

# HP50g And TI N'spire Comments 060828

Current "news" Edited by Richard J. Nelson

Assembled from:

[http://groups.google.com/group/comp.sys.hp48/browse\\_frm/thread/145500a9286488d4/0b66f4988e4cb86d#0b66f4988e4cb86d](http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/145500a9286488d4/0b66f4988e4cb86d#0b66f4988e4cb86d)

*RJN Note: History does repeat itself. I guess that is the "problem" with being around for a while, you get to see it again, and again. I remember when users were complaining that TI was doing their quality checks at the Macy calculator counter. We (the US) taught Japan all about quality and they ran with it. Who will teach the Chinese? Is it entirely a "local" issue or is it a management issue? Is doing the job right more important than meeting a schedule?*

*It seems that this is a universal challenge as I am seeing it daily in my job in Production Engineering Documentation. Who can afford perfection? Sloppy products will eventually be rejected by the buying public. It is the gray area between the black (sloppy) and the white (perfection) that is called a standard - a specified quality level that is maintained. Don't you just love history? We all know the famous quote regarding this. What should be OUR expectations?*

*All of the text assembled below is well worth reading. Ignorance may be observed but rational thinking is also there. JYA is still defending HP, and consultants are still providing the inside scoop. I have taken the privilege of adding upper case letters to the first word of sentences, correcting words that Word underlines as incorrectly spelled, and inserting an extra space (two required for proportional spacing) between sentences, as that is my "standard" - as long as my "schedule" permits. ☺*

1

**From:** JB - [view profile](#)  
**Date:** Sun, Aug 27 2006 2:08 pm  
**Email:** "JB" <[wjb...@yahoo.com](mailto:wjb...@yahoo.com)>  
**Groups:** comp.sys.hp48

Rating:

I posted a message down a bit titled HP50g vs. Voyage 200 and I want to thank the people that responded. I have just one more question. I noticed a posting on this site where someone wanted to know if his calculator came from a bad batch based on his serial number. Bad batch? That sounds a bit scary as I have never heard of a bad batch with my two TI calc's. So I guess the question is if I buy a 50g and say a keyboard problem develops, what telephone number would I call at HP for calculator customer service. TI has the toll free number 1-800-TI-CARES to resolve any calculator issues so I assume that HP has a similar number but I may be wrong. Again, I want to thank the kind people that replied to my previous posting. Thank you. - JB

2

**From:** TW - [view profile](#)  
**Date:** Sun, Aug 27 2006 5:05 pm  
**Email:** "TW" <[timwess...@gmail.com](mailto:timwess...@gmail.com)>  
**Groups:** comp.sys.hp48

Rating:

> batch? That sounds a bit scary as I have never heard of a bad batch with my two TI calc's.

Some here would argue that ALL batches of 49G+ calculators were bad.

Reality is that the earliest 49G+ calculators had terrible keyboards. Quality kept getting better, but in the end there was a lot of confusion about which calculators had improved keyboards and which didn't.

The 50G has a great keyboard and I don't think I've heard anyone complaining about them. Ok, there are still people whining about not having a large ENTER key, "it isn't like the 41", etc.

Nothing to worry about the 50G keyboard.

TW

3

**From:** JB - [view profile](#)  
**Date:** Sun, Aug 27 2006 9:18 pm  
**Email:** "JB" <[wjb...@yahoo.com](mailto:wjb...@yahoo.com)>  
**Groups:** comp.sys.hp48

Rating:

Thanks TW but here is the situation:

If you buy an HP 50g and it's got a problem then you go to hp.com then click on support and trouble shooting then select hand held devices then select HP graphing calculators then you will be on the page that is titled HP Graphing Calculators where you are prompted to select your calculator from a list of calculator models but you notice that the HP 50g is not on the list!!!

I have found from personal experience that I can't count on HP to ship quality products or provide accessible customer service, so it worries me greatly when I can't find a phone number for hp50g problems. I think I'll pass on buying a 50g and wait for the TI-inspire due out after the first of the year and see what it provides.

4

**From:** Jean-Yves Avenard - [view profile](#)  
**Date:** Sun, Aug 27 2006 9:59 pm  
**Email:** Jean-Yves Avenard <[m...@privacy.net](mailto:m...@privacy.net)>  
**Groups:** comp.sys.hp48

Rating:

JB wrote:

> you will be on the page that is titled HP Graphing Calculators where you are prompted to select your  
> calculator from a list of calculator models but you notice that the HP 50g is not on the list!!!

The hp50 has just been released. I wouldn't put too much emphasis for what appears on a web site when the calculator hasn't been out for a month yet

> think I'll pass on buying a 50g and wait for the TI-inspire due out after the first of the year and see what

> it provides.

And when is the N'spire supposed to be out?

