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## **Framework and Example of a Definite "Inhaltsdidaktik"**

According to our experience, didactics as integration of method, subject (syllabi or curricula), and organisation of teaching on the one hand and of theory of education and formation (Bildung) on the other hand is most likely to succeed by concentrating on the composition of Lehrstücke in a case-work manner, which mean not only construction but also composition of the regular teaching units of 10-25 lessons. These regular teaching units are usually thematically, methodologically, and organisationally coherent and now they are developed and composed in three plus one steps: Firstly, the Lehrkustdidaktik selects only teaching units concerning culturally and educationally as well as personally central subjects, i. e. epochally important humane subjects. Secondly, the Lehrkustdidaktik composes these teaching units according to, what Lehrkunst calls, the "triad of exemplary-genetical-dramaturgical method". Thirdly, the organisation of teaching orients itself towards culturally authentic learning places, learning times and learning forms. Finally fourthly: all subjects, methods and organisations of teaching have to account for the claims of the theory of education and formation (Bildung). Thus they have to stand the question whether such a teaching unit really has succeeded in combining the free development of the personality with a deep understanding of the world. Only then the teaching unit has become a Lehrstück. In the designing of teaching units to Lehrstücke more than thirty Lehrstücke have arisen on the traces of Wagenschein within the last twenty years. In this process the working manner of the Kollegiale Lehrkunstwerkstatt, a collegial working group of teachers, has proven fine. The same goes for the compositional product of casuistic, enlightened subjective teaching reports, nearly "novels of education" as well as for an overall orientation of didactics not only to the sciences, but also to the arts, thus Lehrkustdidaktik. In a lexicon of theatre plays there are many hundred works described; we are dreaming of a little lexicon of Lehrstücke. Lately the perspective has arisen that the teaching of Lehrstücke, Lehrstückunterricht, can offer a contribution to the educational teaching development.

### **1 Learning How to Teach Like Wagenschein**

Wagenschein's teaching-report on prime numbers is, after 50 years, still relevant, interesting and fascinating, offering a first and suprising insight into the area of "Lehrkunst". His prime numbers and other teaching-units

can still be incorporated - especially by competent teachers at good standard-schools - as a part in "dramas" open to improvisation (with appropriate variations, of course, similar to "Faraday's Candle", "Lessing's Fable", "Rousseau's Botanic Letters"). In this specific situation his methods and education concept are understood much sooner, more durably and more carefully than in abstract generalities. It is far more productive because its example stimulates us towards a didactic composition. It produces orientation and validity, according to Hartmut von Hentig: "School should be a place where Martin Wagenschein would have wanted to teach." Sixth: "Wagenschein is a classical author of didactics..." (Glöckel 1994). With his help the wide classic cultural horizon becomes comprehensible like Galilee and Goethe, Socrates and Faraday, Kepler and Lichtenberg and Leonardo...

Interim balance: Wagenschein's teaching examples contain (nearly) everything school-education needs: Scientific nature, individualization, methodical competence, cultural tradition, school reform, multi-dimensionalism (philosophy - aesthetics - religion - unfortunately hardly any politics!); and last but not least: objectivity, modesty, humour - to keep it short: They are an example for education and art of teaching quality. We call experienced, straight forward and playable teaching units, following Wagenschein's and his equals' ideas, "Lehrkunst" (art of teaching).

The central idea of "Lehrkunst" education started during the four years I assisted Martin Wagenschein (80 years old by this time) with the publishing of his book: "To see and understand natural phenomena. A genetic course" (1980; 2003 i.V.).

"Some decades ago I was a secondary school teacher for years; I was confronted with the topic 'magnetism' which I had to present to a group of eighth graders. I always held the opinion that physics belongs to the natural sciences so I bought an original magnet - a magnetic stone which I got at a respectable mineral shop. Six Deutsche Marks it cost in those times... On the box it said, if I remember it correctly, 'Magnetit Arizona attraktiv'. I was so happy to have this witness with me, a natural witness of a natural science, and so I rushed into the class. The students had already been waiting. In front of the door there was a student teacher waiting for me, who wanted to sit in my class. She knew what was on the schedule and I told her: "Look at this, look what I've got!" and I showed her my stone. She looked at it in a contemptuous manner. I was annoyed and told her that this was different from all those silly artefacts we kept in our cupboard - those rectangular steel magnets with a green and a red end. She answered: "I can't see the difference." "Oh, you don't see the difference?" "No! Both contain elementary magnets which are directed in a parallel manner." When we entered the room she continued: "You are an odd physicist." But I had known that for ages. I would express it differently. She was still a physicist, I had moved on to become a teacher for physics. It is as simple as that!" (Wagenschein 3/1995, 43).

