The key skills are to write an Abstract in a way that will enable:

- editors to make a quick decision on whether the paper is relevant to their journal (without having to read the whole paper) and is thus worth submitting to referees who will then judge the paper in its entirety
- a reader to identify quickly what the paper is about, to judge how relevant it is to their interests, and so to decide whether they should buy / read the whole paper or not. This process is sometimes known as 'screening'
- information managers (e.g. librarians) to put it in their indexes

Online journals have databases of abstracts. Your job as a writer is to 'sell' your abstract to potential readers by:

- attracting their curiosity and stimulating them to want to read the complete paper
- writing very clear and short sentences (max. 25 words, unless the sentence contains a list)

First impressions are very important. If your paper makes a bad initial impression, there is a very strong chance that the reader will quickly stop reading. It will also have a negative effect on referees - if they struggle to read your Abstract or Introduction, this will impact on their reading of the rest of the paper. They will expect the rest of the paper to be difficult too, and may only to look for evidence that confirms this initial impression, even if the rest of the paper is in fact quite readable.

A. Wallwork, *English for Writing Research Papers*,
DOI 10.1007/978-1-4419-7922-3_12, © Springer Science+Business Media, LLC 2011

Typical complaints of referees

The author has written more than 400 words in the abstract and yet has only described the context but not the results of his/her work and the implications.

The abstract doesn't do justice to what the paper is about. It is too abstruse and dense. It is only understandable after the paper has been read. It should be understandable to a general economics-literate audience, not just to those few researchers within the author's very specific field.

The authors have failed to state why the scientific community should be interested in their work nor what value is being added to what is already known.

12.1 What is an abstract? How long should it be?

There are four main types of abstracts, all of which summarize the highlights of your research and all of which will be judged in isolation from the accompanying paper (if there is one). Abstracts are sometimes called Summaries.

Abstracts are found before a full article in a journal, standalone in databases of abstracts, and in conference programs.

UNSTRUCTURED ABSTRACT

A single paragraph of between 100–250 words containing a very brief summary of each of the main sections of your paper

STRUCTURED ABSTRACT

The same as (1) but divided into several short sections (Sect. 12.11).

EXTENDED ABSTRACT

A mini paper organized in the same way as a full paper (e.g. Introduction, Methods, Discussion …), but substantially shorter (two to four pages). Depending on the journal, conference or competition, the extended abstract may or may not include an abstract – for example, it may begin directly with an introduction

CONFERENCE ABSTRACT

Normally a standalone abstract (sometimes up to 500 words), designed to help conference organizers to decide whether they would like you to make an oral presentation at their conference (Sect. 12.13). It may be of any of the three forms above.

The type of abstract you choose and the format to use will depend on the journal or conference. Make sure you read their instructions to authors before you begin writing.

12.2 When should I write the Abstract?

Write a rough draft of the abstract before you start writing the paper itself. This may help you to decide what to include in the paper and how to structure it. But experienced writers always write the Abstract (and often the Introduction too) last, i.e. when they have finished the rest of the paper. This reflects the research process itself - the first thing you write about is what you found, then how this can be interpreted.

In any case, and as with the whole paper, you must have a clear idea of your intended audience.

12.3 How should I structure my Abstract?

An Abstract generally answers at least the first three of the following questions, and generally in the following order. You can use the answers to these questions to structure your Abstract.

- Why did I carry out this project? Why am I writing this paper?
- What did I do, and how?
- What were my results? What was new compared to previous research?
- What are the implications of my findings? What are my conclusions and/or recommendations?

However chemists, physicists, biologists etc. who are presenting some new instrumentation may want to focus not on what they found, but on what the benefits of their apparatus are and how well it performs.

To decide what to include it may help you to go through your paper and highlight what you consider to be the most important points in each section.

The order in which you answer the questions above can make a very different impression on readers. To learn more about this important aspect see Sect. 4.6.

12.4 Formal, natural and applied sciences. How should I structure my abstract? How much background information?

Although the style of an abstract may differ from discipline to discipline and from journal to journal, the structure and information provided is quite similar. The aim is always to tell readers all they need to know to help them decide whether to buy / read the paper.