From the various web site I gather it won't be available outside of a few European countries

JY

5

**From:** Michael Kuyumcu - [view profile](#)  
**Date:** Mon, Aug 28 2006 3:48 am  
**Email:** "Michael Kuyumcu" <[i...@noemanetz.de](mailto:i...@noemanetz.de)>  
**Groups:** comp.sys.hp48

Rating:

Hi Jean-Yves,

I have already worked with prototypes of the N'spire. The battery life time was about 3 to 4 hours when the calculator was running, rebooting took about a full minute to load a custom-written OS for the calc. The CAS was still very buggy (we found 5 serious problems within 15 minutes), while the dynamic graphics package is already working smoothly though not elegantly. There is an extensive test review on this N'spire prototype available at

[http://www.noemanetz.de/folgeseiten/artikel/CIMS-SH\\_Fortbildung.html](http://www.noemanetz.de/folgeseiten/artikel/CIMS-SH_Fortbildung.html)

but it's in German only. (*RJN Note: The Google translated version is reproduced below. It is humors in its literal meanings but useful just the same*)

The N'spire, according to a TI representative I met in person was supposed to be out by August, but it's not. The latest new publishing date is planned as "September", but my colleagues and I doubt that. TI allegedly wants to change the batteries to lithium cells, which should take a bit of readjustment. And you just can't trust the CAS at the moment. One minute, it solves a system of linear equations with 2 unknowns, and the other moment it wouldn't. One minute, you can grab a parabola and change it dynamically with the "mouse pointer" (there is no mouse), the other it refuses to work. The solution of the TI representative to this problem was spectacular: remove all 4 batteries from the device, put them into another one, power that one up, and suddenly it worked...

Regards,

Here is the Google translated review mentioned in the German link above.

## **CiMS SH**

*Kiel - (miku).* This is a report over the prelude meeting of the teacher advanced training "CiMS SH" to the employment computer algebra systems and/or computer programs of

the companies *Texas Instruments (TI)*, *Casio* and *sciface* inserted by diagramable pocket calculators with in mathematics instruction starting from class stage 11 up to the Abitur. The two-day seminar for trade association-representing instructors of 14 schleswig holsteinischen schools took place on 30 June and on 1 July 2006 in the areas of the "institute for development of quality in Schleswig-Holstein" (*IQ-SH*) in Kiel. The advanced training contained essentially a didactically motivated impulse paper of Professor Dr. Regina brother of the technical University of Darmstadt, the conception of two alternative InterNet platforms for information exchange between teachers on the project, the delivery of teacher devices (the so-called "Handhelds") including teacher and school licenses for as accessories the available (*TI*, *Casio*) or alone necessary PC software (*MuPad* of the company *sciface*), an impulse paper of Mr. Springstein on the experiences of Hamburg teachers with a similar project and finally a practical introduction to the technology, thus into the operation of the pocket calculators and in *the MuPad* program. Furthermore two large schleswig holsteinische groups of regional, are north and south formed and selected regional co-ordinators for these groups.

Already some months ago Mr. Rolf Bennung of the schleswig holsteinischen Ministry for education and women had written down the mathematics trade associations in the country with the offer to apply for a participation in **C CIM(C of omputeri mM athematikunterricht S tudienstufe )**. Participating schools, in arrangement with the companies involved, the receipt was placed at the same time by 60 free pupil devices (and/or licenses in the case of *MuPad*) in prospect. The Ministry expects for it from the participating schools that they equipped three successive upper stage mathematics classes (inclusive class stage 11) starting from the school year 2006/2007 completely with such devices and that these classes also with special tasks, which required the employment of the received computer algebra systems, which would make Abitur. The Ministry will place appropriate tasks upon the request of the schools for the achievement courses in the context of the central Abitur, is incumbent on into the basic course this the schools. In his greeting word Mr. Bennung announced at the same time not to be available after now and essentially by its operation made possible initialzuendung of the project for the support already starting from 1 August 2006 no more since it those the further company a successor handed over and even head master becomes. The further support is to be carried out anyway by the groups of regional still which can be created, which could announce and on sufficiently money for its needs count for their part resulting advanced training need with the IQ-SH.

