TRIZ Master Degree: How to Fail Your Dissertation Defense

Practical Recommendations

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This paper is addressed to candidates for the TRIZ Master Degree. Practical recommendations detailed here will enable the candidate to write a weak and unintelligible dissertation, prepare an incomprehensible presentation, deliver a poor-quality speech, give unsatisfactory answers to questions, and, finally, fail to become a TRIZ Master. Members of Dissertation Councils of past years have drawn upon the experience of unsuccessful defenses to write this guide, and sincerely hope that no one will follow the advice herein.

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Introduction

As TRIZ advances in the world market, TRIZ professionals (consultants, teachers, instructors, methodology developers and combinations thereof) have become more and more in demand, leading to a growth in the value of TRIZ diplomas and certificates. And that is as it should be; otherwise, how could a potential employer determine the TRIZ skill level of an applicant before hiring?

Currently, the pinnacle of TRIZ qualifications is the TRIZ Master degree. And until recently degree holders received their degrees in one of three ways: directly from the hands of G. Altshuller; by preparing and defending a dissertation; or by persuading the Dissertation Council to grant a merit-based Master diploma. Unfortunately, only the last two are available to candidates today as Altshuller is no longer with us. (Please note: the option of buying a TRIZ Master diploma in some underground passage will, naturally, not be considered at this time.) Moreover, the only option considered here is the Dissertation Defense since acquiring a diploma based on merit depends wholly on a set of well-formalized criteria => and, thus, special recommendations are not warranted.

Goal of work. Relevance.

The goal of this work is to produce practical recommendations that, if followed, will make it highly probable that the TRIZ Master candidate will NOT obtain a degree.

Right here and now we will tell you why recommendations on how NOT to obtain a diploma are needed, even though candidates obviously strive for the opposite. First, in doing so we hold to a tradition established by Altshuller and his disciples who long ago presented papers entitled “How to Carry Out a Poor-Quality TRIZ Project” and “How to Deliver a Poor Report at a TRIZ Conference.” Second, direct recommendations tend to run right up against people's psychological defense mechanisms (like, who the hell are YOU to tell ME to love my country?). So rather than fighting this, we decided to put it to work for us. Candidates can stubbornly go against our advice, then everyone will be happy: the candidates will receive their deserved TRIZ Master degree, MATRIZ – fitting recruits for the corps of TRIZ Masters, the TRIZ community – strong, coherent theses, and TRIZ science – further development.

Relevance of this paper is associated with the sad number of unsuccessful Defenses, where dissertations with strong ideas prepared by creditable developers were written so unclearly and, especially, presented so badly that their failure was practically predetermined. Additionally, in at least two cases, the second attempts (L. Kaplan and O. Abramov) were brilliant, not a single vote against, while two others (B. Axelrod and A. Kashkarov) also passed the second time. This shows that failure can be avoided in many situations. It is very important, therefore, to reduce the probability of failure for reasons not related to the quality of the work. After all, it is a sorry waste of effort, time, nerves and hurt pride - particularly since there really is an opportunity to avoid failure.

Method used

This paper was compiled from interviews with members of MA TRIZ Dissertation Council. The Council members were asked just one question: “What, in your opinion, should a candidate do or not do to increase their chance of failure?” The recommendations were not analyzed for frequency or relative importance as it was considered unnecessary: Council members vote independently, and therefore, if one of them thinks that something is worth mentioning, candidates should take note.

Recommendations on obligatory deliverables

Preparation of deliverables

Well, sure, the MA TRIZ web site has a list of recommendations on how to prepare dissertation materials. But who said you have to follow them? This is a free country, and all those MA TRIZ bureaucrats with their made-up requirements don't mean a thing. So, take a dare!

Deliverables of excessively large volume

The dissertation should be no less than 300 pages; better yet – 1 000 pages! An abstract of 50-100 pages will also work well. Then, rest assured, no one will read it.

The material should contain as many formulas as possible, preferably without descriptions or examples illustrating them. It is also very effective to use little studied or recent research in mathematics, or new discoveries in quantum physics – naturally, without explanations for the layperson.

Illustrations

Don't even think about adding illustrations to your work. Figures and diagrams make reading your masterpiece inadmissibly easy for Council members - don't spoil them. But if absolutely necessary, you can always draw a crooked picture by hand.

Hard copies

Don't, under any circumstances, bind your dissertation. Submit it as separate sheets of paper; preferably without page numbers.

Submission of your deliverables

This aspect being purely technical, you would think there was nothing to learn here. But no! Even this area has its little tricks. The main thing is to treat both the mandatory requirements of MATRIZ and common sense creatively and without undue piety.

Not then

Under no circumstances should you submit the required materials on time (i.e. not later than three months prior to the Dissertation Council session). The later you submit your dissertation, the better your chances are not to be admitted to the oral defense – which is actually what you want.

Not there

Don't send your documents to people who should get them (MATRIZ President, Dissertation Council Chairman, and Academic Secretary of the Dissertation Council). The best thing to do is to send them to your friends and relatives, or, just to the guy down the lane, so that they definitely don't end up where they should be. Under no circumstances should you check to see whether your documents have been received – let them guess whether or not you have sent them.

