The use of FIE at work with students of the Faculty of Education

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In the following paper I would like to introduce the ways, in which I approach FIE lectures when working with students of psychology at the Faculty of Education at Charles University. Courses for students as well as voluntary groups for further development are part of operations of the ATC of Instrumental Enrichment of R. Feuerstein at the Faculty of Education at Charles University.

On groups realized

Students of psychology at the FoE at CU are able to choose from the selection of optional courses two-semestral course "Introduction to the method of Instrumental Enrichment". Its goal is to introduce and demonstrate on concrete examples what mediated learning actually is and how can it be utilized in pedagogical and psychological praxis. Attendees' are made to experience first-hand what they are to learn, an affective course, if you will. Students are put to work on respective instruments and go through them in a similar fashion as one would, should he or she work with them conventionally. There are 20 to 30 students in a group. There are two options how the course takes place. Either regularly, one 90 minute long meeting a week, or as intensive seminar taking 8 hours a day over three days. The contents of the course need to be adjusted according to the organization of the course in order to serve the course's goal and for the students to able to focus and benefit from it. Throughout the first semester, the primary instrument we work with is Organization of Dots, in the second semester we move on to either Comparisons or Categorization. This choice reflects on the possibility to work in a different modality and simultaneously develop higher mental processes. Apart from the primary instrument, the persona of Reuven Feuerstein is also introduced to the students alongside basic theory of Instrumental Enrichment, the system of the instruments (Basic and Standard), they can look into other instruments and we look at various examples of utilization of the method in praxis. Above all that, the LPAD battery is introduced (the battery of R. Feuerstein for dynamic diagnostics).

During the course, **which takes place regularly,** we usually begin the lesson by approaching the page together (first observation, comparison with the previous page, describing contents, planning how to work). After that, students work individually with each page. While they work, I take a look at how they are doing and I write down questions on the board to reflect their conduct on the page. The reason for this is to offer meaningful activity to those who finish quicker than the others. (Those who have finished go through the questions and answer them in writing on the other page of the worksheet). The structure of the questions is usually as follows:

– Compare the page you finished with your colleague
– How was the work with the page? What difficulties did you encounter? What helped you overcome them?
– What strategies did you use? Which did work, which didn't?
– What is from your perspective key on this page? (this question hints towards formulating the principle, which emerges on given page)
– What comes across your mind when you say "…" (here I insert a concept, which is key to given page – e.g. hint, asymmetry, multiple ways, and so on. It is in fact a proposition of topics of bridging, however, this proposition comes from my experience with the page in question. Therefore I must be always ready, that the topic might not to fruition and students' experience will be completely different).

Especially when working in larger group I value the discussion in pairs comparing results the most. In those discussions students naturally begin to share strategies and evaluate difficulties on pages. Key step is to encourage students to share those with one another to enrich everyone in the group. That is also the intention of the last phase of work with page – sharing and reflection. At later stages, when students are experienced with the instrument, utilized cognitive functions also become part of the discussion. Students have lists of cognitive functions and I ask them, which function was the most needed on the page. As a part of this question I also inquire to give reasons for this choice – why this particular cognitive function and how it manifested. Integral part of the work is bridging the principles students come up with. (Students themselves mark bridging as crucial in their reflections). I also ask students to formulate their own principle in writing after they finish the page. They share those principles (of they want to) or we discuss them further.

The end of the lesson (usually 15 to 20 minutes) we dedicate to theoretical standpoints of the method, introduction of other instruments or examples of utilization of the method in praxis. Throughout the semester we focus on these topics: structural cognitive modifiability, mediated learning experience, deficient cognitive function, persona of R. Feuerstein, goals of Instrumental Enrichment.

During the intensive course (eight 45 minute long lessons a day for 3 days) we spend four lessons (in two 90 minute long classes) working with pages of the primary instrument. The procedure is similar as described above (except for the theoretical part at the end). Another class is devoted to a sample of a different instrument (both from Basic and Standard, when the students are provided its frame so it is comprehensible, as well as commentary on how the instrument is used). Fourth class is focused on theoretical frame of the method, which in this instance goes deeper and is more complex. I always emphasize connecting the theory to the practical experience of the students from joint FIE lessons. What works is also watching videos shot directly at the Feuerstein Institute in Israel and attempt to name crucial elements of the theory (those videos are available free on YouTube).

