

*Í þessum spegli á heima Eitt og Alt
In this mirror dwells One and All -
Halldor Laxness, World Light*

October 1 2003

**Fjölbrautaskóli Snæfellinga
Strategic Brief**

*Snaefellsnes Upper Secondary School:
A Meeting Place to Learn
Challenging, Caring and Supportive*

Report prepared and developed by:

Susan Stuebing, Studio Utopo, sst@lrweb.nl

With contributions from:

Hafþór Guðjónsson PhD

Hermann Jóhannesson

Hrönn Pétursdóttir

Jóna Pálsdóttir

Karl Kristjánsson

Sigríður Finsen

Fjölbrautaskóli Snæfellinga

Snaefellsnes Upper Secondary School: **Acknowledgements And Participants**

This report is based on the input of numerous people who enthusiastically participated in three multi-day workshops held in May and June this year. We are grateful to their participation which made clear the goals of the community and allowed collaboration with educational experts from around Iceland to develop this school for Snaefellsnes. A special thanks also to the students who participated in June, who took their opportunity to contribute to making this school a place they would want to go to school; and encouraged the developers to make it a place where all students in Iceland would want to attend. To all those participants, many thanks!

Participants Workshops 1, 2 and 4

Alda Pálsdóttir	Parent, Stykkishólmur
Ásgeir Valdimarsson	Local Building Committee
Björg Ágústsdóttir	Steering Group and Local Prep. Ctte.
Eðvarð F. Vilhjálmsson	Parent, Grundarfjörður
Eyjólfur Guðmundsson	Secondary school principal
Eypór Benediktsson	Local Preparatory Committee
Garðar Gíslason	Secondary school teacher
Hafþór Guðjónsson PhD	Educational specialist
Hermann Jóhannesson	Steering Group
Hildur Margrét Ríkharðsdóttir	Student, distance learning
Hrönn Pétursdóttir	Project Manager
Jóna Pálsdóttir	Steering Group
Karl Kristjánsson	Steering Group
Sigríður Finsen	Interim Steering Committee
Svanborg Tryggvadóttir	Parent, Snæfellsbær
Sveinn Þór Elinbergsson	Local Preparatory Committee

Workshop 3 – Student Participants

Atli Þór Svandal	Félag framhaldsskólanema
Birna Karlsdóttir	Grunnsk. Grundarfj.
Bjarney V. Ingimundardóttir	Grunnsk. Hellissands
Daniel Ali Kazmi	Grunnsk. Stykkishólms
Erna Rut Kristjánsdóttir	Grunnsk. Stykkishólms
Gísli Sveinn Grétarsson	Grunnsk. Stykkishólms
Gísli Trausti Jóhannesson	Lýsuhólsskóli
Gísli Valur Arnarson	Grunnsk. Grundarfj.
Iðunn Hauksdóttir	Lýsuhólsskóli
Ísak Hilmarsson	Grunnsk. Stykkishólms
Kristjana Pétursdóttir	Grunnsk. Ólafsvíkur
Kristófer Jónasson	Grunnsk. Ólafsvíkur
Margrét Sif Sævarsdóttir	Grunnsk. Grundarfj.
Rakel M. Hansdóttir	Grunnsk. Hellissands
Sandra Sæbjörnsdóttir	Grunnsk. Ólafsvíkur
Tinna Björk Aradóttir	Grunnsk. Ólafsvíkur
Valgerður Hlín Kristmannsdóttir	Grunnsk. Ólafsvíkur