Not that

If you somehow managed to send your documents to the right people and on time, do your best to submit something other than what is required in clauses 12-13 of the Regulations for TRIZ Master Degree Certification. For instance, you could make a very strong impression on Dissertation Council members if you don't submit your research consultant/supervisor's review, or if your abstract is written

in only one of the working languages accepted at MATRIZ, or if you send just one copy of the abstract (no big deal – Council members can sit around in a circle, reading and translating together).

Recommendations on the content of your dissertation

Choosing a topic

The topic should be as irrelevant as possible; for example, the advantages of the trial-and-error method.

The topic should be global (Altshuller called this the "global stroke," or, glo-stro for short); for example, TRIZ as a global tool that solves problems in any field.

Another risk-free failure option is to choose to improve a sub-step of some minor step in TRIZ methodology (Altshuller tenderly referred to this as 'facelifting').

Choosing your research supervisor (consultant)

Your research supervisor should be a stranger not only to Council members, but also to the entire TRIZ community. It's best if your research supervisor doesn't know TRIZ at all.

If you can't manage to choose an incompetent supervisor, you will have to settle for one who is maximally unreliable, disorganized, and swamped with other things far more important than your Dissertation Defense. Such a supervisor will do everything that should be done: not help you in the course of your research, not write a review on time and not attend your Defense. Yet another option is to choose a well-known hostile type - this person will quarrel with each Council member at the appropriate time.

Dissertation structure

Break stereotypes - show that you are a creative person in everything you do. Create original content for your dissertation by using morphological analysis to re-order the recommended sections. Below is an example of original dissertation content: 1. Appendix, 2. List of References, 3. Goal, 4. Conclusions, 5. Results, 5. Practice, 6. Approaches, 7. Importance, 8. Novelty, 9. Methods, 10. Problem to be solved, 11. Contributions, 12. Introduction. We wish you success in your creative activities!

Recommendations on your presentation

Experience shows that presentation plays a critical role in the Dissertation Defense - it is, perhaps, even more significant than the dissertation itself. From time to time most TRIZ Masters prepare presentations (as a practitioner – to present project results; as a trainer – to prepare materials for training seminars; as a developer – to prepare materials for conferences). Hence, a well-made presentation might indicate that a candidate has acquired the necessary professional skills, thereby favorably influencing the vote – something that must not be allowed to happen. By adhering to a few simple rules, you will easily convince the Council that you definitely should not be allowed to come near clients, trainees or other audiences. And you are virtually assured of that longed-for crop of nay-votes!

Presentation style

The main goal here is to make your presentation as incomprehensible as possible. Council members should be left completely in the dark as to what you are actually proposing, why your methodology is better than the existing one and how it could be applied in practice. To this end, choosing the correct style for presenting your ideas is very helpful. There are two contradictory styles that, though it seems paradoxical, give similar results. They are:

'Only theory' style

The motto for this style is "no illustrative examples!" Describe in detail a multi-step algorithm indicating what should be done at each step, but not how. And don't give any specific examples – everything should be maximally abstract. If you must, you can mention in passing that examples are described in detail in the written dissertation. And in general, don't worry if your theory is unsubstantiated by practical results. You are defending your dissertation for Master in the 'THEORY of Inventive Problem Solving', not in 'Theory of Inventive Problem SOLVING.'

Your speech could look something like this: "Step 83. Choose a key resource whose variable parameters at the macro-level are coordinated with the parameters of the active component in the contradiction, whereas at the micro-level they are coordinated with the parameters of its passive component." And while the astounded members of the Council are trying to make out what you mean, how to do that and what it all has to do with the accumulated experience in problem solving, you should calmly move to "Step 84. Resolve the contradiction via dynamic re-coordination of variable parameters of the key resource at different system levels." That's it – the Dissertation Council is down for the count, and you have nothing to worry about – the voting results are foregone.

'Only examples' style

Presentations made in this style are usually done using the cutting and pasting method. You take slides you prepared for some big project, add a couple of unintelligible block diagrams for appearance' sake that supposedly represent a new methodology, and that's it – the product is ready. Next, give a detailed and tasteful description of how that huge contraption operates. Include several slides with diagrams, drawings and photographs, tell what was wrong with it, and how nobody knew what to do about it. Then, all of a sudden you appeared and, applying your new methodology (mention the methodology by name only - say no more!), you immediately figured out what to do so that everything would operate as it should. Again, show slides of diagrams, drawings and photographs, including a picture of you in front of the wonderfully improved mechanism, plus scans of patents. At the end, mention the immense economic benefit gained exclusively as a result of your methodology (name), about which, alas, little was said. But, you say, that doesn't matter – the gadget turned out brilliant!

Just think: the Council members will sincerely listen to all your technical details in anticipation of hearing how all this fits so beautifully into the methodology you promised, and, wham! Presentation is over, thank you for your attention! It's like promising candy to a child, then giving her an empty wrapper. After that let down, do you think anyone will vote in favor?!

Presentation structure

Remember, you need to make sure that no one understands anything. To accomplish this, anything goes, overlook nothing. So, let's see what we can do with the presentation structure: how to organize it

so that you fry the brains of those detestable Council members, and thwart any thought of voting for you?!

No navigation slides!