I see a great importance in being able to introduce students to the method of Instrumental Enrichment in a practical way. They get the opportunity to meet an utterly concrete and practical method. While studying it they are not passive recipients rather they actively create their own knowledge. They receive opportunity to develop themselves and to get to know their classmates better, perceive their views and mutually enrich. Also beneficial is encountering praxis, which is being mediated via work with the method.

However, realizing this course brings also certain obstacles (or rather teacher's challenges). For the very principle of sharing having such a high number of students in a group seems disadvantageous. Among 30 other colleagues it is often difficult to find courage to share one's thoughts and experience. In case of regular weekly lectures, it is hard to organize the classroom in a way to encourage sharing (put tables in a horseshoe shape) because of both lack of time and space. Students sit in rows, which puts up another obstacle to sharing. Essential is also the question of evaluation – course is classified just by credit, not an exam, for it is unreasonable and undesirable to evaluate students in classes of Instrumental Enrichment. The condition of finishing the course is therefore only attendance. The last factor affecting the flow of lessons is the unusual position students find themselves in. They are simply users of the method, they are not being trained to teach it but at the same time the philosophy of the method and its principles are being uncovered. That may sometimes be confusing.

To students who show deeper interest in the method as well as pedagogical workers, psychologists and volunteers on the field of education the facility of ATC at the Faculty of Education offers **development groups**. In those groups attendees go together through pages of selected instruments (according to the structure of work with an instrument). The goal of those groups is to allow participants to develop both personally and professionally. Currently there are two groups, each meet once a week for 75 to 90 minutes at the Department of Psychology. They have around 8 members. Their common feature is interest in self-development and in many cases also experience on the field of education or counselling. Those meetings are different from courses, which are part of the curriculum. Members of development groups reflect more deeply on their own thinking and are more eager to share with others. Since the beginning of the development groups we spent time working with several instruments (Organization of Dots, Comparisons, Instructions, Illustrations, Syllogisms, and we are preparing for Transitive Relations). When choosing instruments I dare to experiment and not always follow the order of its tools. I choose the instruments and lead the work always with regard to specifics of the group and experience of its members.

How students see it (members of the group)

In the following part I will present how students view Instrumental Enrichment based on courses they finished and what benefits does FIE bring them personally. Much will be quoted down as students expressed themselves, followed by my commentary.

First of all, answers to the question: **"What comes to mind, when I say FIE?"** Students list:

- bridging – transfer a task from instrument into real situation.
- "Give me a while, let me think."
- all solutions are correct (let me comment: if I can give reason for them and defend them)
- mediation – coming to realization with help of questions
- development of self-confidence, creativity
- strategy to solve problems
- finding new views to perceive things
- evaluation based on individual norm
- process is what is important, not result
- making new connections in brain
- it is not a competition
- attention to detail
- strengthening of cognitive functions
- perceive hidden potential of a client
- to come to realization !!!
- intelligence is not a constant, it can be developed
- cooperation
- give room to various points of view and do not dismiss any
- variety – multiple perspectives
- the possibility to choose
- give everyone the time they need
- pushing to think
- we work with an individual norm, not a group one
- creativity, imagination

We can conclude that if students think and are asked to characterize the Instrumental Enrichment method they tend to point out its crucial elements. They are aware of its **goal** – to develop the human potential and his or her cognitive functions. They also mention the very **process** of the **work,** which is based mainly on mediation and bridging, looking for new perspectives and sharing them, the emphasis on **metacognition**. When it comes to work they sense the importance of calm of focus on the task at hand.

I like to ask both students and development groups **what they perceive as a benefit of the method** – personally and professionally. Before summarizing the students' views I would like first present the words of students and participants themselves. For they are completely authentic, personal and reveal the crucial. As such reader can find them a great inspiration.