#### Greeting word

Mr. Bennung stated the advancement of mathematics instruction in his greeting word as a general goal of *the CIMS* of project. This is to be achieved by the fact that mathematics instruction in the future sets "on only one column, i.e. technology". It granted frankly to have substantial parts of *the CIMS* of concept from the plans for that Hamburg *CIMS* model "copied" and expressed itself in this connection for an intensive co-operation with that Hamburg authorities. Conceivable is about to sketch tasks of central Abitur for the subject mathematics together with Hamburg. It thanked the participating companies, in particular and repeats *Texas Instrument*sto equip for their readiness, altogether 14 schools with expensive devices and programs and mentioned 4 "*TI*schools", 5 "*Casio*schools" and 2 "*MuPad* schools". To the employment "*Classpad*" is of *Casio* and the program "*MuPad*" of *sciface* now the newest CAS model of *Texas Instruments* beside the model already introduced, which "*TI nspire*", to come. This equipment is however still so new that only prototypes would be available, which hooked "here and there" still. Bennung asked itself however Meckereien. *TI*device are besides still so little functional that the first devices, which were made accessible us for instructors at this and on the following day, and also only for short time, are to be delivered directly again with the representative of *TI*.

Bennung energized the formation of groups of regional as organizational framework for the project and for the work of these groups of discharge hours to had assigned, three hours of it alone for the co-ordination expenditure, which will presumably considerably exceed however these three hours. Bennung tore also possibly existing fears of instructors in view of the forthcoming conversion of its instruction on. The assistance by and in teams of colleagues these fears would help briefly or long to dissolve however over. Further also the financial left themselves loads, which would come to schools, which wanted to place the technology in their mathematics instruction into the center, by "interesting financing models, for instance from *TI*" effectively moderate. Finally he mentioned that it had given more applications in the apron of the procedure for the selection of the participating schools still, for example for the computer model "*Voyage*" from *Texas Instruments*, these the Ministry however still rejected. Bennung, which indicated, it was accused to *Texas Instruments* of indefinite side, companies to have parteisch selected and prefer, denied these reproaches. It called a "meeting of Ministry -, training and firm interests in this project" a "rare stroke of luck".

Finally Bennung mentioned still that in Schleswig-Holstein a scientific company of the project for two reasons was not intended: on the one hand this was too expensive, and on the other hand no other realizations could be won anyway than from that Hamburg models in Schleswig-Holstein.

#### Impulse paper

"[computer-assisted lastingly mathematics learn](#)" uebertitelte Professor Dr. Regina brother of DO to Darmstadt their contentfull PowerPoint presentation. It reported to similar projects indifferent Lands of the Federal Republic of several *CIMS*, both, to bring in order to bring the Schleswig Holsteiner up to date, and around typical beginner traps to consciousness. Their lecture was divided into three prime data areas: 1) the vision, 2) a short report from a hessian CAS project and 3) didactical questions and problems of the computer application in the school. Professor Bruder was besides so friendly to put to the teachers and teachers involved in Schleswig-Holstein a freely configurable [on-line platform](#) for the exchange at the disposal.

Their vision sees - optimalproves individually released - the use of computers in mathematics instruction as tool for the stabilization of the modelling and problem release authority of the learning as well as a tool for a better, discovering, understanding about mathematics. The conversion of this vision requires in particular appropriate problem definitions and the development of a suitable "language" to the computer application. She saw a substantial profit in the parallel visualization of algebraic expressions and algebraic

manipulations as well as in the possibility for the study of geometrical effects of algebraic manipulations and in addition in a deepened understanding for functions and equations. Thus offer the computer application a chance on more "linguagelological authority by causes for describing proceedings or observed phenomena and with the interpretation of results".

In the following developed it two didactical beginnings for CAS problem definitions, *the "bloom model"* and *the "funnel model"*. With the bloom model a closed entrance problem is gradually extended, generalized, "opened" like a bloom. This model clarified it at a problem example ([to the method](#)). For still more fastidious tasks, with which new authority is demanded like a communicating and presentation, offer yourself the funnel model, with which into group and work on the project the problem which can be worked on is divided and modelled. Straight ones with such tasks permitted CAS systems not only different interpretation modes, but also a multiplicity of solution methods, graphic, tabular or alebraisch analytic.

This introduction followed a short report over a CAS project in Hessen. In the project transferable experiences and training aids for a meaningful employment should be won by CAS in the hessian upper stage. Central instrument for the investigations in this project was the "Portfolio", "a composition of documents, those the instruction process with his intentions and assigned materials and reflections as well as, beyond that, a cutout from the learning biography of individual pupils described and documented".

The instructors in Hessen would have given to minutes that by the employment of CAS central of contents better clarified and important was faster understood, in particular by the technical possibilities for the diagram and treatment of function crowds. Besides the sole responsibility and the presentation ability of the learning were enormously increased. Estimated the instruction would have also the improved controllability for results and approximations by the computer and the possibilities for the promotion inbesondere of high performance pupils and pupils by complex tasks. Professor Bruder guessed/adviced the instructors to hospitiere frequently mutually in order "grounds itself" and such, in the enthusiasm partly superelevated, estimates than such to expose.