Some irresponsible individuals preface their presentation with a table of contents that lists the main sections of the presentation (problem description, main idea, example showing the algorithm's implementation, its main steps, etc.). Then, they insert this slide at the beginning of each section, using it as a navigational tool and highlighting the appropriate line. Don't even think of doing this! Otherwise, the Council members will easily follow you, though the material is new to them, and they will appreciate your work – but you certainly don't need that! Better they stare stupidly at each slide wondering if this is still the problem description or, maybe, your solution?

Squeezing the entire dissertation into your presentation

The Council bureaucrats are notoriously incapable of appreciating the magnificence of your work, so they've allocated a pitiful 25 minutes for your Defense instead of the 3-4 hours that you actually deserve. Rather than harboring resentment, try to turn disadvantage into advantage by squeezing the whole dissertation into the allocated time. Include various ways your idea can be applied, its nuances and subtleties (details, more details) – and make sure you spend time on the necessary (albeit uninteresting in terms of methodology), obvious steps. By so doing you produce such an information buzz, that all your brilliant and non-trivial findings inevitably disappear, and the beauty and integrity of your ideas will be lost forever, leaving only disconnected fragments of methodology jumbled together with bits of examples – which is precisely what is needed.

But what if you only present the most exciting , and more or less independent, part of the algorithm. The rest of it, you say, is no less interesting and can be found in the written dissertation. You even show a summary of it - without comment - on one slide. Just imagine! The Council members would not only understand and appreciate what you say, but they would inevitably transfer their enthusiasm to the rest of your work. No. As much as you want to fail, it won't happen!

Excessively large number of slides

Statistics show that for a successful Defense a reasonable number of slides are about 25–30 (including auxiliary). So, you need to exceed this amount significantly. This approach has several advantages:

- It will force you to babble, which means the Council will, first, fail to understand anything, and second, be convinced you lack both lecturing and teaching skills;
- It will allow you to omit slides, while mumbling something unintelligible, such as "well, there's no time to go into this, and it's not interesting, not important." You can't imagine the impression such lapses make on the audience!
- Naturally, it won't give you enough time to cover everything in the allotted time; which is why the most important things will most likely be left unsaid, to say nothing of the skills necessary for a specialist in TRIZ (as, by the way, in any other science) to select material and meet presentation format requirements!

Disguising the main idea

To achieve this noble goal, any means goes – some have been described above. Yet here is another beautiful approach: don't in any way emphasize the main idea over the unimportant technical issues. For instance, suppose you discovered a resource with maximum metastructural potential (whatever it is), which is the best and most promising of all available resources. Obviously, in order to identify this potential you made a complete list of available resources: substance, field, information, and so on. And these resources can be in the components directly involved in the process to be improved and in the components of the supersystem. So, all the obvious steps for identifying various types of available resources should be described in the same amount of detail and in the same tone as your metastructural potential. With luck, the Council members will blink and miss your main idea, they'll start exchanging quizzical glances and, perplexed, wonder what the novelty and non-obviousness is here – "duh-uh, as if we didn't know what kinds of resources there are and where they come from."

Don't distinguish the new from the known

Keep in mind that the main point is to make everything as unclear as possible, and for this it would be useful to distract the Council members. Certainly every development includes the novel and the well known, and you need both to use and explain the development. But, if you concentrate on the well-known, explaining them in detail and illustrating them with examples, it is pretty easy to disguise the novelty of your work: the Council members won't know what to focus on. This will help you create the impression that everything you said was well known before this, and that your dissertation is not up to a TRIZ Master degree – which is, in fact, what you need.

On the practical significance of your work

You should never say that other people are using your methodology successfully. You really don't want to mention somebody else's name when you – and only you – are the center of attention. And don't bother to get any references from those using your methodology - it's too much time and effort.

Techniques for making slides

Remember, no details are too small when it comes to ensuring Defense failure, and how your slides look is hardly at the bottom of the list. A garbled, multi-colored mixture of drawings, illegible tables and long texts – all these help to make your presentation unintelligible, and totally irritate the Council members.

Slow slide change

You should definitely use the animated slide change function, and the slower it is, the better. Even if you spend just 2 seconds on each slide change (2 measly seconds!), then 30 slides would waste a whole minute – but there are only 25, so the total wasted time would be 4%. Small stuff, but – oh, so nice.

Slides without numbers

It's best not to number your slides. In a pinch, use tiny pale-grey numbers often overlapping them with graphics. Let Council members try and ask a question like "but on slide 18 you show …." Instead, they will have to use the method of sequential approximation (Go back! No, now forward! Wait, go back again!), and there won't be time for more questions. The result is obvious: they won't ask half their questions => they won't understand much => they are all irritated => well, you get it.

Repetitious slide headings

Completely avoiding slide headings is difficult (though some skilled types manage it), but you can make them extremely uninformative. The simplest way is to use the same heading for each slide in a series. For instance, you could put the same heading (let's say, the name of your methodology 'Inverted Polycyclic Algorithm for Identifying Key Disadvantages') on all of the slides between the Introduction and Results and Conclusions sections. Then just try and locate the examples, or the algorithm steps, or the rules for their use. Wonderful – confusion is the root of success.