Below is a fictitious example from an applied science - engineering - and would also be applicable for most formal sciences and natural sciences (as defined by Wikipedia - http://en.wikipedia.org/wiki/Science). The numbering is mine.

> (1) The lifetime of a 4G cellular phone battery may be subject to the number of times the battery is recharged and how long it is charged for. To date, there has not been an adequate analytical model to predict this lifetime. (2) In this work an analytical model is developed which describes the relationship between the number of times a battery is recharged, the length of time of each individual recharge, and the duration of the battery. (3) This model has been validated by comparison with both experimental measurements and finite element analyses, and shows strong agreement for all three parameters. (4) The results for the proposed model are more accurate than results for previous analytical models reported in the literature for 4G cell phones. (5) The new model can be used to design longer lasting batteries.

Below is the structure of the above abstract and the questions it aims to answer. The numbers refer to the numbers in the abstract.

1. The problem that this paper is trying to resolve set in the context of the current situation. Why did you carry out your project and why are you writing this paper? What gap in the current knowledge do you hope to fill?
2. New solution given by authors of the paper. What is the innovative contribution of your work? What did you do and achieve? What makes it different from previous research?
3. Validity of the model. Does it really do what you say it does?
4. Results. What is new compared to previous results?
5. Implications and future work. What does this all mean? What are your conclusions and recommendations? What do you plan to do next?

This abstract only has a minimal amount of background information (two lines). This background information is given so that reader can understand the context of the author's research.

Context setting should never take up more than 25% of the whole abstract, as it probably contains information that the reader already knows. Your readers want new information, not old information. Remember that the reader may be a referee who has to read hundreds of abstracts to decide which to include for a conference or in a journal. He / She wants to know immediately what the topic is and will be negatively affected if forced to wait several lines before understanding this. Of course, you can (and should) give more background details in the Introduction.

12.5 Social and behavioral sciences. How should I structure my abstract? How much background information?

Here is an abstract from a fictitious paper entitled *Is it Time to Leave Him?* written by one of my PhD students, Estrella Garcia Gonzalez from Madrid. By *sitting-zapping sessions* she means sitting like a zombie in front of the television and constantly changing channels.

> (1) Three red flags were identified that indicate that the time to leave him has come. These red flags are: five burps per day, two sitting-zapping sessions per day, and fives games on the Playstation with friends per week. (2) A large number of women have doubts about the right moment for leaving their partner. Often women wait in hope for a change in their partner's habits. (3) One hundred couples were analyzed, recording their daily life for six months. Women were provided with a form to mark the moments of annoyance recorded during the day. Burps, sitting-zapping sessions and games on the Playstation with friends produced the highest index of annoyance. (4) The probability of eliminating these habits was found to be significantly low when the three red flags had been operative for more than three months. (5) Thus, these numbers provide a good indication of when the time to leave him has come. With these red flags, women will no longer have to waste their time waiting for the right moment.

Below is a series of instructions for writing an abstract based on Estrella's structure. Again, the numbers refer to the numbers in the abstract.

1. Begin the abstract with one or two sentences saying what you did plus one key result, i.e. begin with information that the reader does NOT already know
2. Introduce the background by connecting in some way to what you said in your introductory sentence. The concept of leaving him is introduced in (1) and then referred to again in (2)
3. Use the background information (which the reader may or not already know) to justify what you did, and outline your methodology (and materials where appropriate)
4. Provide some more information on your results
5. Tell the reader the implications of your results

12.6 I am a historian. We don't necessarily get 'results' or follow a specific methodology. What should I do?

If you analyze history abstracts, and other abstracts from humanistic disciplines, they still have a structure that is similar to a scientific abstract.

You have a primary objective (e.g. a theory or perspective that you would like to share, test, analyze or question), a design to your research, some methods and procedures that you used, some outcomes from your research that support your theory / perspective, and some conclusions or implications derived from these outcomes.

Abstracts from social and behavioral sciences tend to devote more space to background issues and context setting. The 'thesis' is often formulated as a series of questions that inform the reader about what issues will be dealt with in the paper.

In any case your abstract should include the following:

- background information
- your aim and its importance
- your contribution and its value
- what you looked at
- your conclusions and implications

Here is a fictitious abstract from a researcher interested in the history and evolution of languages.