For a long time in teaching methods we regarded lessons predominantly as a chess game. We introduced and planned the teaching of lessons as an order of moves which require a decision for a distinct combination of formalised elements - only, of course in view of the given situation and the striven goals and supported through a series of questions which ensure

that we consider everything that is possible. Or we examined and analysed the teaching-events, as a change of an interactive pattern of a different kind that consists of action- and social-forms and it is changeable if we have a conscious attitude. Many of the introductions to teaching methods or preparations for teaching are similar to instructions for playing chess. They talk about the basic principle, meaning and usage of specific structural elements of teaching, about the use of methods and media - as if they were talking about towers or pawns - about opening scenes and lesson conclusions, about the correct order of their moves, strategic thoughts and tactical moves, about the correct evaluation of the partner and the successful action towards the goal. A probationary lesson is passed if the match is played following the common rules. Some lecturers in teaching methods have tried to design flow charts or diagrams or even tried to find techniques for how to move infallibly and quickly from A2 to F7. Others use a more extensive action oriented or communicative oriented approach. One should start by concentrating on the opposite player and try to understand what he is trying to do and how he enters the game in order to be able to react appropriately - symmetry is presupposed. And some of them have tried to simulate one of the game partners - the teacher through a computer: Teaching as computer chess. It is always the most important objective to reach the goal, the content is rather arbitrary; even the prerequisites are general and indistinct. In learning oriented teaching methods it is still indistinct what learning is, in education oriented teaching methods it is open what education is, and in action oriented teaching methods it is unclear why we act. The general teaching methods were and are predominantly formal ones.

Theodor Schulze (Bielefeld) and I accepted and shared this opinion for some time without questioning it (too long). Repeatedly, we saw challenges which didn't fit into the scheme. Continuously, we had ideas we could not classify. We had to work on "false" problems, which were forced on us with astute and clever formulas, phrasings and formalities. We recognised that many of the things that seemed important for us at the beginning got out of perspective. That is how we started to acquire a new awareness. We did not compare teaching with a chess game but with a play - we left the analytic and combinational thinking and turned to a vivid realisation and imagination, applied to dramatic events. There, the king is not a figure any more, moveable only to a neighbouring square and which we can only beat if we have said "chess first." In "Lehrkunst" the king is a person with a name. The name is David, Oedipus, Karl, Friedrich or Ubu and he has a unique history. We started to see teaching in a similar way again - every teaching idea is seen as a unique event and defined through its contents. We have restarted to make content oriented teaching methods out of general teaching methods. But this was a long and hard way. It all started with a change of view. As one consequence, we had to find a new language - different leading concepts and language style. This way we learned to think differently and in the end acted differently.

## **2 Short Description by Means of 10 Theses**

Nowadays, it is only possible to work out and push forward general teaching methods in its plurality of different educational concepts. The reality of school and teaching is far too complex and our knowledge about this reality is too differentiated and does not allow it to be presented in a uniform system. If a general education concept continues to be researched intensely and taught in a action oriented manner, it needs to concentrate on one specific aspect of school and teaching reality. "Lehrkunst" concentrates on the art of teaching which means: concentrating on a demanding formation of teaching tasks and situations. In this respect "Lehrkunst" is a special kind of teaching method.

"Lehrkunst" examples are well-documented teaching examples, which are suitable for varying productions. Bertold Brecht suggested using models of different productions, while directing a theatre performance, without following them too closely. "Lehrkunst" tries to reach a narrow connection of the constructive work of content orientated "Lehrstücken" with the discovery of practical and important teaching rules or didactic principles and the composition of experience saturated, more general theories about learning, teaching and education.

With the concept of "Lehrkunst," a buried tradition of teaching methods shall be revived. First traces of this tradition were superseded by science in the beginning of the last century. We criticise the dominant formal educational models and want education to be content orientated again.

