6. Using Technical and Confluent Patterns First: A Recipe for underachievement?

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Introduction

Many students are convinced, early on in their scholastic life, that success at school is beyond them. Students who encounter difficulties in the core areas of the curriculum can get discouraged in the world of school and, eventually, are 'pushed out' of the system without mastering the basic skills. While the reasons for students' lack of success at school are varied, theories of learning are increasingly highlighting the possibility that education systems are not responding to the multiplicity of individual differences in learning and to the different circumstances and contexts in which learning takes place. Such theories underline the fact that schools are partially responsible for the plight of students at risk when they misread, misunderstand or are completely indifferent to the polyphony of student voices.

This chapter foregrounds the voices of four, Grade 9 (11-12-year-old) students who, according to the scores of the Learning Connection Inventory (LCI), an instrument that captures students' interactive learning patterns, lead with the technical and/or confluent learning patterns. At the time of the research, these students were attending an independent, non-profit, Parents' Foundation (PFE) school in Malta. These students, who originally formed part of a larger cohort (n=74), were first administered the LCI and then selected (n=18) for a closer, qualitative analysis. These students were specifically selected because they did not seem to conform to the 'ideal' image of a learner as portrayed by most teachers.

The School

The school Ethos, as codified in the PFE statute, adopts a personalized system in its management and structures. It maintains that "...every person must feel wanted, cared for, relevant and important" (p.70; Ethos 2.II(a)). It also strives to reduce stress stemming from unnecessary competitiveness and "seeks to encourage students to enjoy learning" (Ethos 2.II (b)). The school sets out "to educate its students in a personalized manner aiming at the development of the full person" (Statute, Article 7b). Article 7 of the Statute also states that the school is to provide a broad based, integrated and multilingual education (7c), give the opportunity to its students to participate in various sports and physical education (7d), encourage creativity and self-expression (7e), prepare students for public examinations (7f), cater for the special needs of students (7h), and foster a democratic culture throughout the system (7j).

As a Parents' Foundation, the school believes that the above aims prosper in a context characterized by close collaboration/partnership between parents and educators (Ethos 2.1f).

The larger study referred to above was conducted with the aim of investigating the perceived 'gap' between the school's ethos and the reality of practice.

The Interactive Learning Model

The Interactive Learning Model (ILM) provides the theoretical backdrop for this study. The ILM builds on a history of learning theories that challenge traditional models of learning. It proposes an advanced learning system which can explain the strategic role of the patterns which are located at the juncture of the brain-mind connection. The patterns give the learning process a personalized context through which all communication between brain and mind is interpreted (Johnston, 2005).

Fullan and Stiegelbauer (1991) suggest, "...people do not have a clear, coherent sense of meaning about what educational change is for, and how it proceeds.... What we need is a more coherent picture that people who are involved in or affected by educational change can use to make sense of what they and others are doing ..." (p.4). Snow and Jackson (1992) suggest that while educational research has produced

such vast amounts of studies and data "concerning the learning process, no single paradigm of learning styles has satisfied both researchers and practitioners" (Johnston, 1995;1997). Snow and Jackson (1992) argue that this is due to the lack of clarity, a common theoretical base, and educational validation. They also suggest that a common theoretical base for the concept of style will be found in an integrated model which emphasizes interaction and adaptation.

Johnston (1996) conceptualizes the learning process as interactive patterns within the learner. She (1996; 1998) holds that the three faculties of the mind -cognition, conation and affectation – interact to create four patterned operations, namely, sequential, precise, technical and confluent processing. These patterned mental processes act as a mesh which functions as part of the interface between the brain-mind connection, at which juncture the stimulus that has entered the brain is translated into symbols which the mind can process and store (Johnston, 2004a, 2004b, 2004c).

This integrated conceptualization challenges other models of learning, especially those that define learning in terms of the "degree of efficiency that learners exhibit as they gather information, retain information, and retrieve information at a given time and in a given format." (Johnston 1996, p.16) Instead posits that the learner, when confronted with a learning task, will be able to use the knowledge of his learning patterns to begin the integrated process of learning." (Johnston 1996, pp.6,8). This tool empowers learners to take control of their learning and succeed.

Johnston (1994) insists that the research literature "does not suggest that there is a hierarchy to these interactions, but instead that there exists a composite of all four which make up an individual's interactive learning process". However, continues Johnston, an individual has a dominant pattern or combinations of patterns which drive the learning process.