> (1) The Quaker movement was founded in the mid 17th century by George Fox. One of the practices used by this rebellious religious group was the use of 'plain speech' and

> ‘simplicity’. This involved addressing all people with the same second person pronoun, in the words of Fox: ‘without any respect to rich or poor, great or small’. The modern use of ‘you’ in the English language (in the 10th century England there were 12 forms of ‘you’) is thus attributed to Fox’s egalitarian movement. (2) Was this use of ‘you’ for addressing all kinds of people, regardless of their social status, specifically initiated by Fox? Or was it simply a part of an organic unplanned process in the English language of ridding itself of unnecessary devices and formalities? Are some languages more dynamic than others? And does this depend on how ‘controlled’ they are by official prescriptions? (3) By analyzing 50 English texts from 1012 to 2012, I show that English has successfully eliminated all accents on words, simplified punctuation use, virtually made the subjunctive redundant, and reduced the average sentence length by more than half from around 35 in the convoluted style of the 18th century to 14 words today. (4) Our findings show that English has the potential for being democratic, concise yet profound, and simple to understand. (5) I believe that this has implications for those languages, such as French, Italian, Korean and Turkish, that have conservative academies for safeguarding the ‘purity’ of their language.

The above abstract covers the following elements, which typically appear in humanistic abstracts. The numbers below refer to the numbers in the abstract.

1. Background information - there tends to be more context setting in humanistic than in scientific abstracts, and this may take up even 50% of the text
2. Gap in the knowledge - here the author challenges the accepted view on the topic. Using the question format, the author tells the reader what areas of the topic he plans to address. Questions create variety in an abstract and give it added interest
3. Methodology and results - the author provides some brief information on the data he used to get his findings
4. Conclusions
5. Implications - having implications in some way justifies why the author did his work, it gives the work relevance, it shows that the work makes a real contribution and was not just carried out for the author’s own personal interest

12.7 I am writing a review. How should I structure my Abstract?

As with all abstracts of all disciplines, when you are writing a review you need to tell audience what your primary objective is. Given that you will not have space to review every paper in the literature, you should then explain your reasons for selecting certain papers. Your ‘results’ are your findings drawn from analyzing the literature. Finally, for your review to have a real purpose you will want to state your conclusions and what implications they have for further research in your field.

So once again your structure is: aim, methodology (selection process), results, conclusions, and implications.

12.8 How should I begin my Abstract?

When you read an advertisement for a product it never begins *The objective of this advertisement is to convince you to buy …* Instead advertisers go straight to the point. Abstracts are like advertisements for your paper.

You want your abstract to stand out so that there will be a better chance someone will notice it and read it. If you begin your abstract with commonly used phrases (by both native and non native English speakers) such as *This paper deals with … The aim of this paper … This article explores … We report …* you are not differentiating yourself from the others. In fact, some journals advise against using such expressions.

Below are some examples taken from abstracts in very different fields.

	ORIGINAL VERSIONS (OV)	REVISED VERSIONS (RV)
1	In this paper we present the design and development of a *highly innovative* software application //, Transpeach, which allows *mobile phone users* to use their own native language when speaking to someone of another native language. The prototype version enables a Japanese mobile phone user …	To extend automatic translation from written to oral communication we developed Transpeach. This software allows, for instance, a *Japanese mobile phone* user to talk to a Greek counterpart in Greek, likewise the Greek's words are automatically translated into Japanese.
2	We present a procedure for the analysis of the content of // organic materials present in archeological samples. The procedure allows the identification of a *wide variety* of materials within the same micro sample.	Archeological samples used for identifying organic materials are by necessity extremely small. We have found a way, which *we believe* is the first of its kind, to accurately identify *glycerolipids, natural waxes, proteinaceous, resinous and polysaccharide* materials within the same micro sample.
3	In this article we conduct an exploration of the crucial of role of the // invention of the steam engine in the Industrial Revolution, and specifically the modified version created by James Watt, the Scottish inventor born in 1736. However, *we contend that the merit* for the success of the steam engine should be …	James Watt's modified steam engine is widely acknowledged as paving the road to the Industrial Revolution. But was this Scottish inventor really the brains behind the steam engine? We *contend that Henry Wallwork*, a little-known Mancunian foundry entrepreneur, should be given more credit for …

In the OVs readers have to wait up to 15 words (i.e. until //) before reaching a key word that enables them to understand the potential relevance of the topic. They have to read words and expressions that they have read thousands of time before and which add absolutely no value to the abstract. In the RVs, the reader

learns either immediately or very quickly what the author has done to fill the knowledge gap.