"Lehrkunst" condenses education to "Lehrstück" units. In particular:

1. Concentrate on content: "Lehrkunst" is a plea for a concrete content education. In the centre of attention and reflection is the content of teaching - more specifically: content-ruled teaching tasks and their revision. It is neither teacher nor student focused; it is focused on the tasks. Here we find a link to the concept of school career education that follows the concept of developing tasks (Meyer, Reinartz 1998).
2. Concentrate on designing of "Lehrstücke" (pieces of teaching art): "Lehrkunst" does not deal with any contents or tasks but especially on independent units. They need to be complex and related tasks of a special kind. They work with teaching units (10-25 hours) which are determined by a central topic and which facilitate or require a connected formation. "Lehrstücke" are first of all masterly teaching units (ca. 12-15 hours), tested and proven in everyday school life as joint plays. We call such units "Lehrstücke."
3. Principle of exemplary content: "Lehrstücke" are units about cultural and scholastic, as well as personal general topics concerning mankind. The content "Lehrkunstdidaktik" deals with has an exemplary character in the sense of Martin Wagenschein. Not any example is exemplary, it needs to be excellent. It is an example which draws attention and has a history which contains experience and reflections and is accessible, manageable and transparent.
4. Principle of genetic learning: The attention of "Lehrkunstdidaktik" is not only set on content but mainly on the way of acquisition.

"Lehrkunst" is not about the imparting of knowledge and abilities but about the development of new points of view, ways of thinking and abilities to act, in which the content is kept. Genetic learning, how we understand it, requires the learner's insight and especially the formation of a real and active interest in order to motivate and enable the learner to continue examining the facts.

5. Principle of Socratic communication: It is hard to say how learning processes work. We cannot look into our student's heads. But thanks to observation and experience we are able to name some of the conditions which enable, provoke and support Socratic learning processes. Some of these conditions are contained in what Wagenschein calls 'Socratic talk.'
6. Principle of dramatic formation of teaching: The Socratic principle reports the reinforcement of comments and reactions of each student. We have to keep in mind that students' remarks do not come out randomly or in an uncertain situation. They are embedded in a line of learning situations and tasks, in an action based teaching context that is consciously caused and staged by the teacher. The teacher creates the basic conditions for an intended learning process.
7. Principle of aesthetic quality of experience: In the meantime we have learnt that the way of learning we endeavoured before is more complicated and complex than we assumed. It is not only about intellectual processes and the development of cognitive schemes; it is equally about sensory perception, the expression and purification of emotions and the formation of interests. It is not only about terms and formulas but pictures, not only recognition but equally about experience and memory and the embedment of all of these moments in a general personal development of the learner.
8. The importance for curriculum development and theory: "Lehrkustdidaktik" is not curriculum based. It deals with the question what should be or is allowed to be taught in general educating schools and what of the accustomed contents can be dropped. Further it contains curriculum theoretical considerations and it possibly leads towards curricular consequences. It sets the guidelines for curriculum and schoolbooks; but within this frame it creates a new main focus. We think it is an important challenge to find and test key topics for the key problems outlined by Wolfgang Klafki.
9. The requirement of independent and interesting "Lehrstücke" will grow to the same extent, as schools are able to decide for themselves in future. In the meantime we agreed that the extensive and detailed curriculum should become more flexible towards frame plans; secondly, they have to be revoked from 100 per cent coverage to 75per cent, 66per cent or even 50 per cent. Hartmut von Hentig demanded a reduction of 90 per cent. Loosening and degeneration is certainly necessary for renovation of the curriculum but not sufficient enough at the moment. From our experience we suggest to supplement the curriculum principle in an antagonistic way through a principle of program: "10 per cent Lehrstück-program

within the curriculum", that's our proposal. As a compensation towards the curriculum, not a subjective amateur-capriciousness but a struggle for a general comprehensible and teaching "Lehrstück" repertoire which is of general interest - arranged in alighted and responsible intersubjectivity.

But: A teaching unit may fulfil all criteria but without Wagenschein's key signature it will not become a "Lehrstück": "Lehrstückdidaktik" stays "Wagenscheindidaktik" at its centre.