The scientific company found the following lack out in this project: in many tasks (papers, stations) it gave too little goal transparency, the increase in value of a mathematical treatment of the task by CAS computers was exhausted often not clearly and the goal potential of the computers (visualization, Dynamisierung, alternative solution methods, discovering mathematical connections). Some teachers besides to the employment of the existing computers entice to let, thereby tasks would have however unfortunately exerted themselves, which had been obviously not suitable for the computer application. Is didactically important to create with the pupils a consciousness for "Mathematisierungsmuster" to embody for instance a differentiating and a recognizing from term structures to. Are besides the instructors, inspires through the possibilities of the computer, near-gone with very high requirement to instruction, then the emphasis nevertheless to a large extent limited the variety of the types of task been on the basic range, while open tasks and Binnendifferenzierung were too rare, too and the causes for Verbalisierung too meagerly.

From pupil diaries written at the same time one picked the desire out at the beginning of the project to understand mathematics better and to improve the own Mathenote. Learning ones would have expressed their fear to forget by the employment of the devices fundamental haendische abilities and before it to understand the new technology. This skepticism experienced itself after the beginning of the class stage 11 however rapidly dissolved, the erstarkte self-assurance of the pupils and pupils after the first classroom test then however an absorber, since the note cut, despite one in Hessen country-wide took place increase of the hour board from 3 to 4 mathematics hours per week, from 6,02 to 5,85 points is sagged. Also the average homework time in the subject mathematics of 1,8 to 2 hours increased, because the technology required intensive training and arguing with the various options of the software. On the other hand indicated the learning, mathematical applications had become by the CAS computers more simply and by the control function of the computers had been controlled also more surely. They expressed decidedly criticism at the unclear menu guidance of the device often commodity as well as the desire for balance of traditional and CAS based instruction. The appreciation for mathematics and the mathematics conception of the world would not have themselves after pupil questionings, or if, then only -, and/or teacher-specifically, changes classes, probably however an easy improvement of the communication support had become clear. The organization of instruction was felt of the learning as somewhat worse than before, and the pupils would have registered a precarious break-down during their self picture and their self-assessment!

Finally Professor Bruder put some didactical problems and open questions out connected with the computer application. In particular the following problem fields would have emerged: *Which tasks are for a computer-assisted mathematics instruction been suitable?, As the teacher can know the overview kept and, what is important, if in topic fields is interlaced learned?, As can a term understanding are obtained and awake-held, if arithmetic functions at the CAS computer or computers are delegated?, Which is is still haendisch controlled?, Which is and as is noted?, How can problems of learn-weak pupils and pupils be caught by Binnendifferenzierung and individualizing?*

When solution of the first problem, to which question about the condition of suitable tasks offered, Professor Bruder a type of tasks, which makes it possible to discover connections with the computer to set up then computer-aided a calculation specification and finally formal to bind terms and term structures again and again to contexts. Instruction-accompanying tasks without computer application are just as necessary as the avoidance of "topic Hopping". In order the overview to kept, it recommended *MindMaps* as semantic nets. In order to obtain and awake-hold a term understanding, "tasks of basis" are suitable, which are to be answered without computers, in writing or in the head, frequently trained and in each case in few minutes. Haendisch to be controlled should still mental arithmetic and head geometry, size sizes of ("which weighs everything approximately 5kg?") as well as formal authority of the structure recognition. The very serious problems of learn-weak pupils and pupils could be moderated among other things by "I - you - the Wir" principle, with which learning first alone with a problem to concern themselves, then the exchange unclear with the neighbour to look for and finally in the class plenum discuss. Also giving options under different tasks as well as assistance tips and temporary solutions, also with homework, is a psychologically effective method. Generally should be worked with low smoldering leagues tasks, also in the degree of difficulty and in openness rising subtasks (bloom model) as well as with initially-open tasks in heterogeneous small's groups with mutual support (funnel model). No solution methods with the computer should be prescribed, but for samples and clear orientations for expectations, how the documentation of the solution has to look.

## **Interwise**

Following the lecture of Professor Dr. Bruder presented Mr. Karrasch and a further coworker *of the IQ-SH* an on-line platform for us to teachers, whom we could use to information exchange. This platform named "*Interwise*" is based on an expensive conference server, which only too exactly defined us instructors times, about once per week for one hour, and then only without administration rights, for

the order be placed could. A demonstration showed that and one chat with this system both with clay/tone transmission can programs for the training of colleagues and colleague "live" demonstrate. The operation made a something for complicated impression, and the system proved as amazingly error-prone, as for instance the clay/tone connection - in the same building! - broke down equal to beginning of the demonstration. The transmission of video feeds anyway immediately us one advised against, although Interwise permit these, since it comes there according to experience again and again to hardware problems with cameras and the like. The idea for the use of this platform did not meet with a considerable approval in a discussion on subsequent day, at least in the group of regional of north, since the system was felt as too impersonal and sensitively in the handling. Also the sharp Gaengelung is by close time windows an obstacle, since so many instructors can hardly arrange themselves at a firm time each week. Mr. Karrasch of *the IQ-SH* mentioned a "faithful trunk" numerous in this way IQ SH advanced training already accomplished by interested one and, however the platform can be used so far only by Windows owners, other operating systems, for instance the Unix of *the MacOS X* and also the similarly widespread *Linux*, is effectively excluded from the participation. Give it an alternative, platform-independent *Javato* implementation of "*Interwise*", these is however so unstable that a use several times expressly one advised against.