The Learning Connections Inventory

In order to capture the interactivity of the 'action-oriented patterns', Johnston and Dainton (1996b) developed an instrument which consists of 28 descriptive sentences which the learner reads and then indicates his/her responses on a five point numerical continuum and a written portion. The Learning Connections Inventory (LCI) (1996a, 2004)

indicates the learner's use of the four patterns, namely, whether a learner uses as needed, avoids or uses first the sequential pattern, precise pattern, technical or confluent patterns (Johnston, 1997). These four patterns, as explained above, are formed through the complex interaction of the three mental processes and "at the heart of this interaction is the 'will to learn' as a source of energy for learning which, if 'unlocked' can be the engine room of the learning process." (Johnston,J.Q.,1997).

The Study
Sample profile

The LCI was originally administered to a chosen sample of 92 participants, 74 Grade 9 students (age: 11-12 years) and 18 teachers who were teaching the various subject areas to the Grade 9s. The student population was composed of 74 students - 34 males (45.94%) and 40 females (54.05%).

The teacher population was overwhelmingly female - 14 out of 18 teachers.

As was explained above, for the purpose of this paper only four case studies are being discussed.

Methodology

The quantitative analysis was aimed at testing the construct validity of the instrument within the local context. This quantitative analysis repeated the validity test which Johnston and Dainton (1996b) administered in their earlier work for their original instrument's validation.

Following the construct validity of the inventory, a qualitative analysis of a selected 18 students from the entire population was carried out. Each student was asked to undergo a 20-30 minute semi-structured interview carried out by one of the authors. Furthermore, all 18 teacher-participants were asked to fill in a profile report on the students. Each teacher had to fill in two profile reports, one for each student attached to him/her. All 18 student-participants had two teachers reporting on them. Both the semi-structured interview and the student profiles were later analyzed, together with the written section of the LCI, and discussed.

The profile report was designed to capture the teachers' 'free commentary' (Secord and Peevers, 1974) thus eliciting from the teachers'

voice the characteristics of the learner. The profile report was divided into two sections. In the first section each respondent was asked to read through the protocols in which a description of each processing pattern is given. Once a clear understanding of the processing patterns was achieved each respondent had to place number (1) next to that processing pattern which best describes the student as a learner; number (2) next to that pattern which could also describe some aspect of the learner and finally place an (N) next to that which, in the respondents' opinion, absolutely does not describe the learner. In the second section, each respondent had to write a short description of the learners' learning pattern/s, mediated by the respondent's teaching experience with the learner.

The profiles were later analyzed together with the interviews to sketch the learner's profile. This 'discourse analysis' (Edwards,1993) gave the authors another tool for both triangulating the results from the data generated by the LCI and the interviews and for understanding certain intricacies resulting from "the discursive appropriation of idea; that is to hear not only what they (the learners) might mean but also what they could and should mean" (Edwards,1993). Through this research design the authors attempted to map out and explain the richness and complexity of the learner's learning patterns and how they interact to give each learner a unique way of processing knowledge. This research also made use of mixed methodology in which quantitative and qualitative techniques were used.

Zooming in on the Technical and Confluent Processors

As indicated above, this chapter will focus on four students who use either technical or confluent or both patterns first. In this section the profile of a typical technical and confluent processor is built through the written input of both teachers and students in reaction to the open questions that constitute the second part of the LCI.

The Technical Processor

The technical processor is the one who prefers to take up a screw driver, open up the device and see for him/herself how it works. "I would show them videos and plays. I would take them on outings and find fun projects for them to do" (teacher), "The ideal way would be to have

a flexible approach to learning and assessment through presentation, project work, role-play and discussions..." (teacher), "The assignments are frustrating because I hate working except on engineering stuff and..." (student). Different students wrote that they would show what they have learned through: "my models", "make a project". This pattern is the constructing side of our learning. Learners who choose this pattern as their preferred learning mode would want hands-on experiences, in which they would be able to show their skill in building up something, in making something work rather than having to write about something. Expressions which show frustration towards having to write or copy work from white-boards are common in both students' and teachers' written responses: "Writing makes assignments frustrating to me ..." (student), "I do not like long essays lots of reading" (teacher), "I don't like compositions because it takes a lot of time to do it" (student), "a lot of assignments make me frustrating like French, Italian, History and Environment. Much history is the worst for me. I hate it, you have a lot to write and make projects" (student).