Stock element overload

Uninformative elements – logotypes, copyrights, etc. – should occupy as much space as possible. Also effective are templates with a lot of graphics (some are even animated: ripples along the water, and other cute diversions) that occupy as much as 25% of a slide. These offer loads of benefits– they distract, they reduce a slide's informative value, and they will aptly portray you.

Text overload

A lengthy text on a slide is an excellent method for diverting Council members' attention. Just imagine, they read, you babble into the microphone. The result? They won't understand even half of what you or the slides say. See for yourself.

Graphics overload

Two things that look equally good are a bunch of graphs and diagrams with lots of multicolored curves and their microscopic legends (God knows what those bitty squiggles in the axes are … or maybe there aren't any?) and drawings with complex cross sections of machines and lots of tiny components (but you are only talking about some small part of a machine). And you stick them on top of each other, leaving no spot uncovered. And no margins!

Illegible Table

A huge table with numerous columns and lines, illegible headings (everything should be hard to read – both parameters and units of measure) and, God-knows-what numbers in the table fields – delightful! And no conclusions should be made from it, and neither should it be clear why it was inserted at all. That's how to win!

Algorithms – only in graphic view

The majority of algorithms are linear. Never present them in numbered lists! It's much better to use graphics (boxes with text + arrows). They are just as informative, but they occupy much more space, which means you can make the captions teeny-tiny and even use abbreviations to make reading and understanding anything on your slide very difficult. Why all this? Well, text boxes deliver a minimum of meaning (they say, “I am a step”) – in a list, there would just be a line number or the line itself. Arrows aren't very informative either (they say, “I am the transition from this step to the next”) – in a list this function is carried out by sequential numbers and vertical line location. This is excellent – the less information, the more incomprehensible your presentation is.

Kitsch and tastelessness – all we need

Well, certainly, if your presentation isn't ultra-serious the Council members will be more apt to like you. We recommend, however, not limiting this to some small part of the presentation (e.g., the last slide thanking them for their attention). Go all out, use readily available images from clipart as much as

possible (like grotesque people in different poses, bags with dollar signs on them, light bulbs with exclamation marks, etc). To be honest, we have yet to see cute kittens frisking about among the flowers and butterflies. We're counting on you!

Font size – either extremely small or enormous

We have already talked a lot about using tiny, illegible text. But gigantic letters are also effective. Usually they are used in headings, which occupy a disproportionately large area of the slide. Furthermore, capital letters are perceived as a shout (on Internet forums, in response to remarks written in uppercase readers sometimes ask the writers to stop shouting). That's why every slide with a large, uppercase heading in bold literally bellows to the Council members, making them jumpy:

"INTRODUCTION"!, "NOVELTY"!, "CONCLUSIONS"!, "SILENCE, FRRReaks"!! (Oh, I mean "Thank you for your attention.")

All texts should be animated

Usually Council members quickly read through the text on a slide and then calmly listen to its explanation. The talk is easier to understand because it's clear what's going to be said next. You need to prevent this. The simplest way to do this is with animated text. When you open the slide, it's empty (additional advantage – even you won't know what to talk about). Click – and the first phrase slowly appears (also, time will be wasted as the phrase unfolds). Everyone reads it, not listening to you. And when they do start listening, they won't understand what you mean. Repeat this trick with the remaining phrases.

Half-empty slides

This is not as effective as overloaded slides, but a couple of short, lonely-looking lines under a full-scale heading would inevitably irk professional trainers and TRIZ developers who are in the habit of tenderly polishing their presentations. And, at least a little time will be wasted switching to the next slide.

Color scale: more garishness

According to special studies, a slide is most easily understood when only two colors are used in them. So, our advice is simple – use lots of colors. Unnatural acidic tones in bizarre combinations are desirable. The famous 'Ryazan color scale' – i.e. bright red and bright green – is especially effective.

On the format of your dissertation materials

We value your time; therefore, don't hesitate to compile your dissertation presentation from different presentations, whether by you or others, which vary in logic and style. Don't even think of adapting the slides to a uniform logic and style - diversity makes life interesting.

Terminology

Terminology may serve as an effective weapon in your struggle with Council members. Skillful use of terms can make your presentation so incomprehensible that you knock the brains of the Council members out of sync and they won't understand a thing in your presentation. Goal achieved.

Definitions

The best thing to do is to skip them altogether. But it's enough to casually throw in a brief, indistinct comment with a vague example, and it's in the bag. For example, “All parameters by way of their manifestation mechanism are divided into metamorphic and oligomorphic. For example, the density of the object is a metamorphic parameter, while its form is a typical oligomorphic parameter.” “What do you mean, how do they differ?” “I’ve just said: by manifestation mechanism. And I gave you examples. Is everyone in the Council this dumb, or just you?”

If you decide to use definitions anyway, there are several approaches. In fact, the rules for generating definitions have long ago been described in clever books, which are easy to find in the Internet. Better not to read them, because, you know, there is much misery in wisdom…. And besides, it will be easier to break the rules. Only some of the most advantageous recommendations follow.

This is when….

When generating a definition using this magic formula, you can pull off amazing results. In some cases, people will stop listening the moment you utter a definition. Here’s some great wording: “Necessity – this is when a person needs something.” Now, isn't that charming?