RV1: In the first sentence the author manages to combine both the background (automatic written translation) with the new information (automatic oral translation). The words *highly innovative* have been removed. More concrete examples are given, which reflect what the prototype does.

RV2: The abstract now begins with *archeological samples*, so that the reader can immediately understand the general topic of the paper. The vague phrase *a wide variety of materials* has been replaced with concrete examples of these materials. This makes the RV slightly longer than the OV, but it now has a much stronger impact.

RV3: The abstract now gets straight to the point without the initial redundancy of the OV. The OV contains a detail - the birth date of James Watt - that serves no purpose for the reader and has thus been removed in the RV.

Going back to RV1, rather than telling your readers that what you have done is *highly innovative*, it might be more effective if you demonstrate the innovation element so clearly that readers reach this conclusion by themselves. This does not mean you always have to be modest about your achievements. In fact in RV2 the phrase *which we believe is the first of its kind* has been added to draw the reader's attention the contribution of the paper. The term *highly innovative* is subjective, *first of its kind* is informative.

12.9 What style should I use: personal or impersonal?

There are four possible styles for writing abstracts and papers:

STYLE 1	I found that x = y.
STYLE 2	We found that x = y.
STYLE 3	It was found that x = y.
STYLE 4	The authors found that x = y.

The style you use will depend on your discipline and on the requirements of the journal. Using the first person singular (Style 1), is generally only found in humanistic fields where the author's opinions are often outlined. Here is an example - an abstract from a paper (Sect. 10.2) entitled *International scientific English: Some thoughts on science, language and ownership.*

STYLE 1 The intention of this paper is to raise some questions about the 'ownership' of scientific English. Its author is a native speaker of English and a teacher of scientific English, but it aims its arguments at the international scientific community communicating in English. The paper is deliberately somewhat provocative in parts in an attempt to raise some questions about 'scientific English' which *I think* are important but which have not been faced to date.

Style 2 is found in all fields. Here is an example of the beginning of an abstract from a physics paper entitled *Tumbling toast, Murphy's Law and the fundamental constants*.

> STYLE 2 *We investigate* the dynamics of toast tumbling from a table to the floor. Popular opinion is that the final state is usually butter-side down, and constitutes prima facie evidence of Murphy's Law ('If it can go wrong, it will'). The orthodox view, in contrast, is that the phenomenon is essentially random, with a 50 / 50 split of possible outcomes. *We show* that toast does indeed have an inherent tendency to land butter-side down for a wide range of conditions.
>
> [to tumble = to fall and turn; butter-side down = people in Britain often put butter on one side of their toast]

Style 3 is also very common and many journals insist on this style. For an example of this style see the abstract in Sect. 12.5.

Style 4 is the least common style. Here is an example of the beginning of an abstract from a fascinating psychology paper entitled *Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments*

> STYLE 4 People tend to hold overly favorable views of their abilities in many social and intellectual domains. *The authors* suggest that this overestimation occurs, in part, because people who are unskilled in these domains suffer a dual burden: Not only do these people reach erroneous conclusions and make unfortunate choices, but their incompetence robs them of the metacognitive ability to realize it. Across 4 studies, the authors found that …

For links to these papers see page 311.

12.10 What tenses should I use?

The most commonly used tenses in abstracts are the PRESENT SIMPLE (*we show*) and the PAST SIMPLE (*we showed*).

The author of the "tumbling toast" abstract (Style 2) uses the PRESENT SIMPLE to:

- describe the contents of his paper (*we investigate, we show*).
- describe the common opinion that he is trying to question (*the phenomenon is essentially random*)
- refer to what he did during his experiments (*We show that toast does indeed have an inherent tendency*)
- give his conclusions - not shown here - (*Murphy's Law appears to be an ineluctable feature of our universe*)

In fact he uses only the PRESENT SIMPLE. Even though his research has already been done (thus the investigation is complete), he uses the PRESENT SIMPLE

because he wants to make his abstract sound more dynamic and his conclusions more convincing. However, in the paper itself he uses the PAST SIMPLE to describe what he did and found.

