SYSTEMIC APPROACHES REGARDING THE DEVELOPMENT OF PERSONIFIED «NEW LEARNING»

The new learning requires first an accompanied implementation. Already after one year, it becomes apparent that the corresponding grade levels and performance curves of the students can be improved. Moreover, the participants agree that intraindividual learning definitely improves. In addition, the implementation of the project can greatly increase the well-being of the pupils at school, which naturally has an effect on their performance. We live in an ever faster changing world, in which the school concepts of previous years should be revised and optimized. New approaches, like gender sensitive designs are necessary to continue the new learning project's success. «New learning» is basically an individualized learning style. «New learning» starts by the individual itself. The individual is the basis for conditions, learning contents, rhythm, duration and intensity of the teaching. The appropriate slogan is: know the individual’s baseline conditions, so you start building from his/her foundations. The systemic side of this measure is the integration of the elements in a dynamic whole that feels right to teachers, parents as well as the main targets: The students.

A substantial modification of the usual class structure is a central feature of the program. Modules of individual knowledge are essential for
the teaching strategy. In the context of the modular structure there are rather learning fields and subjects. Different fields of learning (basic curriculum and electives) form another basis of the program, flanked by common living rooms and leisure programs as well as practical courses. Learning fields are understood as a basis of general culture and subjects as their specializations. The individual programming (IPP) is organized in basis blocks which are constantly adapted. All experiences and goals are described in individual portfolios. Tutorial settings are provided for continuously evaluation and support.

A total of two classes were enrolled in the program (27 high school pupils). The program took place in northern Italy (South Tyrol). Pupil age ranged from 15a +/- 1 SD. After the first academic year pupil satisfaction scores amounted to 75% regarding obtained achievements. 90% of all parents showed a high satisfaction score and wanted to have the program continued. Teacher consent for the program reached up to 76%. However, teachers a 33% increase in their workload. Over 70% of the pupils wished a continuation of the project. Student achievement increased up to 6%. Study difficulties reduced to approximately 40%.

Key words: systemic approach, «New Learning», individual programming (IPP).

Introduction. School traditionally starts at 8:00 a.m., one lesson currently lasts 50 minutes, between lessons there are breaks of 5-10 minutes, and in the morning the «big break» usually lasts 15 minutes (Bonifati et al 2009; Holzkamp 2018; Coniglio 2018). This is the usual time structure in most Austrian schools. However, scholars of various scientific disciplines, such as learning psychology, brain research or health promotion, recommend changing these time structures because they are counterproductive for the well-being and performance of the pupils and partly also for the teachers.

In addition, this new proposed method of differentiated teaching and individualised learning appears to be easier to implement if more time is available for a subject than the usual 50-minute lesson.

Experimental studies from the USA have also shown that a later start of lessons has brought many improvements for the pupils in terms of sleep duration, mood, daytime fatigue, motivation, concentration and performance. American brain physiologists currently even recommend teaching units of less than 50 minutes (standard; 20.02.2017).
Felder-Puig et al. (2013; 2017) of the Ludwig Boltzmann Institute in Austria currently recommend discussing possible changes in schedule with teachers, taking into account the experiences of other schools and, if necessary, obtaining the support of the school authorities. Trial phases for reforms with subsequent evaluation by the staff have also proved successful. In principle, it seems to be advantageous to always tackle pedagogical or didactic changes at the same time as schedule restructuring and training measures in the teaching staff. In other words, it is convenient when seeking substantial change in systems (in this case the school) to work simultaneously in curriculum and time structure as well as teacher training. Though this high amount of change is a source of stress (and as seen below this was a source of teacher resistance) it proved to be helpful to meet the goals of learning improvement and overall satisfaction in school.

In the following section, we will report on this well-established project of personalized learning.

**Necessary structural changes in teaching.** Some time ago, within the framework of an EU project, together with the FACHSCHULE FÜR HAUSWIRTSCH KORTSCH in South Tyrol, a new, trend-setting project was developed which has now been successfully implemented and continued. In the following years, the project was also extended to pupils and fields of work for people with learning disabilities (Garber et al 2010a-f; 2009).