Starting at Adam

Some nerds don't bother defining well-known terms. But this is not our way! You absolutely must incorporate all such definitions into the definition of your new term, thus giving it more weight and creating the impression you thought up all these terms yourself. For example, don’t define, like some naive people, a new engineering system as “This engineering system is a system that… (followed by a description of this system's distinctive features).” No way. Start with a general definition of the ES, like this: “An engineering system is a set of components where the features of the system are not the sum of the features of its components, which… (etc.).” Never mind that this definition isn’t your creation. How amusing to watch Council members wincing as they read your masterpiece!

To define the incomprehensible via the incomprehensible

A simple example: “An engineering system is a system that includes at least one artificial component.” And what is “an artificial component?” It's as plain as day, and anyone who can't see that shouldn't be on the Council.

Definition does not cover everything

Same example: “An engineering system is a system that includes at least one artificial component.” But if you build a wall (or dome) of natural stones, is it an ES? After all, it doesn't have a single artificial component – the stones were taken out of the ground. Another example – let’s hollow out a log to make a boat. Ok, sure, since we did create the wood chips artificially – by separating them from the log – they of course fit this definition (this, by the way, is related to the next recommendation). But the boat itself remains absolutely unchanged – we didn't change a single molecule in it. Aha! It's not an ES!

Definition covers too much

“An engineering system is a system that satisfies a certain need.” Excellent, the sun satisfies my need for heat and light, while a cloud – for pleasant shade. Look how many ESs there are!

Re-naming existing terms

Even Altshuller faced this phenomenon and tried to do something about it. Certainly, in those days there were those who tried to take over TRIZ for themselves using this seemingly innocent procedure. No big deal – change the name and main terms, and you're founder of a new science! Nowadays there's no point in such a global approach (although, who knows, TRIZ reformers and 'simplifiers' periodically pop up), but you could create some wonderful confusion. And how pleasant to imagine that some day there will be a line in a TRIZ Encyclopedia: "The term /XXX/ was first introduced by TRIZ Master /your name/ in /year/."

Indeed, what kind of a term is 'physical contradiction?' But if opposite requirements are imposed upon an object's chemical properties, then what? No, let's rename it 'essential contradiction' (abbreviation EsC). Or even groovier: Internal conflict of opposites (basic) – abbreviation ICO(b). And let the Council members sweat it out as they try to translate your newspeak into traditional TRIZ language – the less they understand, the better!

Using existing terms for new entities (re-defining)

Now this is really high class! Imagine this: everyone is used to thinking that Ideal Final Result (IFR) is the visualization of an ideal solution (generated at step 3.1 of ARIZ 85v), which is a specific set of requirements for X-factor. But out of the blue you decide to define IFR as the desired visualization of a system, i.e. what the system should look like at the end of your project (that is, you define it differently for yourself without putting any formal definition on the slide). Leave the Council members to wonder why on Earth the IFR comes at the very beginning of the analysis, when the problems don't even exist yet. Well, you have the right!

Malicious definition generation

Yet another wonderful way to degrade your dissertation, or any scientific research, is 'malicious definition generation.' Our goal, as you remember, is to fail your Defense, or more: to convert any scientific research into an esoteric document for the initiated only.

Forward, under the banner of the Great Plato!

Here's a definition for malicious definition generation:
"Malicious definition generation (MalDeGen) is an attempt to make a complicated definition of something that does not need defining at all."

Example. We found the following definition in a TRIZ publication: "The ES action principle is the minimum necessary set of natural effects and phenomena (processes) that ensure performance of the main function (MF). ES that are characterized by a common MF and action principle comprise a functional-physical class in one of the parametric niches."

If someone doesn't know what 'an action principle' is, would this definition really help? In over 1000 practical projects and hundreds of training seminars we asked people to describe the action principle of their systems. None of them knew this formal definition, but no one made a mistake in their description.

Twenty-five hundred years ago, Plato, with his quick mind, became the founder of MalDeGen, and the first 'MalDeGener,' by defining a human as a featherless bi-ped. The next day Diogenes brought him a

plucked chicken – here's your human. After that Plato refined his definition – a featherless bi-ped with flat fingernails...

This story reflects the future of MalDeGen– a meaningless definition followed by its quick fix as it bumps into reality – increasing the degree of maliciousness.

Plato was followed by Aristotle, who worked out MalDeGen logic, which defeated common sense; next came the religious scholiasts who started wars because of how a word in the Scriptures was interpreted; then the MalDeGen banner was taken up by physicists and philosophical positivists …. So, there's no shame in using this great tool!

The end justifies the means

The main goal of MalDeGen is to look scientific by pulling the wool over peoples' eyes, deceiving others and, frequently, yourself as well. Remember:

- An ideal definition is when there is no definition, and everything is clear without one.
- An ideal malicious definition is when there is a definition, but it makes everything unclear.

MalDeGen adds seriousness to your work, while sacrificing its meaning; although it often just covers up the absence of any real meaning. The “law of maintaining seriousness” directly refers to MalDeGen enthusiasts:

“Prokshin, with his propensity for superficial effects, is a bit sorry that it's all so simple. When I told him this, he declared that there is a law of maintaining seriousness:

To some degree seriousness is inherent in every human. And it doesn't go anywhere. As it decreases in outer appearances, it increases in deeds. And vice versa.”