### **3 Organizing a "Kollegiale Lehrkunstwerkstatt"**

"Lehrkunst" education tries to complete the school reform through a teaching reform. Teachers are most convincing where they can use their own interests and experience, their own specific competence and their talents. All our thoughts, claims and concepts are a product of analysing the practical experience in constructing and staging "Lehrstücke". "Lehrkunst" education proceeds by experience and the place for this is the "Lehrkunst" workshop. This workshop is all about self-awareness and reflection of teachers being students, about testing and exchanging experience. It is not a surveillance of test subjects under experimental condition. An important prerequisite for an intensive exchange of experience is the common ground of the contents of "Lehrstücke" and the content-ruled tasks.

A cooperative "Lehrkunst" workshop develops if - in an interdisciplinary group of teachers - everybody tests an important teaching unit full of experience with the help of the colleagues and develops it further. Discipline, fantasy, many different forms and ethos of the arts, especially the art of teaching with its examples, concepts and methods have to be central, apart from all natural student and institution orientation. In short: To do or make cooperate "Lehrkunst" workshop means to try things out together and help each other; try to design teaching examples in the best possible way - inspired by Wagenschein and his equals. Experience has shown that we need at least eight 3-day quarterly meetings in 2 years with at least 100 hours of further education.

A group of 10-15 teachers meets on a quarterly basis for two years (each meeting: 3-days) with external "Lehrkunst" experts. In the afternoon plenary sessions take place and in the morning we have discussions within our working groups. The goal of these eight meetings is the joint arrangement of repertory pieces ("Repertoirstücken") towards teaching pieces ("Lehrstücken").

A cooperate "Lehrkunst" workshop develops from the following 6 components:

Group members: 10-15 teachers from different subject areas.

Goals: Arrangement of repertory pieces ("Repertoirstücken") towards masterly teaching pieces ("Lehrstücken"), artistic teaching-examples designed after the genetic-dramatic method, concern topics relevant for mankind ("Sternstunden der Menschheit").

Conditions: Unfortunately, full working hours but at the same time support through headmaster and administration.

Adviser: Team of external "Lehrkunst" experts, experienced in general didactic additionally teachers with "Lehrkunst" experience.

Study- and exercise material: Especially the notes of Wagenschein and Berg, Schulze with their "Lehrkunst" examples embedded in a conceptual and methodical framework as well as classic "Lehrstück" productions such as Faraday, Lessing, Rousseau, a.o.

Working plan with

Time- and activities: In two years, eight 3-day quarterly meetings with six 2-hours working group consultations in the morning and three 3-hour plenary sessions in the afternoon.

The following 5 workshop rules have been proved to be effective in practice:

Cooperative learning has priority! We do not want to be limited to listen to lesson reports and nor do we want to limit our self to a discussion about lesson-planning. As teachers - we tried the lessons out on ourselves. And afterwards we discussed, analysed and optimised everything keeping the students' and teachers' point of view in mind.

Only players, no audience! Every colleague gets his or her turn and presents the report of his or her "Lehrstück". The principle is: Who does not bring anything - does not get anything! Only by doing so, we can avoid the never-ending red pencil mentality, criticism and know-alls. The same applies to the leadership!

The goal is to expand the subjective "Lehrstück" work in different subjects without objective enforcement:

It is better to risk a reach for the stars and be satisfied with a star of third or fourth magnitude than wearing it down, in never ending curricular discussions about the justification. But, it should still be a star for the whole group (not a street lamp).

Have a good conscience and work with pictures and comparisons! Some comparisons are misleading, of course, but as Freud said: "Where we can't fly we have to reach our goals by limping". "Lehrkustdidaktik" has not at all outgrown its children's shoes of metaphorical language and it will take much longer until it has grown proper conceptual wings. Culture authentic, free teaching and learning! The art of teaching compass is lined up for the cultural birth place of the subject, not for its usual treatment in school. Wagenschein's "Invitation to read Galilee" has priority over the obligation to the study of the curriculum: cultural originals before imparting in school. This is valid for "Lehrstück" teaching and even more for the workshop. School rules become relative: Now I'm a teacher for German, opposite me is not my headmaster, we are not in the 8th lesson; marks are not interesting, even the students are gone. We all just want the one thing: we want to understand the barometer!