*Changing basic assumptions.* The school always and everywhere tacitly assumed that development take place at predetermined times. Accordingly, all citizens aged six were called to compulsory schooling.

The pupils recruited in this way were put together in static structured classes. Teachers were assigned to the classes per subject and year. The entire teaching material was divided into certain given subjects such as mathematics or German.

This subject matter was to be mastered school year by school year with the times specified in the teaching programs. In other words, everyone in the 3rd grade of the secondary school has to master the Pythagorean Theorem, regardless of what development the individuals are currently undergoing.
Perhaps – and this is one of the basic ideas of «new learning» – it would be better to respond to the needs of the pupils and to make the time structure less tight, i.e. if a pupil has a special interest in mathematics, for example, he should perhaps learn better with other like-minded students. For language learning, as an example, the student might prefer to have verb tenses in Spanish explained many times.

New learning is in its essence personified learning. If the goal is personalized learning, i.e. learning tailored to the individual person, then the individual must be taken as the starting point.

The individual determines the conditions, the learning content, the rhythm, the duration and the intensity. The corresponding motto is: pick up the individual where he or she is at the moment.

This applies to the gifted exactly as much as it does to those who are struggling with school performance.

The main task at the beginning is to clarify the allocation of the students in performance levels in the different subjects.

In line to the support of individual strengths and areas to be developed, a mentor accompanies each student. The mentors accompany a maximum of 6 students. Each teacher is also a mentor. Mentoring is a central supporting aspect for the students. The mentor is recipient of the relevant information regarding his/her mentee. Teachers, parents and students are involved in this way. The mentoring does not end with the graduation certificate. It is extended two years after to ensure the transfer of the gained improvements in performance and self-confidence in school into the working field.

Special emphasis is placed on «free learning» and «learning in peer groups». Peer groups, i.e. individual learning, can arise spontaneously or also inspired by teachers. Together with their mentors, the pupils set up a monthly program tailored to their personal needs.

**Emergence of new social benefits.** Due to this permanent modifications, new social benefits are constantly being created, which, however, are not always perceived as positive by all pupils, which is understandable in so far as changes and innovations are frequently a source of anxiety. The change of the social dynamics at school can encourage other undesired phenomena as bullying.
In a world of increasing mobility and fast change, however, detecting the needs of the various learning groups increases the chances of success of young people in their attempts to find a good place in the labor market.

In addition, evening schools, adult education and other courses could be linked to this concept. And why not, can we imagine students attending evening classes together with adults or adults taking part in normal school lessons?

**Implementation of a test phase.** Based on the results of the concepts of the EU program «Oikos», a test week for «New Learning» was first carried out at the Fachschule für Hauswirtschaft in Kortsch.

The aim of the test week was to assess strengths and weaknesses in the organizational as well as in the methodical-didactical area. Systemically speaking, we expected that alterations in the structure would inevitably lead to changes in the dynamics of cognitive and socio-psychological performance.

We counted only on the school’s existing resources (premises, etc.). The test week was concluded with an evaluation of the results and experiences.

Nearly 80% of the interviewed teachers could imagine a permanent implementation of the concept after the test week, provided that planning, training and support are guaranteed in an appropriate way.

The desired prerequisites for the implementation of the concept as stated from the teaching staff according to the experiences of the test week can be summarized as follows:

- The project can be extended only
  - if at least two grades have two assigned groups (e.g. first grade has 1A and AB)
  - if the suitability of the premises has been confirmed
  - if the mentors receive appropriate training
  - if 75% of compulsory hours are introduced
  - if presence and constancy are guaranteed for the compulsory hours
  - if at least two levels are offered per teaching topic
• if the teaching topics are prioritized over the curriculum subjects
• if the hour programming is digitized
• if Synergy with adult education is introduced only in practical subjects

**Further project steps.** For the project implementation team, the following structural prerequisites were detected and formulated:

- Creation of rules
- Creation of a special PC program for hourly tabulation
- Clarification of space requirements
- Visits to other schools with similar models at home and abroad
- Preparation and training for the basic block
- Training of the tutors
- Supervision and coaching of the teaching staff
- Permanent further training for the teaching staff
- Regular feedback meetings with department 22
- Clarification of synergy meeting points with adult education
- Related work
- Organization: New Learning Day
- Monitoring
- Ongoing evaluation

**Everyday implementation of the «New Learning» project.** After the summer break, it was definitively decided that the pilot project for the «New Learning» concept could be started together with the Fachschule für Hauswirtschaft in Kortasch. The next steps to be taken were agreed at a first meeting. The main focus was on the question of logistics with regard to hours, subjects, teachers, available premises, etc.