Table of Contents

TABLE OF CONTENTS	4
EXECUTIVE SUMMARY	6
I. VISION	6
II. KEY CHALLENGES	9
III. PHYSICAL DESIGN	10
IV. BUILDING PROGRAM	11
V. FUTURE STEPS AND CONSIDERATIONS	11
I OVERVIEW: STRATEGIC BRIEF, PROJECT AND THE PARTICIPANTS	13
A. THE PROJECT	13
B. STRATEGIC WORKSHOPS.....	14
C. DESCRIPTION OF KEY SUPPORT ORGANISATIONS	15
D. POTENTIAL PARTNERS	15
E. COMMUNICATION WITH COMMUNITY AND THE COUNTRY	16
II. THE NEED: A NEW RURAL UPPER SECONDARY SCHOOL	17
A. FROM THE MINISTRY PERSPECTIVE	17
B. FROM THE REGIONAL PERSPECTIVE.....	18
C. ENROLMENT PROJECTIONS.....	19
III. BACKGROUND ABOUT THE SNÆFELLSNES REGION	22
A. GENERAL DESCRIPTION	22
B. KEY ISSUES	23
C. ROLE OF REGION.....	23
IV. KEY RECOMMENDATIONS	24
A. EXPERTS, COMMUNITY MEMBERS AND MINISTRY RECOMMENDATIONS:	24
B. STUDENT RECOMMENDATIONS	27
V. THE LEARNING MISSION FOR THE PILOT SCHOOL	29
A. THE EDUCATIONAL APPROACH OF THE SCHOOL	29
B. NEW FOCUS ON LEARNING SKILLS AND NEW ROLE FOR TEACHERS	31
C. DISTRIBUTED LEARNING.....	32
D. RELATIONSHIP TO NATIONAL AGENDA.....	35
E. EXAMPLES FROM OTHER ICELANDIC SCHOOLS.....	35
VI. SCHOOL ORGANIZATION AND DESCRIPTION	36
A. SUPPORT FOR THE CHANGING ROLE OF THE TEACHER	36
B. SUPPORT FOR DISTRIBUTED AND OTHER ICT RELATED LEARNING	38
VII. PHYSICAL DESIGN REQUIREMENTS	40
A. SITE DESCRIPTION	40
B. PROJECTED BUDGET AND SIZE ALLOWANCE	41
C. PROJECTED ADDITIONS TO BUILDING	41
D. BUILDING DESIGN.....	42
E. BUILDING PROGRAM.....	44
VIII. COMMUNITY PARTICIPATION AND REQUIREMENTS	58

A. INVENTORY OF COMMUNITY RESOURCES TO SUPPORT SCHOOL.....	58
B. TRANSPORTATION	59
C. OTHER USES OF THE BUILDING	59
IX. PROJECT MANAGEMENT AND KEY NEXT STEPS	61
ADDENDUM 1: WHOLE STUDENT LIFE.....	63
A. SOCIAL, LEARNING AND CARING	63
B. LEARNING HOW-TO-LEARN	63
C. COLLATERAL LEARNING : THE WHOLE PERSON AND SELF-CREATION	64
ADDENDUM 2: DISTRIBUTED LEARNING AND INFORMATION TECHNOLOGY.....	66
A. DEFINITION FOR THIS SCHOOL.....	66
B. DIVERSITY OF ICT USE.....	66
C. TOOLS	67
ADDENDUM 3 - ADJACENCY DIAGRAM.....	68
ADDENDUM 4 - BUILDING PROGRAM, 1500 (M2).....	69
ADDENDUM 5 - OUTLINE BUILDING PROGRAM.....	70

Executive Summary

i. Vision

A Meeting Place for Learning in the Rural Community

The Snaefellsnes Upper Secondary School will offer a diverse choice of studies in a small rural school environment with the potential of national and global learning resources. Individual learning needs will be met using teaching methods associated with social constructivism and distributed learning, with a strong emphasis on using information and communication technology (ICT) (as described in this report). Within the vision for the school there is a primary goal to create a new learning environment which meets the learning needs of all students in the region. This report describes this vision, the learning agenda for the School and the building program as developed through a collaboration of key stakeholders.

The school is to be a ‘meeting place to learn’ for this rural community and will help to build the community and reduce isolation. First, a meeting place for students from four parts of the Snaefellsnes region to learn, and to learn about each other. The school will be “a mirror” for students to understand themselves and their environment. It will also be a place for students to meet with a new approach to learning, in which they will be challenged. It will be a meeting place for students and teachers to learn to develop new knowledge, the key competency for learning and working in the 21st century. It will be a meeting place for learners from the community of all ages and types. It will support learning activities in the school day as well as in the evening.