#### 4 An Example: "Education. All You Need to Know."

1. "Education. All you need to know." Let us go through our list of "Lehrstücke" and take Schwanitz' bestseller as a reference: with 90 per cent hit rate (only three exceptions) we find all our tested stars (see box) in one book: Aesop - Archimedes - Aristotle's - Bach - Brecht - Büchner - (Dahrendorf is missing) - Dostoyevsky - Euclid - (Faraday is missing) - Galilee - Goethe - Homer - Lessing - Linné - Molière - Mozart - Pascal - Perikles - Plato - Pythagoras - Rembrandt - Rousseau - (Suger is missing) - Vitruv. All of this has to be common knowledge, and even more - of course. More precisely: one should! But who can or wants to know all of this and even more? Each of us could double this list without an effort - even twice or ten times. But most people understand this list only as "I should really know all this", not as one where we could answer every name with a short and detailed recitation for our students.

**Hans Christoph Berg with "Lehrkunst" ensemble**

"Lehrstück" repertoire 2003

**33 "Lehrstücke" from 15 subjects, 150 times tested**

**German**

Aesop's fable with Lessing

Our Italian journey - based on Goethe

Dramas: Lessing's Nathan, Büchner's Danton, Brecht's Galilee

Making newspaper together with Kleist, Tucholsky and Pulitzer

**French**

Molière's "bourgeois gentilhomme"

**Latin**

The native (ancient) Roman town

**History**

The Bassermann's. History of German bourgeoisie. According to Gall



Gombrich's short world history for young readers

Athens in Pericles times

### **Politics**

Citizenship, according to Dahrendorf

### **Philosophy**

Reasons. Aristotle's metaphysics, free - according to Willmann

### **Religious Instructions**

Our gothic cathedral

Dostoyevsky's "High Inquisitor"

### **Mathematics**

Triangular squares. Pythagoras' Theorem, according to Wagenschein

Platonic shapes, according to Wyss

Euclid's prime number proof

From cube to sphere with Archimedes

The dices are cast. Probability calculation with Pascal

### **Physics**

Astronomical clock. Elem. Astronomy, according to Aratos, Wagenschein a.o.

Barometer, according to Pascal and Wagenschein

Law of falling bodies, according to Galilee and Wagenschein

### **Chemistry**

Faraday's candle

Chemical equilibrium

**Biology**

Linné's meadow bouquet

Plant metamorphosis, according to Goethe

Pond as symbiosis, according to Junge

**Geography**

Weather stones, elem. Geomorphology, according to Wagenschein

From pole to pole; earth reconnaissance with Hedin

**Art**

Rembrandt's bible

**Music**

Canon-arts, with Bach

Figaro's birth

**Sport**

Greek dance with Homer and humour, according to B. Wosien and W. Jens

2. How do we gain such knowledge? Surely not in an alphabetical-lexical manner; but maybe in accordance with the curriculum - well ordered in subjects and grades. Or historic-cultural embedded in the narration of Europe's genesis (compare Schwanitz). But nevertheless: We need to know or should know all of this. Not only according to Schwanitz, but also according to Goethe: "Who is not able to give account to 3.000 years / is able to be accountable to it / stays in the dark, inexperienced / may live from day to day!" By the way, where can you find this quote? Surely in the east-western divan! Well done, €10.000! Thank you, Mr. Tarrant (British TV-presenter "Who wants to be a millionaire)! - Such knowledge is easy to caricature, but still we all know: 1. we need it, 2. we are all lacking it, 3. it is expected from school. I repeat: How can we gain this knowledge (educational knowledge)?
3. A cooperate "Lehrkunst" workshop is one way towards general knowledge. For this reason I have to reach back. Even today I remember quite well how I, as a student, suddenly managed to get rid off my numerous and large education-gaps. 'Gaps in education', I recognised were shattered and hopeless words. My education

consisted of huge deserts and little knowledge-oasis. Getting rid of those gaps meant covering deserts with greenery. Hopeless. But this shattering picture brought the drastic change: Do not bewail your gaps of knowledge but cultivate and develop what you know. And maybe one day you will be a well-informed cameleer riding from oasis to oasis through the Sahara. Later I met this basic principle when I worked with Wagenschein. Here it was completed through his picture of the exemplified piers and orientation arches leading through his canon of physics.