In the "incompetence" abstract (Style 4), the authors use the PRESENT SIMPLE to:

- talk about a well-known situation (*people tend to hold overly favorable views*)
- explain their opinion on this well-known situation (*the authors suggest that …*)

They then use the PAST SIMPLE to describe what they did / achieved and what conclusions they reached (*the authors found that ..*). This is the standard way to use tenses in abstracts.

The author of the "scientific English" abstract (Style 1) ends his abstract by using the PRESENT PERFECT (*which have not been faced to date*). You can use the PRESENT PERFECT and the PRESENT PERFECT CONTINUOUS when you describe a situation that began in the past and is still true now. This is typical when you are giving the context / background.

> In the last few years there *has been* considerable interest in …
>
> Since 2010 attention *has focused* on …
>
> To date, there *has not been* an adequate analytical model …
>
> For more than a decade data analysts *have been developing* new ways to …

Note: the underlined parts highlight the past-to-present timeframe. For example, *in the last few years* means a situation or action that began a few years ago and is still true today. *To date* means so far in the history of this particular branch of study.

Some authors also use the PRESENT PERFECT (in the active or passive) to describe what they achieved during their research.

> We *have found / devised / developed* a new approach to X. We *have demonstrated / proved / validated* the effectiveness of this approach by …
>
> A new approach to X *has been devised.* The effectiveness of the approach *has been demonstrated* …

12.11 How do I write a structured abstract?

Structured abstracts, which look like mini-papers, are becoming more and more popular. They are typically found in medicine, but also in economics, natural sciences and other areas. Most authors agree that the structured format helps them to write clearer abstracts. Structured abstracts also force the author to answer all the

questions (including limitations to their research) that referees and readers are likely to ask.

In addition, they are much more readable as referees (for their peer reviews) and readers can find exactly what they want quickly.

As with all abstracts, it is very important that you follow the journal's instructions to authors which will tell you what sections to include in your abstract and what style to adopt.

This sort of abstract tends to be longer (up to 400 words) and is often written as a series of points, though full sentences with verbs are always used in the Results and Conclusions.

Here are some typical sections in a structured abstract:

From a journal of vegetation sciences:

> Question - Location - Methods - Results - Conclusions

From an economics journal:

> Purpose - Design / Methodology / Approach - Findings - Practical implications - Originality / value - Keywords - Paper type

From various medical journals:

> Background / Context / Purpose - Methods - Results / Findings - Conclusions
>
> Context - Aim / Objective - Design - Setting - Patients (or Participants) - Interventions / Treatment - Main Outcome Measure(s) - Results - Conclusions
>
> Context - Objective - Data Sources - Study Selection - Data Extraction - Results - Conclusions

Other sections sometimes found include: Level of evidence, Clinical relevance, Data collection / Extraction methods.

See page 314 (20.4) for a link to an example of a structured abstract that has important implications for non-native researchers.

12.12 How do I write an abstract for a conference?

An abstract for a journal has to be relevant to the specialization of that journal. Likewise, an abstract for a conference must *really* fit the conference theme. This point is absolutely essential. Occasionally in the rush to organize the conference the editorial board may initially accept your abstract on the basis that it sounds interesting. Then a few months later when you send them your full version, the editors may realize that it does not actually fit the theme. So if it doesn't fit, choose another conference.

Try to ensure that your abstract will not just be enticing for the editorial board but also that it will be suitable for publishing in the conference handbook / proceedings. Your title should be interesting but not too obscure or too colloquial / witty. It can be less 'technical' than a title for a journal, and many often contain two parts (Sect. 11.5) - the first part is technical, and the second part contains a more informal interpretation of the first part. Or vice versa - the first part is more fun, and the second more serious.

If the conference that you plan to go to is not in its first edition, you can look at abstracts from the previous editions to see their style and tone. In any case, the rules for writing the abstract itself are the same as for a journal, though your style may be slightly more informal.