The key stakeholders anticipate that the school will be a meeting place for students throughout Iceland enrolled in distributed learning classes. As a distinctly new type of learning environment, the school has been anticipated to be a meeting place for teachers throughout Iceland and educational researchers.

The “meeting place for learning” will be an important catalyst for community growth and industry. In other words, the main objective of the school is to provide a curriculum to traditional students (matriculation and vocational) and returning students wishing to complete studies. As well, the existence of the school should stimulate learning throughout the region both for skill development, personal knowledge expansion as well as social development.

The success of this model to sustain the rural community will be important for Iceland. Economic and environmental conditions, new possibilities with the use of information technology are changing the value set and opportunities for the Snaefellsnes region. Skills required for employment demand

retraining and continuous learning (such as within the fishing industry). The region hopes to compete for new industries to locate within the region (and existing ones to succeed). In these ways, the school will be critical to the effort to continue to maintain the rural community and to improve quality of life.

Rural students sent to an alternative community to complete their upper secondary studies find that they often feel more isolated in an unfamiliar environment and challenged by independent living which they may not yet be prepared to experience. National research shows that performance in primary school is an important indicator of success in upper secondary school, regardless of location.¹ In other words, regardless of the isolation and other possibly detrimental aspects of studying away from home (or positive experiences), it is most likely that students who performed well in primary school, will perform well in secondary school (at home or other). Conversely, students that performed marginally or are considered “at risk” of failure in primary school are predicted to parallel this performance in upper secondary school. Special emphasis and possibly a vertical strategy may be needed to improve student performance.

Furthermore, the national drop-out rate in upper secondary school indicates that there is opportunity for improvement.² With this focus in mind, the Snaefellsnes Upper Secondary School will put the learner in the center offering a challenging, caring and supportive environment.

New Building, New Design

The focus of this report is the programmatic requirements for the physical environment, which due to the construction schedule needs to be addressed first (scheduled opening for the school is September 2004). The building program described in this report has been approved by the steering committee and the local organizing committee.

The new building for this new upper secondary school will be designed to create a supportive and flexible physical learning environment. The teaching methodology foreseen and the building program and responding architectural design that support that methodology will focus on the needs of the individual student in a distributed learning approach. The school building program has been designed for 170 students based on full enrollment in the year 2008. The program is based on best practice examples from global references. This building program (1500 m²) is the result of the input of four strategic workshops held with the community, students and experts over the spring and summer of this year (2003).

Distributed Learning

The school will engage nontraditional models for learning and delivery to develop a diverse curriculum to meet the choices and needs of traditional students (16-20 years of age), and returning adult students (that have not previously completed their studies at this level). A distributed approach (see Section V. *The Learning Mission for the Pilot School*) affords support for individual learning. Each student will be responsible for their own unique learning agenda.

¹ See Research on Upper Secondary Drop out rate: Kristjana Stella Blöndal og Jón Torfi Jónasson. (2002). *Brottfall úr námi. Afstaða til skóla, félagslegir og sálfræðilegir þættir*. Reykjavík: Félagsvísindastofnun.) <http://felags.hi.is/page/jtj>

² As there is currently no Upper Secondary School in the Snaefellsnes region, drop out rate for this region would reflect performance of students attending school outside of the region.

This model for a small rural school will be further developed in the year ahead. The school will offer a full curriculum for upper secondary students in the matriculation and selected vocational streams.³ The school's curriculum will follow the national curricula. Based on a distributed learning model, students will be offered access to both on location courses and electronic or other "distance" courses. Overall the school curriculum goal will be to address the diverse needs of the students, and reflect the ongoing needs of the community. In addition to diverse course offerings, the school curriculum will emphasize qualities which are deemed to be important for preparation for the future. For example, these qualities may include entrepreneurship, creativity and organizational skills.