The first main focus was the preparation of the timetable. The requirements of the different learning levels meant a better management of time resources, but at the same time more room was required. In addition, the «new learning» requires a certain migration between the individual classrooms and other rooms such as the computer room or library, etc.
In order to be able to tackle this digitally, a company was commissioned to assist the planners with a tested PC program. Internally, a specially assigned teacher overlooked the processes in order to ensure sustainability.

The content of the program and the form and structure of the examination and review are basically determined by the state law. The individual steps for change were taken exclusively within this legal framework.

The level division, i.e. the processing and methodical-didactic presentation of the individual theoretical aspects were prepared and their framework limits clarified.

The same principles were applied to schoolwork and grading. The basic question to be clarified revolved around the design of the schoolwork. The objectivity of the assessment had to be secured according to the state legal requirements.

**Implementation of mentoring.** A very important point was to clarify the goals of mentoring. Since there were previous somewhat unsuccessful mentoring attempts initiated by the public school, here was a negative foretaste regarding the idea of tutoring. Thus, some information activity had to precede the implementation of this kind of student support.

In fact, the situation was such that within the teaching staff – including teachers previously involved – mentoring was initially rejected a priori in the sense of «new learning yes, but please without mentoring».

After the appropriate preparations, the project supervisors were able to start the practical implementation of the project under the motto «we test new learning without a claim to perfection».

The feedback and reports on the experiences always focused on a few central topics. These were: 1) mentoring; 2) peer groups; 3) communication with parents; 4) performance evaluation.

At the same time, it became apparent that neither the parents nor the pupils had any major problems with the implementation. Only the teaching staff showed resistance in the sense of fear and anxiety.

In particular, the fact that the teachers were diffident was reason enough to defend themselves against this new introduction. Another unusual circumstance was that schoolwork had to be prepared and
assessed, i.e. graded, jointly for specific subject groups. This has unsettled, disturbed and confused.

**First interim results.** Already in the first interim survey after three months, it became clear that the New Learning project was very well received throughout, both by the parents (parents' consultation day, beginning of December) and by the schoolgirls.

Parents, pupils and the entire teaching staff were accompanied by external experts throughout the year.

The entire project was repeatedly evaluated:
- regarding the test week and the questionnaire of the test week
- regarding the Parents' Consultation Day and the oral questioning of parents and pupils
  - regarding the meetings with the teaching staff
  - via the questionnaires addressed to teachers, parents and pupils
- via direct controlling
- regarding the discussion with the directors of the technical colleges

The following could be summarized as representative of the individual results:
- The new learning should be continued
- 90% of parents wanted the project to continue
- more than 70% of the pupils wanted the project to continue

The teaching staff saw a significant improvement in the performance and well-being of the students, but initially opposed the continuation of the project. In the period following the evaluation, this attitude of the teaching staff had also changed. In the evaluation with the director of the department and department as well as the direct feedback from the subject groups, which finally met with the external project supervisors, the teaching staff clearly and by a majority spoke out in favor of continuing the project.

What is left to be clarified is the impact of this kind of learning in girls and boys. The effect of the different teaching strategies in boys and girls has been extensively researched but paradoxically barely applied in schools. «If we acknowledge that boys and girls have different learning and behavior management needs, then we
must also acknowledge that we need to differentiate for those needs» (Coniglio, 2009). Sousa (2011) in his meta study of gender differences in learning in school environments concludes that there’s an evident difference in the performance of boys and girls and this can have its explanation in neurological differences between the sexes.

Thus, it can be concluded the future of the next «New Learning» projects can be gender sensitive in order to maximize results (Garber et al 2010a-f).

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