G. Altov, “Scorching Mind”.

In the course of a conversation, G. Altshuller insisted that this law was one of his most important discoveries. He was probably joking, but, you know, there's a grain of joke in every joke.

In normal science, MalDeGen is a way to pull the wool over readers' eyes, defeat rivals, build up your name in order to win grants and managerial positions, etc. So, it's totally amazing that in TRIZ, where there's nothing to fight over and no reason for MalDeGen to appear, it is blossoming. Is it the environment? Or the expectation of future 'glory sharing' among friends?

What is to be done?

MalDeGen, a true art in modern science, creates slang and jargon for science, preventing the non-elect from understanding, and, thus, inspiring respect. Use the following rules to master this not-so-easy art:

- “What should I say when I have nothing to say?” – Give definitions.
- The main thing is to ensure that the definition makes many more problems for readers than its absence. The best way to do this is to make a definition anti-intuitive.

- Rigorously define that which obviously doesn't need defining because it's obvious or common knowledge.
- Define the comprehensible through the incomprehensible, the obvious through the non-obvious the known through the unknown, etc.
- The more a situation is unclear and disputable, and the more vague the system before you, the more precise and categorical your definitions should be.
- Use rare, obsolete, 'smart sounding' and highly 'scientific' vocabulary – especially Greek or Latin. The following words are especially suitable: systematic, artifact, cerebral, cognitive, etc. The latest fashion is to use terms from synergetics – like 'fractal,' 'attractor,' and 'percolation.' 'Auto-poesis' is very chic. A special thanks to anyone who gives these words different meanings. Use self-invented words and abbreviations without providing explanations. It's also helpful to use special terminology widely recognized only in closed user groups, such as 'river bed evolution.'
- Use style and grammar that will make comprehension as difficult as possible
- Give priority to reasoning and deductions. If reality contradicts your definition, so much the worse for reality
- Try to use pseudo 'mathematization' as much as possible – beautiful formulas and equations that can be neither analyzed nor solved and that don't produce any practical results
- Stuff your work with unimportant, minor details; give complicated proof of statements that are obvious and don't need any proof at all
- Display your objectivity by telling about minor disadvantages in your idea or theory, while carefully concealing serious problems and inconsistencies
- Give numerous references to published sources, except those containing real criticism (and, most importantly, exclude those from which you have stolen something).

Grossmeister tricks – for advanced malicious definition generators

If you yourself don't understand what you are talking about, just invent (or steal) a term that would substitute understanding. For instance, there is the lovely word 'emergence,' which is especially helpful when the audience does not know English. In biology the 'Emergence theory of evolution,' is quite simple: something happens when different objects are integrated, we don't know exactly what, so let's call it 'emergence.' Add general reasoning on the Universe, passage of time, etc.

Don't hesitate to start arguments with other MalDeGen-erators, accuse them of stupidity and (NB!) of *generating malicious definitions.* Emphasize super-important, subtle distinctions. Go ahead and prove that your rival's definition is bad because it contains an extra word or comma. But if, you say, you replace, add, cut, decline, conjugate and conduct sigma-deritrinitation, then everything would be great. It's especially good to criticize the classics. This will automatically make you a genius and put you in the 'I'm-the-boss-you're-the-fool' position.

Bring tautology to your definition by reiterating it but with other words. Take your cue from great people – Darwin's theory of evolution is based on the principle of "survival of the fittest." And the "fittest" are naturally those who survive…. The ideal logical circular reasoning!

Most importantly – when you're gravely MalDeGenerating, scorn primitive definitions like the Turing criterion and similar pathetic attempts to make something understandable to dilettantes. Reject silly slanders like "Teach a fool to bow with grace and he would fall flat on his face." Lay yourself out!

Achtung! Achtung!

Take care. In the 1840s, Karl Marx started using the notion 'social class' without defining it. Then, after nearly fifty years, he tried to define class in the last volume of his book "The Capital." He wrote down the chapter heading and four sentences – then up and died from the strain of it. Don't overexert yourself in the noble field of malicious definition generation, give others a chance!

Final warning. Be very careful. It is quite likely that some (or even most) of the members of the Council are genuine malicious definition generators. Then all your dissertation agonies will turn out to be a colossal failure – you end up a TRIZ Master!

P.S. A couple of qualitative definitions based on recent experience:

- Diagnostic materialism – reducing everything to feces analysis
- Globalization (based on our personal experience) - when six people from three different countries sit around a table speaking English (a non-native language for all of them) and brilliantly misunderstand each other!

Use of abbreviations

Abbreviations are commonly used to denote lengthy word combinations to make texts and speech more compact. But in skilled hands they can boil the Council's blood, and that odious TRIZ Master diploma will disappear in a poof of smoke. So here are a few simple recommendations:

The more, the better

Stick in abbreviations everywhere, preferably in groups. There is a certain risk, though, that these abbreviations might accidentally form a magic spell invoking the demon from the netherworld, but you'll find a way out! Your speech, however, will turn into an absolutely unbearable combination of hissing and wheezing sounds, and Council members will growl or grieve. Well, here's a good one: 'According to TESE, in ARIZ for ES, the IFR and PC subject to OZ and OT, represent objects for SFR application.'