In addition, course offerings will not be limited to selected streams, supporting the goal to provide rich diversity of learning opportunities. It is instead anticipated that students who wish to undertake streams other than those fully offered through the school, can attain some of their core studies at the school even if they need to complete their studies somewhere else. In summary, the school will be responsive to student demand for diverse offerings (track and course). It will make use of the range of choices made possible through the available and attracted teaching staff, and the possibilities found through distributed (electronic) and other distance delivery from other schools.

Preparation for the school's curriculum will be undertaken by a team of experts following the completion of this report (2003-2004). The track offerings (particularly vocational) should meet the needs of the area, both for existing industry and to support new job opportunities as well as to prepare for further studies.

Learning and Teaching

The school will offer the structure to continue to develop new ideas about learning and teaching. (see sections V and VI). The school is intended to be an environment of continuous growth and change: for the students, for the teachers, for the community and for the economy. The school is rooted in the Snæfellsnes community and will seek ways to support the needs of the community while engaging with a national and global dialogue on new requirements for learning in rural settings.

The school agenda will focus on developing and applying new ways of learning particularly emphasizing the individual. Teaching and learning methods will emphasize independent learning styles, individual study, group work and hands on project work in accordance to social constructivism. New approaches to learning will have an ongoing influence on the activities and environment of the school. The vision for the school includes greatly expanded use of independent learning, information technology and distributed learning. Returning adult upper secondary students will be integrated into the regular programs and curriculum (matriculation or vocational). The school could also serve as a learning place for employees and employers for professional and industry skills development (on lease arrangement).

The school day will be different for students, teachers and others in the community in several ways. Supporting independent study and distributed learning may require a different schedule from the traditional lecture method. As well, the distribution of students over the region requiring commutes to school, contributes to the need for an alternative approach to the daily schedule. The school is recommended to have a "full learning day" or "full working day" program, for example a "9-to-5" program. Students may have an option of attending only 3 or 4 days a week on site. This option may

³ Stream and course offerings to be determined.

be particularly important when weather conditions or other situations arise which hinder the students from traveling to the school building.

The traditional teaching model in which the student is a recipient of knowledge will be replaced with a model where by the student is an active participant in finding their own ways to develop knowledge, work with that knowledge and share it. Students will be involved in self-development and learning management. Teachers will be involved in the development of new approaches to teaching, integrating and supporting the opportunities of distributed learning (see Section VI on Distributed Learning). Together there will be more emphasis on discussion, reflection, presentation of group and individual work. Guest teachers, students and visitors will be an anticipated and integrated part of the school day, week and year.

Critical to the success of this new school, a program of activities to support the rural teacher will be developed. Every talented teacher today has a choice of teaching environments and communities in which they will want to work. The physical work environment as described in this building program will offer the teacher a collaborative and enhanced work environment (See Section VII for recommendations to support teachers).

Sports, Leadership and Learning

The integrated concept of collateral learning or “learning as a whole being” is introduced in this report. Physical education is important for young adults feeling of well being, both mental and physical and is also an important learning opportunity. As well, both team and individual sports are important for the development of leadership and cooperation skills. The students put increased sport activities as a top priority (along with social environment). Our challenge is to identify and differentiate between the sports opportunities the school offers and those that are offered by the local sports associations. The opportunities in the region to join sport activities are good and are growing. The community members are enthusiastic that the ability of students to remain in the region will allow these sports activities to grow more. The school is to be built with modest aerobics and workout (weightlifting) rooms which the students can use as a part of physical education or for social activities. Students will be transported to local sports facilities for other sports classes and activities when needed.

ii. Key Challenges

The vision for the school is based on input from four participatory strategic workshops in Spring and Summer 2003. These workshops included a student workshop with 16 student participants from the five elementary schools in the region; and the three workshops were representatives of diverse interests in the school. The participation of these workshops included members from the community (parents, educators and members of the preparation committee for the school); educational experts (educators and university professors), the steering committee for the school including representatives from three divisions of the Ministry of Education (ICT, Education and Housing). As a starting point the community/ministry workshops identified four challenges and their vision to achieve these challenges. (See also Section IV. Key Recommendations)

Challenge 1: The overall challenge is for the region of several communities to work together and build a united region. The school is an opportunity to overcome historic difficulties to work together and to unite behind the need for the school.