## Teacher devices

At the end first advanced training in the afternoon according to plan the delivery of teacher devices should stand. While the representative of the company *Casio* supplied the participating teachers gutgelaunt with "Classpad" computers, the TI representative explained his regret over the inability of his company to make finished devices available. It has prototypes in the luggage, publishes these however only "under exactly defined conditions", and not even a check-out counter for some days was possible for it. The finished devices should make available however "in August". Thus the company *Texas Instruments* over a third of the participating schools had taken the possibility, itself in time, of arguing comprehensively and intensively with the computers and of becoming acquainted with these. Besides it became admits that also the computer often commodity, against the vollmundigen announcements on advertising sides in the InterNet, only runs so far on Windows computers. For our school, which intends, to change the half instrumentation over to Macintosh computers with and the safer operating system more developed clearly Unix this represents a setback, how also for those instructors, who used Apple or Linuxrechner. In this way on the part of of *TI* to unite instructors also the possibility was blocked of examining and of becoming acquainted with at least the software in detail. Further us it was communicated that the momentarily available software was only one alpha version, thus unstably and still quite faulted. Besides us teachers only test version handed out on USB stick, which after 30 days use expiration, so that a colleague, who had already installed these approximately one month ago, did not know, how it could use the program further.

On demand the well-known representative of *Texas Instruments* that the battery running time of *the TI nspire* amounts to at present about 3 to 4 hours (with switched on computer). That can become in an achievement course examination already precariously closely, completely apart from the problematic prospect that pupils would have to reproach now accumulator charging units and complete sets always loaded Akkus. Allegedly the officially delivered devices are to exhibit a *TI* usual battery life, "a half year", in one month already. Suggested on the following day that the final models with lithium batteries could be delivered, thus with Akkus, like it due to their large capacity commercial laptops to use to have, together with 4-Platz-Ladestationen ("Connection Cradles") to loading the batteries and uniform overacting from files. It will not give power packs for *the TI nspire*, probably however to data projectors, which projected the pocket calculator screen to the wall. These would have to be purchased also by schools, which already possess *TI* projectors, again, since the old projectors with the new devices were incompatible.

The representative of *TI* explained itself then after the official end of the first advanced training daily (as already the Beamer for a transmission of the WM play Germany Argentina one prepared) ready to demonstrate to me one of the devices. After one high load time of approximately one minute with waiting bars (only after the change of the batteries arise, to me insured) it entered the equation of the normal parabola and let it draw. It wanted to seize and shift then the parabola with the "Hand" tool, so that the computer computes and indicates the new associated equation automatically. This succeeded - with one waiting period of several seconds - only once, afterwards the parabola could not be seized any longer. The reaction of the representative: it took *nspire* all batteries from *the TI*, equipped another equipment with it and raised this computer. There then its demonstration functioned. However the program changed the kind of the representation of the parabola, so that pupils and pupils are probably spontaneously irritated. As should turn out later, this dynamic function is however generally only for parabolas of second order and implements simple trigonometric functions; a function of third degree for example cannot be adapted so at all dynamically. Discrepancies of other kind (according to representative the devices are to be available "in August", according to paper folder starting from September) the rounded first impression from Unprofessionalitaet, which the company *Texas Instruments* delivered here - which surely not its representative has to answer for, who was confronted at short notice with these lack, without being able to affect it.

## Hamburg experiences

The second day began with an impulse paper of Mr. Helmut Springstein, who reported Hamburg upper stage on 1 year experience with CAS computers in that. At the participating Hamburg one schools within the last yearly in a testing phase material was compiled, which is to be used in the examination phase beginning now also by colleagues, who did not deal with the CAS computers so far. Since in Hamburg it is compellingly prescribed that after class stage 11 a change must be possible to another school type is used, CAS systems in class 11 only for the support, in order not to obstruct pupils in the change to another school type by one-sided training with CAS computers.