And even Schwanitz admits himself to this technique, hidden in his after word: "By the time when today's students were born, I founded a theatre workshop at the English department at Hamburg University and we staged a different English drama every term. Each production issued a programme with approx. 30 articles, background information about the author, information about the topic and language of the play. For this purpose we founded an editorial team, whose first meeting was always opened with the following question: "What about this topic can we presupposed to be common knowledge and what has to be explained?" The growing popularity of this programme showed us that we were able to improve our evaluation of the audience. Members of the team were only students and me. I learned so much from those students and much of it has to be part of this book. (Schwanitz 1999, 539). Follow Shakespeare for a quarter of a century and play after play, more precise drama after drama you become acquainted with the European education-scenery. - You should have used this encouraging example in your preface instead of your insults on teachers, Mr. Schwanitz!

## **5 What Can Be Achieved by "Lehrstück" Education?**

Everyday life of teachers demands teaching, teaching, and teaching! The teacher's thoughts circle around this request, but the necessary expansion should not become centrifugal; instead they have to stay centripetal ([comp. Lewis](#)). The evolution of teaching should not go past the main ideas of teaching processes (esp. experience and theory)

Education and "Lehrkunst" teaching methods recommend a completely different and realistic but modest and demanding strategy: The development of teaching should concentrate on one or two dozen examples where content, method and organisation form and reflect integrated examples of teaching culture.

In addition to such a cast of internal-school examples - which are already hard to reach for a school programme - the "Lehrstück" teaching at cooperate "Lehrkunst" workshops can (and we hope so) produce definite examples. Second, it offers an applicable model for the struggle for quality and influences the participants beyond the general "Lehrkunst" workshops.

During teaching, the gap between everyday reality and Sunday talks is

especially wide. On the one hand, teaching is routine and the same way for more than 90 per cent - following textbook, advice from colleagues and experience. On the other hand, the image of the continually creative, spontaneous, student orientated, able to work in a team, etc. teacher is cultivated. Teaching development should be realistic and both parts should be able to gain their rights and aim for a repeatable, repertory capable as well as variable and creative teaching examples.

In contrast to other cultural institutions, the school system lacks the innovative ideas of a review tradition ("Rezensionstradition"). There is a risk that the new hope 'evaluation' is concealed in the bureaucracy of school, cunningly enough with the help of tempting terms such as objectivity, transparency, efficiency, etc. As opponents of this we want academically but practiced reports and assessments as a casuistic established culture between subjects and productive culture of debate and judgement: If we can reasonably quantify doctorates (PhD's) from "rite" till "summa cum laude", why not teaching examples and reports about this subject.

In the 1980's, the invitation of tenders for the school system was introduced. Pioneering were those by the Robert-Bosch-foundation for practical learning and one about human rights by "Bundeszentrale für politische Bildung" (Schulze 1982). Meanwhile this instrument has proven to be a good gateway for specific support: as challenge for a powerful and conscious decision for a start; in opposition to a rotten principle of indiscriminate all-round distribution.

The central idea of the invitation of tenders for the development of teaching is the philanthropist advice: "... by their fruits you shall know them!" First of all we have to trace and convey realistic attempts for highly qualified teaching examples (in a complex cooperation of supply and demand and offer, from bottom-up and top-down and side-in). The close cooperation of practical work and theory (more precise: Practical work - poetry - theory) should develop these teaching examples in the tension of the idea of education and the school reality. By doing so we should manage to learn together how to make those quality criterions discernable and prolific.

Finally - if this laborious development works well - we will have a richness of excellent and transparent teaching examples within the next years. School development became the pacesetter of school reform - well done! But at the centre of school we have teaching. An organisation-sociological school development gets stuck in the sphere and does not reach the central process of school. In short: School development has to concentrate on teaching development.

For students "Lehrstück" education is the chance to benefit from a learning- and education-experience: In the middle of school there is an oasis of concentrated, varied and complete learning processes and it opens itself towards a profound and permanent knowledge: how fascinating and productive school can be!

For teachers it contains the chance, to create the space and time for "building my own teaching-lighthouse" amongst the normal conditions of stress and hectic. That is how I want to and can teach: to reanimate my half-forgotten companions from university, to bring my philosophical questions back to life, to train my methodical apprentice piece.

For school it brings the chance for realistic and productive elaboration of

school specific teaching quality: We will get to know our school much better, after we have done a tour (in 10 monthly steps) through our departments and listened to their "Lehrstück" suggestions for the school program, after patterning and discussing it: Only then we can struggle for our teaching centre.

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