Student of psychology, after the Organization of Dots instrument:

I realized how the most trivial matters could be viewed utterly differently by different people. People perceive same things in various ways, even though it often seems the given task only has one solution and it is only after discovering alternate solutions we come to realize we can view the thing from a different angle.
In Organization of Dots I additionally practised my orientation in space and understood how much stress affects me. The instant I felt I was falling behind others, my ability to connect dots deteriorated immediately. When I thought about it, this was exactly the same how I behave elsewhere. Stress and pressure has a huge impact on people (or at least me). If I were to eliminate the pressure I feel when solving various issues I would definitely reach better results.
I think I ought to mention that children/people learn patience and prudence with this method. I believe children (and I as well sometimes) would gladly solve tasks immediately without any thinking. Many times I thought the solution was easy and at hand, however after thinking it through in class it is not so simple and clear anymore. Is it not the same in life? Yes. It is good to think things through and not rush to solution headlong.
Sometimes (mainly in Organization of Dots) it seemed to me just the opposite. At first glance the task on page looked impossible to solve. But as we talked about it, discussed it and I gained insight into the problem, everything was easy and quick to finish. Even in life it is good to think things through. What seems difficult might become easy in hindsight.

Student of psychology, after the Organization of Dots instrument:

At first I was taken aback by the instrument and what it is all about. I was not able to grasp accurately the meaning of it all. Too many questions, too slow a tempo (which I am particularly not used to as a swift person), describing pages, which looked way too trivial to justify description. It did not take long however, for my point of view to change. I enjoyed every session more than the previous and began to uncover deeper meaning in them. Questions that provoke association of real life situations are often a great challenge for me. I see a huge benefit in being able to handle those, especially in my future occupation. I find also the feedback very useful, ever-present throughout the method. Not only does it offer one opportunity to express themselves, it also teaches people to have an opinion of their own and not worry to reveal it. The multitude of points of view teaches one that other people see things in different ways. This benefits greatly both personal and professional life.
Another aspect of the method I value is the "teacher" acting much more as a "guide". In response to this, a bigger space is given to "students" and their individuality. There is no wrong answer, there are only different perspectives, to which we attribute equal importance. Furthermore the method also takes into consideration individual time requirements a factor often overlooked in society nowadays.
One thing the group brings me is "calm". In a certain way it forces me to stop, remain present "here and now" and do not rush forward. Maybe that is why the meetings feel so relaxing to me.

Student of psychology, after the Organization of Dots instrument:

The FIE lessons are mainly useful because one develops new ways of thought he or she is not usually able to stimulate. One's creativity is also supported thanks to no answer being wrong. Thanks to the lector's lead it is of great help to be able to realize commonly used patterns of behaviour and thought, which reflection does not ordinarily come by. I really like connecting the tasks to real life situations and looking for new ways to solve them. For instance: when it comes to more difficult tasks of connecting dots, the dots felt like an unmanageable cluster of spots, similar to how the beginning of school years feels to me, when we are snowed under loads of work. Gradually however, as one begins to connect the dots (just like solving task at school) he or she begins to get a grip on the issue and comes to realize nothing is as terrible as it may initially seem.

Graduate in botany, student of teacher' programme, after the Instructions instrument:

The FIE lessons have shown me how to work with instruments. I came to realize that many tasks have multiple solutions and it is only up to me, which one to choose. I can 'keep my feet on the ground' and only work with the information I gathered in previous tasks or apply different elements and thus move the purpose of the task to one I did not foresee at first. I found this free creativity great even though it repeatedly disrupts my school stereotypes on one correct procedure and clear-cut solutions. During the FIE classes it is exciting to watch my colleagues deal with this issue, many times they would find such things in the instructions that would never come to me. It is also about observing my own way of thinking and those of others. If I were to teach in the future I would like to inspire my teaching with FIE and incorporate more freedom of thought into classes. In order to teach the students not be afraid to express their own opinions, discuss the possible solutions to tasks in schools with overlap to their future lives.

Teacher, after the Instructions instrument:

The FIE lessons are most useful to my teacher's practice. Namely:

– *gives me insight to how others think, how they structure their work, which processes and schemes they apply to orientate themselves in a problem situation,*
– *makes me think more about method I myself am using,*
– *verbal formulation of that, how I have thought about things, helps me be more accurate in observing my own thoughts.*

Provokes me to ask: 'How is it possible to lead students to approach solutions to less structured tasks without fear?' 'Which routine patterns do I follow?'