Aware of the reality of schooling in which little weighting is given to learning by doing, many of the technical participants in this research project wrote that they would prefer to "make a project and than talk about it", rather than having to write or sit for written tests and examinations. "If I had to choose I would just tell the teacher what I know without writing or tests or examinations" (student). One teacher, while proposing "a flexible approach to learning and assessment", cautions that we cannot eliminate "completely the tests and paperwork such as notes taking and working out writing activities in class".

In answer to the third question, in which students were asked to suggest what they would do to teach others, many wrote comments such as: "I would teach by doing games", "by recording, games, experiments. Not by telling them what to do". Actions, for the technical processor, speak louder than words; "By being as practical as possible. By 'doing' rather than listening" wrote one teacher".

The technical learner would prefer to be left to work on his own. Co-operative work is not his/her preferred mode of learning. "Group work" frustrates him, confessed one student and "... I hate doing team work" wrote another one.

The Confluent Processor

The confluent pattern is the seeker of innovation, one who avoids conventional approaches and seeks unique and different ways of going about performing a task without the fear of taking risks. "I like to make my own ways so that I would understand what I'm doing", wrote one student. A teacher with a high score in confluence wrote that he would show what he has learned by applying "...theory in an innovative yet virgin territory".

"Not being able to be creative to put my own stamp on things. Too many restrictions and directions", is what frustrates one of the teachers. The confluent pattern is the part of our learning which uses imaginative ideas and unusual approaches. "I would make fun lessons because kids remember them better than just from a handout", "I think I would (organize) more outings and other cultural things, not only sitting and reading in the class", "I would make games out of the lessons, so they would learn more and so they could enjoy themselves....", "I would make lots of plays and make lots of jokes and models". These were some of the written responses of the students which express the creative and imaginative aspect of the pattern.

This aspect of learning is impatient with long, detailed instructions, "(it frustrates me) when the teacher takes too long to explain". This pattern avoids those situations when one has to follow step-by-step instructions. "Normally, when I am given assignments to do I find myself trying to repeat what the teacher has just said. I find this very frustrating because this thing kills creativity and research", admitted one of the teachers.

The confluent learner is usually a better speaker than writer. One teacher felt that he prefers to talk about something rather than write, because "I find myself stuck when I'm writing, while when I'm speaking I am more calm and so I can give my best". One student, when asked how he would prefer to show the teacher what he has learnt, wrote that "I'd t tell her what I've learnt because I hate tests and exams."

Data
Case Studies
Mark (S:25-P:27-T:24-C:30)

Mark's LCI score shows that he uses first the confluent pattern

followed by the precise. He would use as needed the sequential pattern followed by the technical.

Though the score of 30 in confluence was not supported in the written section of the LCI, it was supported in the interview. The explanation for this lack of evidence in the LCI written responses perhaps lies in his earlier tracking. His teacher of Maltese writes:

> "From his work and the way he tackles it seems that when he was younger he was forced to be precise."

His physical education teacher commented on his positive attitude to learning, an attitude which he cultivated and which will eventually help him tremendously in his quest for knowledge. The teacher wrote:

> "Mark is one of those students with whom, I suppose, all teachers feel comfortable doing a lesson. Besides being very well educated, from home, he tries his hand at anything. Maybe this is because he is so mad about sports, and good at it, but I suppose that his urge to learn new things helps him in all subjects."

Mark's confluence comes out from the very start of the interview. He very clearly expressed the need to feel free to start with not too many instructions. He enjoys those activities which allow him to be creative - with not too many 'rules' that he needs to follow. At the same time Mark's 25 score in sequence makes him feel 'a bit puzzled and lost' in situations where directions are either not clear or keep changing.

T. If you had to mention one thing which you really don't like in a learning situation, what would you mention?
S. When the teacher stays explaining during the activities.
T. What type of activities?
S. Doing charts, experiments of science, a lot of notes - they give us a lot of notes sometimes... projects.... doing projects between ourselves.
T. These things that you mention, do you consider them to be interesting?
S. Yes, because they're not just writing, they are nice things....

like doing charts with friends, then you can colour them and do other things. Then just learn here with the teacher.
T. And you like working with others?
S. Yes, cause... cause they can help you and you can learn.

. . . .