Mr. Springstein stressed, as important it was to advance the pupils and pupil stresses *slowly* to the equipment as only few functions, and these were worked on absolutely on the basis practical tasks. The pupils would have thereupon begun to write and in such a way hang as poster in the classroom own operating instructions up for ("Classpad" -) the devices that all learning could see them at any time, also during the examinations: the personal degree of the control of the technology may not be received into the mathematics note. Those Hamburg teacher would have underestimated the exercise expenditure accompanying with the introduction of the devices at the beginning: the computers required decided training at home. Thus the CAS computers were felt of the learning at the beginning of as arduously, but after a certain training period they were then experienced in instruction as exculpatory. They permitted a more flexible organization of instruction, so that the instruction could take themselves back more strongly. Also it came in such a way to more partner work with altogether freer work forms.

Problems would have arisen among other things as a result of the susceptibility to interference of the devices. It came again and again once to instrument failures, which in particular clarified the necessity with examinations to always reproach spare instruments and

loaded batteries. Is didactically not yet clarified, what must be still noted. With the introduction of the computers it besides to a clearly noticeable break with earlier ideas of instruction came - which placed particularly weaker pupils and pupils before problems. In order to awake-hold the term understanding and to eruiieren, Springstein recommended among other things to let mathematical essays write about: "which you understand by the derivative?" Further is to be specified, which talents would have be able to settle pupils still haendisch, and which it as to be noted would have (documentation, particularly importantly regarding the central Abitur). In this connection it is important that the tasks, apart from device-specific screen photos, were placed to a large extent independently of a certain computer technology. In addition should at the beginning of the introduction of the new devices be particularly avoided to strengthen the additional operating complexity with further complexity by new material areas.

Mr. Springstein gave still some examples of spielerisches accustoming to the new technology, as pupils and pupils already admitted marked pictures from mathematical, to them, to functions on their equipment "copies" had, which for them much fun had made and it besides independent occupation with the devices had inspired. Further examples of the application of the computers, for instance modelling material data, handling parameterized curve families and experimentally concerned tasks of extreme value decided the lecture.

## Groups of regional

Separately according to Schleswig-Holstein north and south the instructors groups of regional based. These gave themselves a first schedule. The group of regional of north, to which I belong, selected Mrs. [Susanne Malinowski](#) to the Regionalgruppen Koordinatorin and planned a rough temporal operational sequence until the autumn holidays forwards. Some the participating schools in the north of Schleswig-Holstein write in the 11. Class only one classroom test, other schools two. The schools with two work will make themselves to sketch and to the other schools than uebungsarbeit the order place a first computer-based examination. Already established [material](#) for such examinations and instruction units gives it already in the InterNet. After first (exercise)Klausur this group wants to again accumulate, in order to exchange themselves over experiences and to coordinate the further procedure. For the meantime was recommended to those schools, which must get along so far still without devices or also software, to align up to the availability of the technology instruction to the program Derive which is installed at most schleswig holsteinischen schools.

Beside a representative of the company *Texas Instruments* also a representative of the company *Casio* participated in the conferences of the groups of regional. It gave away also to those schools, which wanted to workwith *TI* devices, on the spot school licenses for *the Casio*software, which could be installed without reservation on all teacher computers and even on all pupil computers and also copied. This again brought *the TI*to representatives in course obligation, which thereupon of "a very good idea" spoke and placed spontaneously comparable licenses in prospect.

Finally small's groups of the group of regional of north discussed possible kleinschrittige possibilities for the entrance into instruction with the new CAS devices after holidays. Some groups, if possible several representation modes of the devices (diagram, tried tables, interactive defining of functions) on already well-known, simple, function types such as straight lines and parabola to use. Pupils could given designs "copy" practice and their partner then own constructions for reconstructing pass on. By practical examples, for instance the tabular given process of the temperature over one day, data input and representation could be trained, and the mechanism of auxiliary systems with pupils could carry for the demand after Binnendifferenzierung little Rechnung.

## Groups of technologies

In the afternoon introductions to the devices and the accompanying software stood on the program. I report here only on *the TI*group, there I the introduction to the "*Classpad*" - computer of *Casio* and *the MuPads*software of *sciface* did not go through. Those about 20 instructors were cared for by three coaches, a coworker of the IQ-SH, the representative of *Texas Instruments* and Mr. Springstein. We began with the computer program to *the TI nspire*, which was by hundred percent compatible according to *Texas Instruments* to pocket calculator functionality. However the version on the Handhelds runs not on Windows, but on from *of Texas Instruments* particularly again written operating system, so that all changes at the software must be programmed by *the TI* developers in the reason twice, on the PC and on the pocket calculator. *The IQ-SH* made sufficiently laptops available, on which the newest computer version 1.0.429 had been installed. It is characterized express as "Alpha" version, carries the number of sales sale (1.0.x) however already. After terminating the program it did not let start on my laptop again, so that the representative of *TI* put his own laptop to me at the disposal, on which the English-language version 1.0.429 was installed.