Student of psychology, lecturer of programs of primary prevention, after the Instructions instrument:

The instrument Instructions did not seem very pleasant at the first glance, for it seemed too mathematical and geometrical and I did not like geometry during high school because I did not have very good spatial imagination. But looking closely at the individual pages I came to realize that if I read the instructions carefully and go over the given task I find the solutions with relative ease and I do not have to be frustrated about how horrible the task looks at first. That is what the instrument has taught me, do not give in to the first impression, but give myself space to analyse the task and divide it into several steps so that is not overwhelming. I got better at keeping my attention focused on one task, whereas earlier I used to multitask and did not fulfil given

tasks wholly rather just half-heartedly so that everything would be finished, but with the downside of lower quality. Now I try to focus on one thing only and I realize that not only is my work much better but I can also easily fit my activities into my schedule. There is something about the motto 'Give me a while, let me think.'

Based on the reflections it is apparent that for the members two areas are crucial: **socio-personal development** and **metacognition** (including the use of cognitive functions). The users aim towards the goals stressed out by the method itself. Out of the socio-personal dimension they express first and foremost the perception of self, their own though processes and fears (of task's topic, of its difficulty, of sharing with others, of expectations of one's conduct) as well as developing measures to overcome them. They describe the developing of their patience and prudence, they become more aware of how they view things, their tempo at work slows down and they become able to give themselves some time and space. It is important to be aware of freedom I have and solve tasks on my own volition. (With adults much more often than with children I observe how realization of one's freedom and using it is difficult for the practitioners of the method.) In relation to others they repeat the importance of perceiving views of others, which can be different (that itself is not self-evident), and get to know their though processes. In the area of metacognition they lay emphasis on reflection of the thought process (from collecting information, planning the steps of work up to the eventual evaluation of whether the chosen procedure is efficient and appropriate). They often mention they do not take those steps for granted and it is valuable to them that during the FIE space and time is dedicated to this particular process.

What works with (adult) students and can be recommended

In the last part I shall summarize the experience of working with students and members of the development groups and describe areas, which prove to be crucial and could be of great help when guiding similar groups through their FIE lessons.

Practical and organizational issues

A key factor appears to be the number of members in a group. Standard number of 30 participants seems unsuitable. At this number it is not possible to pay attention to students individually and it is hard to give each of them opportunity to share their experience. Also when the group consists of students of different programmes who do not know each other it is harder to establish an environment of trust that encourages sharing thoughts and feelings. I think this essential and the bridging needs to address this.

Especially in a large group there are quiet or utterly silent members. I think it appropriate to believe they work with other members of the group, think through their questions, justify solutions and create bridging. I try to believe they develop by working with the instrument. At the same time it is possible and meaningful to stress certain parameters of mediated learning experience – the mediation of sharing, mediation of individual and psychological difference and mediation of the

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sense of belonging and through those invite and encourage those silent members to share. Importantly this should be presented as an offer not an obligation.

Equally interesting is the question of schedule of the meetings – is it suitable to convene regularly over a longer period of time (weekly) or at the intensive seminars (over the course of 3 days). Each has its pros and cons, for both students' experience and organizational reasons. In the case of regular meetings, users of the method have more space to deeply relive and think through their experience. It is also easier to return to some bridged topics and work them thoroughly. In the case of intensive seminar it is important to prepare its structure to be more colourful and appealing to the participants. Even though there is less space to really experience individual topics, the overall experience of such an intensive meeting could in the end be deeper and pull the participants more into the method.

Demands on the mediator of an adult group

On the most general level, the demand on the mediator of an adult group are no different from those of any other group, should he or she be a FIE mediator. It is always necessary to keep in mind the parameter of mediation, goals of the method and goals on each page. We need to keep reflecting at all times the nature of the group we are working with (what are its needs) and stress accordingly concrete parameters of mediation, adjust formulating of questions and lead members to formulate principles and bridging. It follows that the conduct with differ between child and adult groups. With adults (university students or pedagogical professionals) the tasks are often easy so we must lead conversation that much more towards used mental processes, formulating principles and bridging. Thus the task begins to present to the user reasonably challenging.

Similar to child groups, it is equally important to remain open to any new views and ideas brought forth by the members, be attentive to how they formulate thoughts and give those thoughts appropriate space and do not fear them. It is possible that you will encounter thoughts and opinions never heard before. Just as this is wonderful when working as a mediator, it is equally imperative for him or her to keep themselves open-minded. (In one of the groups we discussed how thick can a line be before it becomes a rectangle.)