T. It sometimes happens that teachers give an assignment or a project to do with a set of instructions. After a while, sometimes after you had already started the teacher decides to change the instructions. Would such a situation bother you?
S. I feel a bit puzzled and lost.
T. Why?
S. Because I wouldn't know what I have to do then.
T. The teacher will give you new instructions.
S. I don't know.
T. So, does it bother you a lot when teachers change directions?
S. It does cause then I will get mixed up with the work

. . . .

T. When you're given a piece of work to do, would you want someone to give you detailed instructions as what to do or would you want to be left alone, free to create something on your own?
S. Better if you're free because you have more chance to get-it-of getting-it-right and you can show what you know better.

. . . .

T. If you're given a piece of work, would you like the teacher to give you exact instructions to follow or would you prefer to be left alone to do it your way?
S. If you do it exactly as the teacher says it, its like she did the work and you didn't do anything.
T. So, for you it is important that you add on to what the teacher says you should do?
S. Yes.

Mark's confluence can lead him to boredom if the lesson lacks variety. Maybe the verb 'change' is a key term which illustrates the confluent

'character' of Mark.

T. Ok If you had to give me a picture of a perfect teacher... what characteristics would you give this teacher?

S. Friendly ..ehm.. who likes to joke and accepts jokes... not too strict.

T. How would you see him teaching?

S. He teaches well.. with .. with and makes the lesson a bit more nice *imsomma* (well) not boring like.

T. If you had to pick out one teacher which you would consider to be a good teacher, whom would you pick?

S. You (one of the authors of this paper).

T. Why?

S. Because you don't make ... you change the subject often and you make interesting subjects to discuss and we learn as well.

T. Is there any other teacher whom you like as a teacher?

S. Ms.Mireille, cause she doesn't make the lessons so boring. She jokes as well. She likes...

....

T. If you were the teacher, what would you do to teach someone who wants to learn the way you want to learn?

S. I would teach him to respect others, and to give his best in everything.

T. But what methods would you use?

S. I would, I won't be, I mean I won't be not strict at all cause then he would be spoilt. I'll teach him the most important things in life and what you can do to improve. And I'll make some fun lessons not just talking and talking all the time.

Mark feels that the way he learns is not always endorsed and understood. He hates it when teachers compare him to others. Though he works diligently towards doing a good job presented neatly, this should not take priority and is dependent on his motivation in the subject area.

T. Do you feel that your parents understand you and the way

you learn?

S. It depends for what because the way they used to teach them before it's different and hard for them to understand the way we are taught now.

T. What is different?

S. Ehm. They might have been stricter maybe. They need to give more work. I think and they had to study a lot.

T. Do you think you are learning here, in this school? Are you comfortable with the way you are being taught?

S   Some teachers do teach well because they experienced what they did but some teachers like forget it, everything and try to teach with just talking all of the lesson.

T. So would you say that most of the teachers teach well or vice-versa?

S. Only two just want to give information, the rest are good teachers.

T. Is there anything which you think needs changing in the way you learn to cope better in school?

S. Understanding, understand more what's going on.

....

T. Do you feel that teachers in general understand you and the way you learn?

S. Some do but the others *hekk* they want you to do really well and like you can't catch up with the other students.

T. And when they want you to do really well, what are they expecting exactly?

S. It's like they pretend you give homeworks always on time and you might have no time and they want you to be very neat, at the level of the others. They give a lot of work to do.

....

T. Is your work usually very tidy and well- presented?

S. Not very tidy cause sometimes you don't have much time, you're rushing.

T. So you don't consider your work to be very clean and tidy?

S. It is clean, because I do my best. Presentation is quite

important.

T. Do you usually succeed in presenting your work neatly?

S. It depends on the subject cause sometimes I don't like the subject so it doesn't really matter.

Luke (S:15-P:18-T:35-C:33)

Luke uses the technical pattern first together with the confluent pattern. He uses as needed the Precise and avoids the Sequential pattern.

His mathematics and physical education teachers filled in the profile report on Luke. The former, while recognizing Luke's capability to learn, commented on his lack of motivation and lack of involvement in what regards academic subject. Ms.R who taught Luke in Middle school also wrote:

"I don't really know in which category to put Luke. He literally expects the teacher to do the actual learning for him. He will do work only if it is easy, can be done in a single line and needs no thinking. He will work only if given constant attention.

He is very capable of learning, however he does not make the effort.

(I hope he has changed over the summer!)

He does love sports and obviously learns rules very quickly."