Substituting existing abbreviations with new ones

This technique enhances the effect of re-naming existing terms, mentioned earlier . For instance, let's change 'physical contradiction' to 'Internal conflict of opposites (basic),' and IFR-2 to 'final limit of system improvement,' and then the normal phrase 'transition from physical contradiction to IFR-2' turns into the amazing: 'transition from ICO to FLSI.' How the brains of those arrogant personages in the Council will fizzle trying to understand what they just heard!

Using existing abbreviations for new entities

This trick allows you to bewilder the opposition to the maximum with minimum effort. First, you confidently state that "First of all, use the first generation PC ." At this, the Council members will start racking their brains in horror, blaming themselves for skipping those long-ago TRIZ training classes where the different kinds of physical contradictions were taught. Meanwhile, you calmly continue, "and only then can you use second generation Phase Changes." That's it, there's no more to worry about – the Council members are in a dead faint.

Recommendations on your dissertation defense

Enough of slides, let's talk about the most important process: the Defense itself. You will be communicating with the Council members both verbally and non-verbally, and you need to transmit just one signal through all information channels: "Vote against!"

Behavior styles

Let's start with the most general recommendations. Inwardly having taken a particular stand (i.e. after selecting your 'role'), you wittingly or unwittingly force the Council members to take up the opposing position (counter role). It's important to do this correctly, so that the Council's regard for you and your work is most negative.

'Student at exam' style

Many years ago this style was brilliantly demonstrated by the comedian Gennady Khazanov in a stand-up of a student at a culinary school (watch it, in Russian, here http://www.youtube.com/watch?v=idSSQ_Z1yvk). By choosing the student-at-exam role, your almost imperceptible signals (like stiff gestures, slightly uncertain tone of voice, etc.) will force the Council members to take the role of severe examiners. You will be like a person running from a band of wild dogs – and when they catch up, they'll tear you to shreds.

'Guru on the podium' style

In this role you should convince yourself that these backward, calloused blockheads in the Council understand next to nothing of the deep truths you are going to reveal to them. Therefore, you should treat them with indulgence, don't go into details (they won't value your ideas, and anyway, there's no time to bother with them), and do emphasize your superiority in very possible way. This is especially effective if the subject of your dissertation involves the integration of TRIZ and some fashionable discipline, or, alternatively, some hardly-known discipline – e.g., "TRIZ and cluster analysis of multi-dimensional patterns." You could bombard the Council members with terminology borrowed from this discipline, mention the names of the developers, and drop book titles that no one knows (and you either – nobody will find out). And recommendations could be particularly trivial with an eye to incompetence.

This approach offers several advantages. First, the Council members weren't born yesterday and thanks to the Internet and, more-or-less decent English, they keep up with various methodologies better than you might imagine. And they will catch the flaws in your work. Second, it's highly probable that many Council members won't appreciate your forcing them to play the role of meek listeners, and will start asking malicious questions and making sarcastic comments about your work (possibly some unjustly). Their criticism won't leave anything left of your work.

‘Parallel universe’ style

This version of the ‘Guru on the podium’ style gives certain additional advantages. The main idea of it is: although the Council members perhaps do understand traditional TRIZ, they are mere babes in this specialized field (e.g. TRIZ for gender cluster deviations). It would also be useful if you boast of the rapturous reviews you received from leading researchers in the field, therein knocking out the Council members with a single stroke: they not only have never heard of these researchers, but didn’t even realize the field exists. Keep this field a secret to the end of the presentation. The recommendations regarding mysterious abbreviations, new entities, etc., remain in force here because they will further emphasize the Council’s ignorance.

‘Successful business person’ style

This style gives best results when used in combination with the ‘Only Examples’ style mentioned earlier. Forget your methodology; never mind that the Council members are expecting to hear about it. Your key emphasis should be on the astronomic effect the implementation of your inventions has had and the huge sums of money you personally have earned. Rumble on about world-famous corporations that were extremely lucky to have you as a consultant, drop names of top managers who were overjoyed to work with you, mention some countries and megapolises you’ve visited, thereby letting this group of losers sitting in front of you know just how far out of reach your successes in business are for them. And no more worry for you because the Council will have been utterly and irreversibly provoked into relentless fury.

‘Equal among equals’ style - not recommended under any circumstances

There have already been several cases when a candidate recklessly played the role of an expert offering other experts to consider and evaluate an interesting development. In these cases the candidate and Council members turned out to be on the same side of the fence – jointly discussing a proposed methodology, thinking about how it could be best used to advantage and, if necessary, improved. Nearly all of the candidates who defended their dissertation in this style are TRIZ Masters today. Therefore, we categorically warn you against choosing this style.

Techniques for presenting your material

Behavior styles are really all about strategy. But you also need to pay attention to tactics that you could use to reliably accomplish your number-one priority: evading the TRIZ MASTER diploma.

‘Turning your back to the audience’ technique

This technique, old as the hills, hasn’t lost its effectiveness over time. And it’s simple: turn your back to the audience. How charming it is when a speaker so convincingly explains something to the screen while sliding the pointer around it. How well the audience will understand what is being said, how much this pose says about the candidate’s skill in tracking audience response!