12.13 How do I write an abstract for a work in progress that will be presented at a conference?

Conferences are generally planned up to two years in advance. When you answer the call for papers, your research may not yet be complete, but nevertheless you think that the conference would be a good way to get feedback on your progress. Below is the first draft of an abstract on how students choose the topic for their doctorate. It was written for a conference by Rossella Borri, an Italian PhD student in Political Sciences, whose research at the time of writing the abstract was only in its initial stages. Her initial draft, below, was not suitable for a conference - it is misleading because it is still a work in progress, which is not apparent from the draft.

> With its focus on the research cycle, scientific methodology has devoted a great deal of attention to the phase of problem solving. However, the issue of problem choice has been relatively neglected, notwithstanding its relevant epistemological implications. What are the criteria used by PhD students to set their research agenda? To what extent is the research agenda driven by pure curiosity about social phenomena? How much is it a matter of bargaining with various resource limitations? A survey was carried out among PhD students of European universities to examine the criteria used in the choice of their dissertation topics. The analysis sheds light on the way scientific knowledge is crafted, and about the challenges and limitations researchers face during this process.

The abstract would be fine if she had finished her research - which is what most readers would understand. The problem is that it gives no idea of the fact that the research is only at the beginning and that the data from the survey have as yet not been analyzed. It is thus rather misleading and those who go to her presentation at the conference might be very disappointed not to hear the concrete results that the abstract seems to promise. Having shown her abstract to her tutor who warned her of such a possible misinterpretation, Rossella then revised the second part of the abstract by saying:

> We are *currently* carrying out a survey of 500 PhD students of European universities to examine the criteria employed in the choice of their dissertation topics. Analysis of the data

> *will explore* the relationship between factors such as the duration of the PhD programme, the availability of a scholarship or background experience in the field and PhD students' criteria for choosing the specific issue that they wish to study. Initial results from the first 20 surveys *seem to indicate* the importance of the availability of funding and the potential job prospects rather than preferences driven by pure interest for its own sake. We *hope* to shed light on the way scientific knowledge is crafted and about challenges and limitations young researchers face during this process.

The abstract now contains the words *currently, will explore, seem to indicate*, and *we hope*, all of which highlight that this is ongoing research. By adding some of the initial results, the audience at the conference will be interested to know whether these results were confirmed when the whole battery of surveys was analyzed.

Your abstract should encourage conference attendees to come and hear you rather than going to a parallel session. If you don't have any results at all, you should either consider going to a later conference when you have something more conclusive to say, or tell readers what you expect your results to show.

12.14 How should I select my key words? How often should I repeat them?

There is a lot of mystery around how Google and other search engines use key words when indexing websites and articles. In any case it makes sense to have key words in your abstract (and title too) because it forces you, the author, to decide what words in your paper really are important. The key words are also the words that readers are looking for in their initial search and then when they actually scan your abstract. General consensus seems to be to not repeat the key words more than three times in the abstract. This can be tedious for the reader. More importantly, 'keyword spamming' may lead to the web page being rejected by the search engine.

Some journals require you to have a list of four or five key words directly under your abstract. The same journals may also require that the keywords in this list should not appear in the text of the abstract.

Make sure you have a very clear idea of the policy regarding key words of the journal or conference before submitting your abstract.

12.15 Should I mention any limitations in my research?

You should certainly mention the limitations of your research at some point in the paper. However, given that an Abstract is designed to 'sell' your research, you might decide not to mention the limitations until the Discussion (Sect. 17.11).

12.16 What should I not mention in my Abstract?

You should try to avoid:

- background information that is too generalist for your readers
- claims that are not supported in the paper
- terms that are too technical or too generic - this will depend on your audience
- definitions of key terms
- mathematical equations
- generic quantifications (e.g. *many, several, few, a wide variety*) and the overuse or unjustified use of subjective adjectives (e.g. *innovative, interesting, fundamental*).
- unnecessary details that would be better located in your Introduction, such as the name of your institute, place names that readers will not have heard of
- references to other papers. However, if your whole paper is based on an extending or refuting a finding given by one specific author, then you will need to mention this author's name.