The above comment is very typical of a teacher's description of a highly technical person, who feels that the system does not listen to his silent voice, screaming "*I don't really like writing...I'm not good at writing*", "*I want hands-on activities which interest me instead of taking notes, doing book work, or writing about it* ". This is how Dr. Johnston portrayed her technical processor, Mark:

"Mark is the learner whose voice is silent and whose message is loud and clear: "I can figure out, solve, build, and fix just about anything, except school!" This message within the learner begins early as quietly intoned question, "Why can't I make school work for me?" and reaches a crescendo by the middle school years in the percussive declaration, "I don't care if I can make school

work!!!"(Johnston,1998 in press, p.69)

It might be worth noting also that Ms.R's LCI score shows a high interactive pattern, all patterns in the "I use this scheme first" category and with a 30 in the precise pattern. She did however identify Luke as being a technical processor.

On the other hand, his preferred school's activity instructor identified Luke's enthusiastic motivation in participating in anything which has to do with what he likes doing best, physical education:

"Luke likes to have a go at everything if he can do things in his way. Listening to instructions is not his forte, and for this reason he often has to be called back to track as he can be seen doing things (skills practice) other than those he has been asked to do. Luke will quickly give up things he doesn't like but will persist at those activities which he enjoys, even if these don't come easy.

Luke gives me the impression that 'everything goes' by his standards and for this reason he tends to have a 'happy-go-lucky' character."

The above comment also points out Luke's individualistic way of doing things, if "I'm happy I don't really care if everyone else is doing something different". He prefers to do things his way, rather being told what to do:

T. ...You choose to do the part of the model . How best can I go about telling you what to do in the project ? Now, I'm going to give you three options :

1. By explaining once before starting the project and then leave you alone

2. By explaining one step at a time or

3. Should I tell you what I have in mind in general and then leave you free to do what you want. So, I'm giving you three options of which you have to choose one. So in the first one I explain once and I tell you look I want you to do this, this and this, but then I leave you after having explained exactly what I want you to do . Another way is that I tell you the first step, you do it. Then I tell you the second step and you do it and so on.

Or I tell you look I would like you to do this thing and then I leave you free to choose how and when to do it. Which one would you choose ?

    S.   The last one.
    T.   Why the last one ?
    S.   Because you're free.
    T.   Because you're free ? Why do you like being free ?
    S.   Because you have your own ideas to work on. It's your own ideas you have to work with in the future."

Mr. S also identified Luke's 'happy-go-lucky' character which is very much in keeping with the fact that as a technical processor he is not much interested in what others have to say about what he is doing as long as he is happy doing it.

One superficial glance at the transcript of the interview will show the short straight-to-the-point, answers that Luke gives. A technical processor, as explained above, is a private person and prefers to keep to himself.

The interview with Luke confirmed the high score in the technical pattern. He prefers hands-on work, wants to be left free without too many 'dos and don'ts'. He is relatively weak and consequently feels uneasy with academic subjects (writing and reading). He is good and quite successful at sports and thus enjoys participating and makes the effort to succeed.

    T.   O.K. Luke, if I had to ask you to help me in a project which has two parts to it, O.K: There's a part in which I want you to write a short article and another in which I want you to make a model. Which part would you choose ?
    S.   The model.
    T.   Why ?
    S.   I don't really like writing.
    T.   You don't really like writing, you like doing models. And do you have any particular reason why you don't like writing?
    S.   I'm not good at writing.
....
    T.   .... What is this thing you enjoy so much doing that you would like it to be introduced in school ?
    S.   More sports.

    T.   More sports ?
    S.   Not sports that we already do at school, new sports, more active type of sports.
    T.   More active type of sports ? O.K. Now, if it was a subject which is not offered at school ? Would you like a subject in which you would have to write essays ?
    S.   No.
    T.   Would you like fretwork, model-making ?
    S.   Yes.

Luke feels that the system (the school, teachers, parents and as a matter of fact some of his fellow students) does not understand him; he feels that the system emphasizes his weak areas (writing, neatness, orderliness):

    T.   Do you feel that the teachers in general accept the way you learn ?
    S.   No. Not really .
    T.   Why ? What do teachers like doing ?
    S.   Ehm. They don't really try to do fun things with us. They're boring, give us notes, all of them doing the same thing. We don't really go out. We just take notes.
    T.   O.K. Very good. Do your parents understand you ?
    S.   Not really.
    T.   How do you know this ?
    S.   They ask a lot about homework. I don't really like doing homework because it is not interesting
    T.   It's not interesting to do...
    S.   because of homework I don't have time to do other things which I like doing.
    T.   O.K. What skills do you think are most needed at school ?
    S.   Stay quiet. Writing neatly and study a lot.
    T.   And these are not your best characteristics?!
    S.   I'm not really good at them.
    T.   O.K. Do you think your friends understand you and the way you learn ?
    S.   Not all of them.
    T.   In what sense ?