Reading the text on the slides

Oooh, this is a good one! Obviously, not mom, not dad, not even elementary school managed to teach the Council members to read. So, you simply have to read everything written on the slides to these ignorant dummies (this works especially well in combination with the technique mentioned earlier on overloading slides with long texts). Imagine how much time you can spend on monotonous ‘bla-bla-bla!’ And no time is left on much-needed comments.

Shortage-of-time excuse

This really is a must. Mention shortage of time at every opportunity. Your lack of examples, skipping around from one thing to another, and whatever else you want, are because you don't have enough time. Your top priority is to get across the simple message to these bureaucrats in the Council that maybe for some people even ten minutes is enough for their clumsy presentations, but not for you, the great and mighty. You definitely require no less than several hours to present your ideas and methods, and not a miserable 25 minutes, in which you have to squeeze your epoch-making discovery. Let them feel guilty, convulsively clasping their hands and biting their lips!

Jumping around the presentation

This is an extremely effective method for confusing the Council. And it's very simple. In slide 15 you give reference to slide 3, and, scrolling back, you find slide 3 in order to refresh its content in the squirrel brains of the Council members. Slide 3 is somehow logically related to slide 7, so you politely scroll forward to show it…. And while the Council members, with eyes wide, are trying to sort out what's going on in your kaleidoscope of slides, drifting among your slides 15, 7 and 3, you make the final blow by jumping to slide 31 where you've got a photograph from last year's conference. Highly recommended.

Omitting slides

We have already dealt with this in the section recommending an excessive number of slides in your presentation. Imagine how elegant it would look for a speaker to open the next slide, stare at it awhile, mumble something indistinct (best: the sacred shortage of time, also good: an excuse about the unimportant information on the slide), and quickly go on to another slide. The Council members will be wondering why you inserted a slide you weren't going to show, whether you are familiar with the material you're showing, and whether you prepared your presentation yourself?

You can also try scrolling quickly through several complicated slides with a sly grin on your face and a comment like, "Well, this is evident even to beginners…." Usually this drives the Council members to deep shame for their imbecility and backwardness.

Answering questions

So, when writing your dissertation, preparing your presentation and speech, you did your very best to ensure the longed-for failure. If, despite all your effort, the Council was pleased with your work, don't despair: you have one more trick up your sleeve – answering questions. A couple of artful ploys and the exhausted Council members' votes will go to the much-needed 'against.'

The mantra 'Thank you for the good question' and its clones is compulsory

When answering any question (accent on **any)**, you should give the same response, uttering the magic mantra "Thank you for the good question." Of course, you can vary the mantra with word combinations such as "interesting question," "important question," etc. You must realize that the asker (by the way, it could be someone other than a Council member, someone from the audience) should feel like a baby who was patted on the head and given a candy (look, so petty, but made a real effort and asked such a complicated question)! After that, this person will have no desire to ask further questions, nor will anyone else. And, of course, they'll be smitten.

Answering a different question than was asked

Usually people ask questions to clarify something. If you explain clearly (e.g. a brief comment and simple example), then they would understand and, watch out, maybe even like it. But if you pretend that you don't understand the question and plunge into some vague explanation that has nothing to do with it, you clarify nothing, causing irritation. Generally, a very helpful technique.

Responding to a question as though it were unprovoked aggression

Come to the Defense in a bulletproof vest and helmet, and bring weapons: you will be attacked with clubs (i.e. questions) by your rivals or even enemies. So, you will have to defend yourself to stay alive.

We also recommend making some transparencies in advance: "NO, that's not so!", "NO, you don't understand!" , "NO, you are wrong!". When you are asked a question, simply show the appropriate transparency depending on how you prefer to respond. A firm "NO" will show who's right here.

Conclusion

Now you are familiar with an incomplete but representative set of approaches, methods and techniques used by candidates in the past to fail their Defense, and in some cases, with a very low score. If they did it, so can you. Not all recommendation are compatible with each another, but this is no terrible thing – study them all thoroughly and then select the most suitable. Used in combination they have a tremendous effect – you'll see!

Good luck in the hard task of evading the burdensome TRIZ Master degree!

Thank you for your attention.

The authors

P.S. Below is a short checklist of the most important recommendations for failure-seekers.

Check-list for beginning failure-seekers

1. Make your presentation as unclear as possible! A clear, short and logical presentation significantly raises the chance of a successful Defense.

2. Do your best to avoid the 'equal among equals' stance! You can preach, you can advertise – even simple lack of self-confidence is better than a calm professional style.

3. Never give examples of your methodology! If Council members insist, cite classic examples (the problem with the vial or pollination of peanut flowers, …). The use of examples (better – lots of examples) is allowed only if the methodological part is weak or missing.

4. Forget about the audience! The main thing is to convince your own sweet self.

5. Answer questions so that everyone realizes how smart and decent you are. It is counterproductive to understand the gist of a question and even worse to give an appropriate answer.

6. Use as many complicated and incomprehensible definitions as possible. Such definitions create the image of a Great Scientist, literally out of nothing.

7. And last, the most important: total absence of, or thoroughly concealed, original and useful ideas. It’s permissible to describe the background of the subject and go into details. Complicated flow charts are recommended. Don't forget to get across to the audience the main idea: BUT I REALLY LIKE MY METHODOLOGY!