The basic principle of the software like also the computer is working on documents, which are called "problems" here. Different "applications" can be assigned to a problem. All variables and definitions, which are made in one of the four applications, apply system-spreading also in all other components. One of these components counts on numeric and symbolic expressions and represents thereby the actual computer algebra core, which reminds optically of *Derive* or far away of *Mathematica*. With it equations are and sets of equations to be solved to be able, functions define themselves etc.. Left the user of instructions and inquiries enters, right answers the program, among them a horizontal trennstrich appears, under which a new input can take place. From these inputs the program can store at the most 99 per "problem". For an experimental Herangehen at mathematics with errors, new attempts, turning back etc. is that clearly too few. A further component is a Excel resembling spread-sheet analysis. Data could be already entered, it are local and global field references to give, and the entire software apparatus for symbolic formula manipulation was also in this module for the order. In the used program version the columns could not however even be marked freely, the designations "A" and "B" about were not possible, one had - after any secret logic - designators as "xp" and "YP" to be selected. A third component served entering, announcements and working on functions, about " $f1(x) = 2 \cdot x$ ". Objects could be brought to the cut and to be produced so dynamic application of geometries. The last component made the draft up of simply structured text notes, for commentating the solution methods, for noting possible observations and the like. All these components could be assigned a "problem" even simultaneously, whereby the screen into maximally four smaller windows were divided, which were aligned according to given Anordnungs patterns. Size and position of these windows could not be changed.

We undertook different attempts with the program, for instance the solution of a set of equations with 2 equations and 2 unknown quantities *A* and *b* under guidance. Even with a so elementary application the program already revealed problems. First it solved the mini system perfectly, but after Hinzugabe of a further variable *C*, which did not emerge in the set of equations, it refused the service, and also after removing this variables it could never solve the initial problem more. It had completely again to be entered, was identical to the line over it, and could only after the complete re-entry again be solved. Pupils and pupils become probably uncertain

here whether and under which circumstances they can trust the results of the program at all. One of our responsible persons refused here persistent admitting an error of the software and assigned persistent me as a user the debt to it. Only, when a further colleague referred to the same discrepancy, he meant sudden, he had heard, this version has "a nose". Interestingly enough it was not the representative of *TI*, which denied the problem despite obvious proofs before eyes, but a coworker of the IQ-SH, which put a somewhat grantige and stubborn kind on this day to the day. *The nspire* Handheld permitted the input of of any size sets of equations in a mode, in another mode however only theoretically: indifferently, as many equations one entered, the equipment always reduced the dimension of the entered system to exactly 2 equations with 2 unknown quantities...

Already in the following 25 minutes we still encountered some further, technical, algorithmic and didactical problems. An interest on the part of the responsible persons to back-couple these lack *Texas Instruments* did not become recognizable. This attitude of the indifference lets suspect that such errors will hold themselves probably for a long time in the program. At all the software, both on the Handheld and on the computer, seems to have been provided under strong time pressure.

## TI amo?

In the application of diagrams once defined objects could be never renamed more. In order to make for instance from a "f1(x)" "g(x)", one had to delete and again put on the entire definition, and the graphs in addition. The x axis could be renamed arbitrarily, approximately in "z" or in "8". Although there was now no more x axis, the equipment drew further (only) for graphs to functions, which were defined with "x" as independent variable. Methodologisch can fly the teacher systematics in this way for the inscription of a coordinate system computer-aided around the ears. The sections in sections defined functions were suddenly interconnected by a perpendicularly running distance, although nobody had given such a connection in order. Individual points could be emphasized, but not marked logically. One could place if necessary text somewhere in or at the koordinatenkreuz, but if the point shifted, its label, about ", moved P" not also. Dynamic geometry functioned otherwise descriptive and liquid. In the algebra component old definitions could be called and paged through rapidly, but after one mouse-click into the definition for change disappeared to their announcement completely, and only after longer trying it became clear that one could arrive with certain cursor key movements into the definition and change then.