S.   Cause like the ones that sort of are like in my class on the same level understand me. But my other friends that are in class do not understand me.

Christopher (S:18-P:20-T:33-C:27)

Christopher's LCI score shows that he would most definitely use first the Technical pattern, followed by the Confluent. He would use as needed the Precise and the Sequential patterns.

Two teachers wrote about Christopher's profile - Ms.A, his Italian teacher, and Mr.P, his Physical Education teacher. Both teachers' comments focus on his lack of attention during lessons and his 'happy-go-lucky' attitude when it comes to school . "Chris is the funny type, trying to do jokes all the time, laughing around and not really being bothered when given a punishment" commented Mr.P. "Sometimes his attitude does not let him concentrate enough on what is being done, thus losing out on some of the things being done during the lesson" continued his physical education teacher. His Italian teacher confirmed the attitude by describing him as "not a very hard-working student....could certainly improve in his written work. Since he hardly reads his spelling suffers and he is therefore not precise in his exercises. He is also not studious enough" concludes Ms.A.

Once again we see the dilemma of teachers who, when faced with the technical and confluent student, are somewhat disturbed. While recognizing the fact that Christopher is an intelligent student (sic), they cannot decipher why he cannot fit the 'formula' of the system, the answer lies in the interview. Here, he elaborately explained, using his confluence, what he likes doing best and why.

Christopher explained that hands-on, creative, relevant experiences are what he looks for in a learning episode.

T.   If I had to ask you to help me in a project which has two parts to it, which part would you prefer - to write a short article or to do a model ?

S.   I would prefer the model.

T.   Why ?

S.   Ehm... because writing is quite boring you know and with the

model you have to use your mind. You have to actually get things together, while in writing you just read something and you write it down in your own words, nothing really...

....

T.   O.K. If you had to introduce a subject which you don't have at school, what subject would you introduce ?

S.   It most probably would be some type of sports, ehm probably roller blading or hockey or something but it's more like

....

T.   Do you consider it to be very important that you are quite able to do things, that you're quite technical ?

S.   Yeah it's quite important, not in school though. I don't think so.

T.   In school

S.   In school I don't think so, no.

T.   We don't make much use of it.

S.   No, because like, it's not like we have ehm mechanical engineering and something like that you know ?

S.   Ehe.

S.   Yeah, there's a good subject which I would like to add to the school.

T.   Mechanical Engineering ?

S.   Engineering.

T.   O.K. Why do you like doing things so much ? Do you think you would be learning and why ?

S.   Yeah, I like doing things a lot ehm because, you know, I like using my hands a lot. I don't like O.K. you do use your hands to write you know, but I like building stuff and using wires and wood.

T.   And that experience is important for you to learn.

S.   I really like it .. I always do something , you know, I don't always like doing charts, always charts. Doing projects, usually I do models.

....

T.   Most probably, at home, you don't just buy a car and play with it. You try to do things, you want to see how they work.

Am I right in saying this ?

S.   Yeah, when I was younger always used to open up my toys, especially cars. Now I like to see how the electronics works. I learnt from all the things I used to break..................

....

S.   Ehe and let's say, there are some things I don't know on the computer, I just experiment and I find out immediately and like some others, some people, all they do, is phone someone, they go. Me only, if I have a problem I ask my father, cause my father's a programmer and he'll tell me what to do and then I learn like that. But most of the time, I work something on my own.

Christopher wants to be allowed to try out his ideas and in his words "mix my ideas with yours" to create something original. Hates to be caught in situations that he cannot handle:

T.   ... What do you find most difficult at school ? What do you hate doing most ?

S.   French.

T.   Why ?

S.   It's hard. I don't like it.....

T.   Can it be because you feel trapped because you're not so good at it. You want to say a lot but at the same time you don't have the language to...

S.   That could be one of the reasons but you know hard things too...No I like hard things like Maths, Algebra. At the beginning it was hard but that I like it, I don't mind it ehm but take...