What to stress during mediation

It is clear to take account of all the parameters of mediated learning, especially the first three (focus and reciprocity, mediation of meaning, and mediation of overlap). More so with adults I try to stress the sense of self (on a personal level, the experience and development as well as on the level of metacognition), sharing in the groups, openness and creating space for plethora of views on single situation. It is quintessential to not be satisfied with general answers ('you can find that almost anywhere') but repeatedly ask members of a group to name concrete situations they found themselves in (exactly where, when, what does it look like, and so on).

I found it quite useful to ask the members of the group to write down (on the other sheet of the page of instrument) what did they take from the lesson, what seemed crucial to them, and was the

principle on the page. After a while everyone is given to think, those who wish may share their thoughts with the rest. I regard this step as closing the lecture and allowing for a more firm hold of the principles important to the group. Example of such a summary in the Organization of Dots instrument can be found at the end of this paper. It is best to see for yourself how powerful this step is. You will also notice that not only the principles are being formulated but it also captures the thoughts on the page, which significantly helps to reflect upon one's mental processes and experience gained on the page.

Conclusion

Working with students (and pedagogical professionals) is generally no different from any other group. What differs is the way the members express themselves about their own conduct on the page (that is: their ability to self-reflect and name metacognitive processes). This allows the discussions to run deeper into individual topics and think about a more sophisticated bridging. The mediator must be able to perceive this depth and measure it and react using mediatory questions in such a manner as to ascertain this process to be developing and helpful for the members. However, the structure and principle of the work remain the same as with any other group.
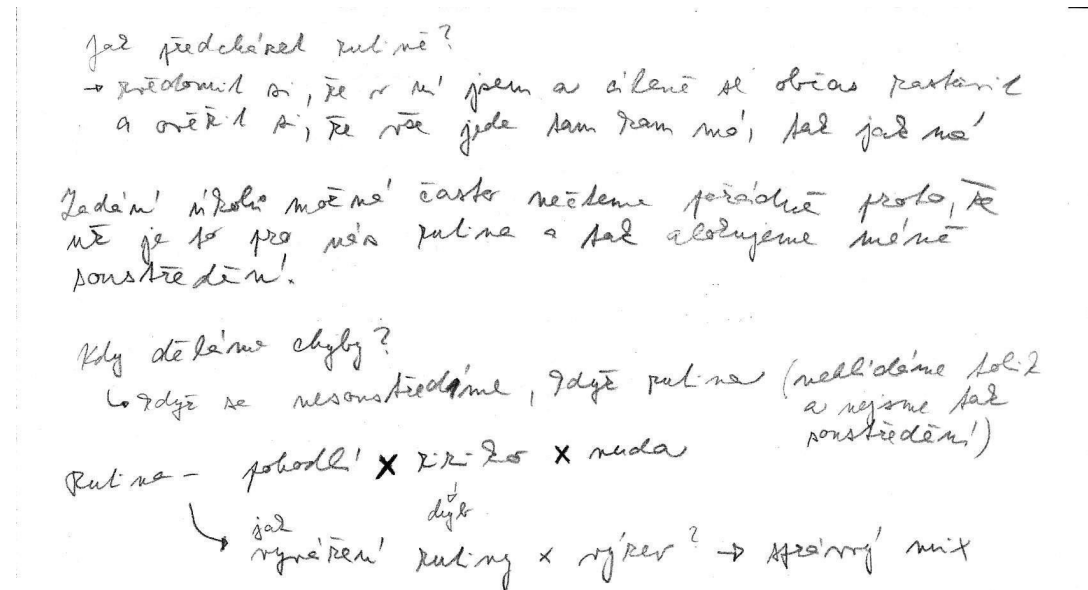
A short word of support to conclude

It often occurred to me that I was nervous and uneasy when I was to work with a new group of users of the method (a different age or professional background). I ask myself what do they expect from me as a mediator, how should I work with them. I am uncertain about the means to use to guide the members through their mental process on one hand, but keep my commentary serious so it does not seem childish. Most of my experience comes from working with children. What helps me is to realize these are people just like any other. So I will treat them equally as people deserve.