After the presentation of the PC programs (the Macintosh version announced by the advertisement is expected at the earliest for December 2006) we received the associated pocket calculators for approximately one hour also handed out. All of our responsible persons demonstrated and at the computer reconstructed examples were now under quite different Bedingungen to be converted. The monochrome screen of the Handhelds was not much smaller, it gave a mouse, instead the pointer arrow with individual palpation backs had be moved back and forth. It pulled itself first extremely toughly over the screen and became then suddenly rapidly faster, so that the precise movement became first a question of the patience and then one the Geschicklichkeit. The speed was firmly given in addition and could not be changed over. For starting a menu there was a special key with a wrench symbol. The menu option concerned had to be anvisiert again with the mouse control key and met, could alternative also numbers be tapped, in order to release a certain operation. In order to arrive from the menu back at the input for instance to a function, one had to back-maneuver the pointer arrow downward laboriously over the entire screen. In the application of diagrams some function types could be defined dynamically with a kind barrel movement again, others not at all, and even types, which were still changeable few minutes ago, could not be manipulated suddenly any longer. Another problem concerned the screen: it left itself to splitten, but it could happen that one out-shifted a coordinate system from the small window, released - and then again to seize or not see got. Only patient blind Umhertasten of the *TI* of representative saved a coordinate system freshly put on from the course into the eternal hunt reasons. Here clearly a function is missing for centering contents of a window within the visible range. The operation of the "hand", which was activated by a further key, became quite zickig. Times one scaled the units of the coordinate system with the hand shifted one unexpectedly the whole screen thereby again, times, times seized one a parabola and bent themselves her by right. Which mode of operation under which circumstances was released, remained somewhat unclear despite additional explanations.

Notes could be entered in the program module named "Notes". Differently than on mobile phones there are *nspire* 26 character keys as well as some keys on *the TI* surprisingly with special symbols like an approximate symbol, equals sign - and, a white flag at the stick. We assumed that the user thereby could signal to the equipment that it was ready now to give up. The small green character keys continue to protrude on filigranen staebchen from the equipment as the deeply let in payment and main function keys, which leads to it that one must insert and then zustossen the finger downward nearly perpendicularly into the tunnel between four character keys each, in order numbers to enter or frequently used functions such as sine to call cosine etc.. I scratched with my strong fingers again and again somewhat painfully at sharp edged plastic corners past, so that I did not want to use numbers after one while any longer gladly, only letters. The key block works - also coloured - unclearly and cannot not well be served. Which for a difference for instance to *the TI 66*, whose over 20 years old Design is felt of pupils today still as clear and even "cool". The keys wackelten in their plastic holes back and forth. On the other hand the devices on the back carried a note (over the let in, with a ball-point pen or a pointed article to operating software RESET button), which proved it as unsalable. The battery running time is obviously still so short that *the TI* representative before the demonstration had all *nspire* computers on a table to put and the batteries only partly use was allowed. Two batteries each of four per equipment rose up in such a way out of move-hurry out and before the actual demonstration firmly into the battery pits were only briefly pressed. *The Casio* representative, who received this in passing, commented much-saying: "oh, even already devices?"

A somewhat grundsatzlicheres problem concerns the conception of the file system *nspire*. All problems of etc. are put down as files. These are administered by their own file system, in which the user can put on also files. Pupils and pupils can in such a way create before an examination at will files - after information one the responsible person is even the creation of hidden files conceivable -, and there is no possibility for instructors of carrying approximately before the examination the devices back to the work condition or of deleting simply only everything, which in its opinion not in-heard. Thus would remain for the schools only to reproach either special sentences of examination devices to trust the pupils or everything delete manually, which them suspect appears.

If the instructor wants to overact files central on all pupil computers, it must fall back to the so-called "Connection Cradle", with which four devices each can be file-synchronized at one time. Is general for overacting from files - which by the way quite problem-free also with *Derive* be opened can - always a special link software necessarily, with which the file transfer is settled. *The nspire* by *USB/Mini USB* with *the Windows*-PC connected - and could itself practical-proves like a USB stick to actually announce and the file system for overacting to indicate. Thus the necessity for a special link software would be void, but that would be probably too simply meant... A view into the information window of *the nspire* computers showed that 7,9 MT were occupied by the system software and

the first self-written lines, and about 20 MT were still free for the user. Place for memory expansion maps was not recognizable. It is however a temperature sensor announced as hardware extension, in order to get a few genuine measured values into the computer.

The teachers of our school were dissatisfied after the demonstration contently with dynamic geometry (however in a program such as *DynaGeo* quite more simply and more transparently to carry out is), altogether however with the hooking leagues operation, the occasionally clear waiting periods in the case of graphic operations (then the pointer of a similar to clock icons turns for some seconds) and the errors. A colleague, who knows , appeared *the TI Voyage* disappointed and meant, *the Voyage* would let itself be served clearly better.

### **The end**

Without noticing the opportunity to in more detail and before an offered, discussion over training, the participants made themselves then on the way home. This reaction showed not only that the WM lured, but also that a intrinsische motivation hardly arose for the employment of the devices so far, rather an attitude of the kind: now, where the program for the introduction is decided thing, we must make the best for stop draus, but a joy is working with *the TI nspire* (still?) not really. It was emphasized also by coaches that the care expenditure was substantial already in this round - with mathematics-well-informed teachers, less than 30 participants and 3 coaches - and in instruction still more fastidiously and more arduously could fail.

*Michael Kuyumcu, 4 July 2006*