T.   You don't like hard things that you cannot handle ?

S.   Exactly... I like hard things that I can handle. I don't mind those.

Finally, Christopher admitted that he feels frustrated at school "...because most of the work is on writing." . He doesn't mind work as long as it is work that he can manipulate. It is thus that he admits that "if I go to University I would like to take mechanical engineering".

Kurt (S:12-P:16-T:26-C:15)

Kurt's LCI score shows that he would most definitely use first the Technical pattern. He would avoid using the precise, the sequential patterns and the confluent pattern. His lack of sequencing and lack of precision seem to affect his confluent score. According to the papers he put in the envelop during the interview, his confluent score should be much higher, whereas his sequential and precise scores seem accurate according to his descriptions of himself in school.

His lack of sequencing makes him rely on someone else to tell him what to do step-by-step:

T.   If you had to do this project would you want me to explain once to you and then leave you free to do it or would you want to be given instructions as you go along?

S.   Instructions as I go along.

T.   So you would want me to stop you every so often to give you further instructions or would you prefer that I tell you what to do and then leave you alone?

S.   The first one...

His teacher of Maltese also captured this need of Kurt, that while "(he) certainly does need detail and extra explanation, and for this to be provided - he does not take the initiative and seek to construct meaning himself by asking others. He 'asks' only to get the answers, to get things done."

As a technical processor he wants practical, hands-on activities or subject which he finds relevance in.

T. Imagine that I need help in a project that I want to do. I can either ask you to write a short article about the project to publish it on K.A.O.S (the school magazine) or I ask you to do a model. Which would you prefer doing?

S.   Do a model.

T.   Why?

S.   Because it is easier.

T.   In what way is it easier?

S.   It's more interesting to do a model.

....

S.   I like Maths...it's easier, you don't need to write compositions...
      it's fun. It's better to do sums than to write compositions.
T.   Do you like P.E. (physical education)?
S.   I like P.E.
T.   What about art?
S.   I'm choosing art. I like art, P.E. and Maths.

Anything which resembles strictly academic subjects would be dismissed as not interesting, unmotivating. One such example is when I asked Kurt whether he would like to add craft in the time-table. To my astonishment he said no. On probing further I learned that he was associating craft with a subject which they used to have which, though having a practical aim, was taught in a predominantly academic, pen-and-paper mode.

T.   ...What about craft?
S.   No
T.   You wouldn't like craft? Why?
S.   Is that like when we had CDT (Craft and Design Technology)
T.   You do models, you do things with wood.
S.   No
T.   So you didn't like the way it was done not CDT itself. You would have liked doing different things?
S.   Yes.. we never use machinery.

One other comment of note regarding Kurt in particular is that while all Technical processors in this sample showed that they feel misunderstood by the system and significant adults, Kurt developed this in a violent, rebellious way. In his LCI written section he wrote that he would show his teacher what he has *learned "by geting exloshen by birning there and here and blow thir house "*. In the interview he said:

T.   Which subject do you like best? (Long pause)
S.   None
      ....
T.   Imagine Mr. Tong (the Principal) had to ask you to suggest
      one other subject to introduce in school, a subject that we

      are not currently teaching. What would you suggest?
S.   A bomb laboratory.

Conclusion

The four voices captured above challenge the concept of homogeneity, an idea that is central to conservative discourse on education. Such discourse promotes the idea that one can create homogenous groups of learners by using performance and ability to stream students into different classrooms or schools. The four pattern combinations described above indicate that if education systems were to abuse the Let Me Learn Process by creating clusters of students who use the same pattern first, the fact that patterns combine differently constitutes yet another indication that homogeneity in education is virtually impossible to achieve. This insight, together with other similar insights garnered through brain science, learning theories and sociological studies, constitutes a formidable argument against the politics of tracking and sorting in education, an ideology that has made a comeback over the last two decades.