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Appendix – examples of reflections after finished pages

Organization of Dots, reflection of page E2

- big mistakes overshadow the small ones, remove capacity to solve other
- what is the parameter of mistake? Its definition? Different point of view is/is not a mistake
- keep ourselves space and time to see the other mistakes, do not forget about them/ do not ignore them/ do not marginalize them
- know what 'model' is and what we relate our evaluation to not compare
  (particulars with one another) but (each one with the model)
- when stuck, try a new frame (instead of square try looking for a triangle)
- at the beginning pay attention to defining parameters and understanding instruction (which variants are available, what can be of help, …)

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Organization of Dots, reflection of page 3

How to prevent routine?

realize I am already in it and aim to pause from time to time and check, whether everything goes where it should and how it should

we often do no read the instruction of a task properly because it has become routine and we concentrate less

When do we make mistakes?

When are not concentrated, when routine (we do not watch ourselves and do not concentrate)

Routine – comfort x risk x boredom

How to balance – routine x challenge? – the right mixture

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Organization of Dots, reflection of page 5

1. have a plan for each situation, it is good to think things through right to the last step
   - careful examination – patience (clear instruction, shared by both parties), do not come to conclusions hastily – including how far to keep solving the task = what should be the outcome? – define instruction as far as it is possible
   - what needs to be prepared in detail and what suffices in draft?
   - issue of limit – measured by experience
2. experience

- is it likely that the situation is the same? if so, it is possible to apply experience/learned procedure
- realize if the instruction is still the same or whether it has changed
– respect the conditions and adjust the instruction
– at all times confront the instruction and goals/intentions
!not always it is necessary to take heed of experience of others (participants)
       'we made a great course for last year's participants'
– it is different to rely on our experience or that of others
– confront with preparation at the point of realization
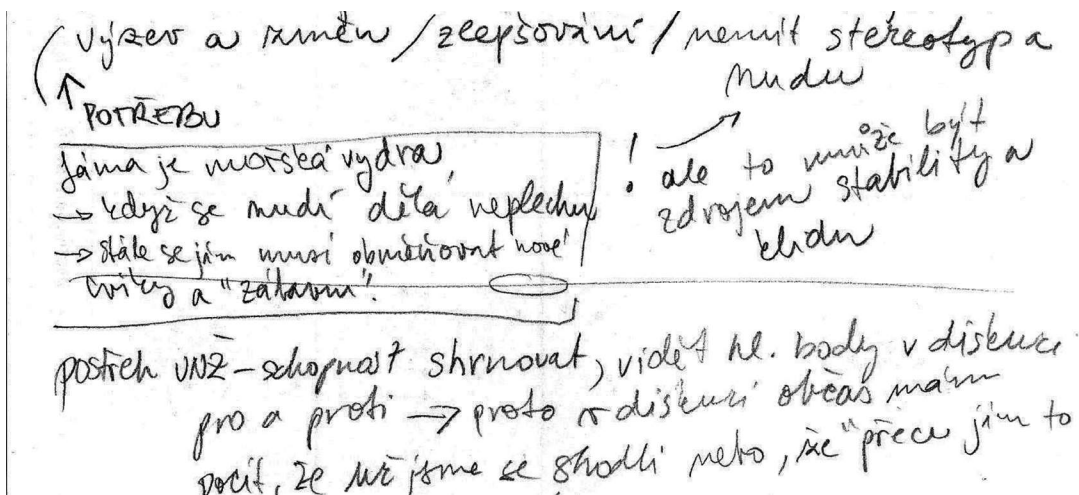
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Organization of Dots, reflection of page 8 (from two users)

o prostředek je prostředek a ne cíl – pokud plní svůj
cíl není nutné, aby byl sám perfektní (dokud je
funkční – nemá smysl lpět na detailech, které nemají příliš,
nebo mají příliš minimálnj, na výsledek/cíle.)

o hodnocení od druhých vzniká znejistěni
(mé práce) o tom, jestli jsem to zvládla dobře.
☺ umět trvat na svém vlastním hodnocení

o čas – mohu si ho dopřát – nespěchat na sebe

o posbírat informace → nasdílet strategii →
(o tvaru) (vytvořit) (jak začnu)
→ prožít → povídat si o tom
(přítomná práci!) příteli (reflexe)

dát si čas reflektovat
vlastní práci

o proč má člověk potřebu dělat si život složitější?