12.17 How can I ensure that my Abstract has maximum impact?

There are three main ways to do this. Firstly, put the information in the best possible order. Secondly, highlight the importance of what you are saying. And thirdly, be as concise as possible. To see full examples of how to do this, see Sects. 4.6 (putting info in best order), 8.9 (highlighting), and 5.15 (being concise).

12.18 What are some of the typical characteristics of poor abstracts?

The following abstract, from a fictitious paper entitled *An innovative methodology for teaching English pronunciation,* has a series of problems.

> The English language is characterized by a high level of irregularity in spelling and pronunciation. A computer analysis of 17,000 English words showed that 84% were spelt in accordance with a regular pattern, and only 3% were completely unpredictable [Hanna et al., 1966]. An example of unpredictability can be found in English numbers, for example, *one, two* and *eight*. Interestingly, English spelling a thousand years ago was much more regular and almost phonetic. Words that today have a similar spelling but radically different pronunciation, such as *enough, though, cough, bough* and *thorough*, once had different spellings and much more phonetic pronunciations. In this paper, a pioneering method, developed by the English For Academics Institute in Pisa (Italy), of teaching non-native speakers how to quickly learn English pronunciation is presented and discussed.

The problems are:

- it is not self sufficient. If readers read this abstract in isolation from the paper, they would have no idea about what the author actually did in his / her research, nor what was found
- it looks like the beginning of an Introduction not an Abstract. Apart from the last line it is all background information. This information is interesting and relevant to the topic of the paper. But it is not new information. Basically, it tells the reader nothing about what contribution the author has made to this field of study
- it contains a reference to another authors work, Hanna. This is not common in an Abstract
- it mentions irrelevant details. In an abstract the reader does not really need to know where the research was carried out, particularly in this case where the exact location of the research (Pisa, Italy) is totally irrelevant - it has no impact on the findings
- the pioneering method is not described, nor do we have any idea about why it is 'pioneering'
- the reader has no idea of what results were obtained

The result is that readers in this field - English pronunciation - are likely to skip this article and move on to the next one they find. A better version of the abstract would be:

> We have developed a didactic method for addressing the high level of irregularity in spelling and pronunciation. We combine new words, or words that non-native speakers regularly have difficult in pronouncing, with words that they are familiar with. For example, most adult learns have few problems in pronouncing *go, two, off* and *stuff* but may have difficulties with *though, cough* and *rough*. Through associations - *go / though, two / through, off / cough, stuff / tough* - learners can understand that familiar and unfamiliar words may have a similar pronunciation and can thus practice pronouncing them without the aid of a teacher. Tests were conducted on 2041 adults selected at random from higher education institutes in 22 countries and incorporating five different language families. The results revealed that as many as 85% of subjects managed to unlearn their erroneous pronunciation, with only 5% making no progress at all. We believe our findings could have a profound impact on the way English pronunciation is taught around the world.

The revised version is better because:

- readers are immediately told what the author did. There is no background information because the context is well known
- the methodology is explained and a concrete example is given
- the selection process of the subjects (*adults*) is described
- the results are given
- numbers are qualified (*as many as* 85%, *only* 5%) to help readers understand whether the numbers reflect normal expectations, or are particularly high or low
- the implications are stated
- the word 'pioneering' is avoided - it is left to the reader to decide if the method is pioneering or not

The result is that readers in this field are more likely to be stimulated into reading the rest of the article.

12.19 Summary: How can I assess the quality of my Abstract?

To make a self-assessment of your Abstract, you can ask yourself the following questions.

- Have I followed the journal's instructions to authors? Have I followed the right structure (i.e. structured, unstructured) and style (*we* vs passive)?
- Have I covered the relevant points from those below?
  - background / context
  - research problem / aim - the gap I plan to fill
  - methods
  - results
  - implications and/or conclusions
- Have I chosen my keywords carefully so that readers can locate my Abstract?
- Whenever I have given my readers information, will it be 100% clear to them why they are being given this information? (You know why, but they don't.)
- Can I make my Abstract less redundant? If I tried to reduce it by 25% would I really lose any key content?
- Have I used tenses correctly? PRESENT SIMPLE (established knowledge), PRESENT PERFECT (past to present background information), PAST SIMPLE (my contribution)