The illusion of homogeneity in conservative discourse is galvanized by the concept of meritocracy. This concept promotes the idea that, while providing equal opportunities, the system ought to reward students' performance, and use streaming practices to isolate the high-achievers from any slow-down that could be experienced in the presence of under-achieving students (sic).   The victims, seen as unmotivated, careless or too slow, are perceived by the promoters of conservative discourse as detrimental to the academic progress of promising students. While pretending to be neutral, conservative discourse not only promotes the agenda of the talented (sic) but also blames the victims for their apparent lack of performance, regarding them as objects of diagnosis and cure.   Mark, Luke, Christopher and Kurt contradict this discourse by providing ample evidence that systems geared to maximize consumption of knowledge often privilege learners who are comfortable with such consumption and with the consequent social relations that the obsession with accumulation of knowledge imposes on both teachers and learners. While the level of articulation of the four students is perhaps limited by age and vocabulary, the frequent use of the word "boring" is indicative of pedagogies that are allergic to hands-on, unconventional, risk-oriented

learning; systems that promote "talking and talking all the time" (Mark), "...notes, all of them doing the same thing...we just take notes" (Luke), "because most of the work is on writing" (Christopher), and "we never use machinery" (Kurt). Systems that privilege conformity - "Writing neatly and study a lot" (Luke).

Students' responses are also indicative of how often students are misread, miscued and misunderstood by teachers who are products of a conservative system, are currently operating with a conservative frame-of-mind and who are generally unaware that learning processes form part of a vast range of variables that name the differences in students' educational needs. Luke's technical processing was miscued by one of his teachers as: "He will do work only if it is easy, can be done in a single line and needs no thinking...He is very capable of learning, however he does not make the effort." The matter-of-fact language used by the teacher is indicative of a linguistic repertoire that is devoid of reading around learning theories and diversity issues.

The emotional impact of a system that consciously or unconsciously selects, labels and misreads students can be devastating on the learner. Unlike Danny, the main character in Johnston's chapter in this volume, the four students will not drop-out of school. Instead, as indicated by the four students themselves, they will live through their scholastic life frustrated by the fact that school is not adequately addressing their interests, strengths and needs. They will also have to suppress their preferred learning patterns to continue with their scholastic journey. In the case of confluent learners, they will try to strike a compromise between the freedom to risk, fail and try again and the structured learning that the system expects. Others, like Kurt, will turn their frustration into anger. Asked how he would show his teacher what he has learned, Kurt answered, in writing, "by getting exloshen by bringing there and here and blow thir house."

Unfortunately, technical and confluent processors are often 'isolated' not only at school but also at home, since most parents have also been schooled to follow the sequential and precise routes. This phenomenon is captured in the interview with Mark, who exclaimed that "Ehm. They might have been stricter maybe. They need to give more work. I think and they had to study a lot." The frustration linked to the feeling that

"you can't catch up with the other students" is a direct result of the high expectations set by significant adults, mostly limited to "(giving) homeworks always on time", "very neat" and "very tidy".

The gap that seems to distinguish the official discourse of the school where the study was conducted from its teaching-learning process calls for the school's community to begin a dialogue, a partnership which truly lets students learn in the most effective and responsible manner. The Let Me Learn process can help teachers gain new understanding of themselves as educators and learners as well as understand better the learners with whom they interact daily. The process engages teachers in interacting with each other, developing a plan of action, and implementing the plan within their teaching context. It also includes parents and other interested stakeholders in an attempt to work together to bring about whole-school reform. For the system to be affected as a whole one needs "to create a climate in which everyone is naturally reflecting and learning all the time, and where learning by all is both safe and taken for granted" (Caine and Caine, 1997, p.133). It is thus essential, before even moving into introducing the processs and its theoretical basis, to create an appropriate learning community to support the changes that such a model has to attain.

The Let Me Learn process aims to (1) provide an accepting environment in which teachers and parents grow in awareness of the learner's voice in which learners accept self as a capable learner and create teacher-learner communication; (2) to provide a nurturing environment in which the learner's patterned learning processes are developed. This is hoped to be achieved through creating a peer awareness of unique learning processes, developing opportunities to work with other learners in a respectful learning environment and create teacher-learner partnerships; (3) to provide a supportive environment in which learners begin to develop strategies to use the learning processes the learner would naturally avoid. Finally (4) to provide a challenging environment in which learners exert independence and resourcefulness in negotiating learning experiences (Johnston, 1998).

The above aims are not intended to create new structures within the school, but to induce and support reorganisation through self-organisation. "this deep change", states Johnston (1998), "occurs only

when those involved in it are highly committed to increasing their awareness of how we learn, act upon their knowledge, and take time to review with their peers their newly attained insights" (p.294). Such a process not only liberates students but also helps create "a sense of optimism about organisational change, a sense that change is possible" (Osterman and Kottkamp, 1993, p.186).

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