- a mean is a mean, not an end – if it works towards a goal, it does not have to be perfect itself (as long as it functions, there is no reason to require details who have minimal if any impact on the goal.)
- by evaluation (of my work) from others you become unsure, whether you yourself did well
  - stand by my own evaluation
- time – I can take my time – do not push myself to hurry
- collect information (about the shape) – share (create) strategy (how do I begin) – experience (present work!) – talk about how it went (reflection) – give ourselves time to reflect upon our own conduct
- why does one need to make his or her life more difficult?

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(výzev a změn /zlepšování/ nemít stereotyp a
nudu

↑ POTŘEBU

Jáma je mořská vydra,
→ když se nudí dělá neplechu
→ stále se jim musí obměňovat nové
triky a "zábavu".

! ale to může být
zdrojem stability a
klidu

postřeh UNŽ – schopnost shrnovat, vidět hl. body v diskusi
pro a proti → proto v diskusi občas mám
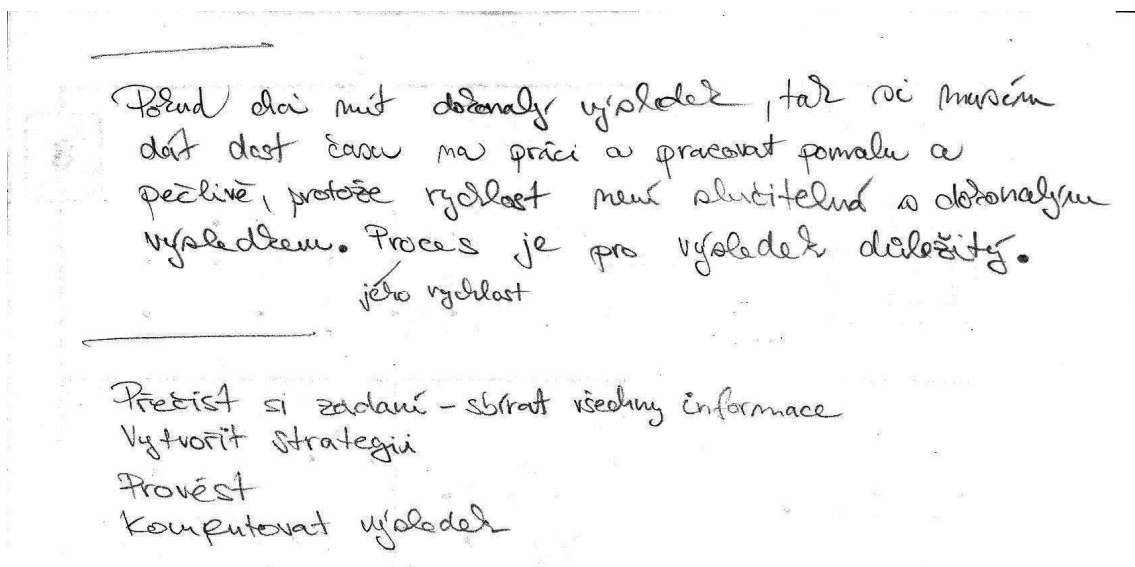pocit, že už jsme se shodli nebo, že "přece jim to

NEED – of challenge and change/getting better/do not stay in stereotype and routine –
!but that can be a source of stability and peace

Like a sea otter
   – when bored it misbehaves
   – they need to be introduced to new tricks and 'entertainment'

Observation of UNŽ – ability to summarize, see the main points in a discussion, pros and cons – that
is why I get the feeling we sometimes had already agreed or …

Pokud chci mít dokonalý výsledek, tak si musím dát dost času na práci a pracovat pomalu a pečlivě, protože rychlost není slučitelná s dokonalým výsledkem. Proces je pro výsledek důležitý.

jeho rychlost

Přečíst si zadání – sbírat všechny informace
Vytvořit strategii
Provést
Komentovat výsledek

If I were to score a perfect result I need to give myself more time to work and work slowly and carefully, because speed does not go along with a perfect result. Process (its speed) I important regarding the result.

Read the instruction – collect all the information
Create a strategy
Proceed
Count the result