Challenge 2: The second challenge is to communicate and market a successful vision to the region, both parents and students for the school. To meet this challenge the participants envision the design of the school to reflect the qualities of the region, and particularly to emphasise the qualities of the individual to think, to work and to create.

Challenge 3: The third challenge is to create a social environment within the school with the vision of emphasizing the joy of learning.

Challenge 4: The last challenge for the group was to “think out of the box”, to be creative, and to explore the possibilities. The vision is to offer diversity, choice and to support creativity within the school.

iii. Physical Design

A key outcome of the strategic workshops is consensus with regard to the building program for the new school. The region and the Ministry have embraced an extremely demanding schedule for the development of the school. To prepare the school program, design and construct the new school by the opening of the school year 2004 is also a challenge. While many unknowns and variables exist in the development of the school program, due to the accelerated construction schedule, a flexible building program is required. The construction schedule is such that a design-build process must be undertaken by the architect. With this in mind, the development of the physical design requirements (building program) has demanded collaboration and focus of the workshop participants and others supporting this process.

A “meeting place to learn” and a “mirror” for students to view themselves and the world are two concepts that result from the Strategic Workshops. The theme “a meeting place for learning” will be visible in the physical design of the school as a welcoming and caring environment that supports quality education, encouragement for learning and a range of social activities. The “mirror” may be a symbolic detail which is evident in the school to be adopted by its users. This mission will be to create a transparent, welcoming place which will invite participation from those outside the school and will be evident upon entering the building. The external design (façade) of the school will be both sensitive to the surroundings while reinforcing the image of a new type of learning environment.

The interior of the school is to be designed as an exposed platform for working and learning. Change will be anticipated in the architectural design by allowing for future additions to the building and potential room infill or dismantling spaces (structural design). Supports for learning such as pinup space, marker boards, video presentation areas, group work areas, scaffolding for variety of uses will be evident and available. Movable landscape furnishings and movable high quality acoustical walls will allow for continuous growth, change and alteration. The places “between” traditional learning settings will be important to support social interaction. Special design attention will be given to infill furnishings, movable kiosks and other partitions which frame learning environments and social environments.

The physical and programmatic organization of the school should encourage and inspire the creative development of the student in every class and activity. In general, the school is a platform for expression and offers time, space and importance to the ongoing learning activity. For example, rather than a fixed class schedule, the school will offer students more time for learning activities based on individual needs, and more time for discussion, exchange and listening to one another. The physical design must fluidly support these activities. The design of the places within the building should offer a secure and safe environment for students to express themselves and explore new ideas.

Included is the need for creating a range of types of learning spaces and a diversity of choice for different types of learners. A place for reflection as well as interaction was recommended in the workshops. Giving importance to each individual learner means creating an environment which supports communication and displays the work of students to one another, and provides the environmental (acoustic, lighting and ventilation) requirements for diverse and ICT enhanced activities (includes consideration for power and network access throughout the building).

iv. Building Program

The building program is 1500 square meters and is described in this document (see Section VII and the Addendum). The school is organized in four zones: the Open Learning Zone, the Information Center, the Contemplative Arts area (see description in following text) and the Teacher as Learner Zone.

The concept for the school is that all students will have their own laptop computers which will be their mobile “desk” with a diversity of types of spaces where students can work and learn together or individually. The center of the school is the Open Learning Zone. This open learning zone provides work places for 60 students and study places for an additional 20. There are no traditional classrooms in this school as the educational program will emphasize individual learning and distributed learning opportunities which can take place anywhere in the building. Five discussion rooms are provided for student learning and several small group work and counseling rooms. Two of the five discussion rooms can be combined to form one classroom which could be used for Science and other project based studies.

The information zone offers the students and teachers special help for research purposes, training in research skills, access to print media and an alternative quieter work environment for students (as compared to Open Learning area). The Internet Café is a social area and an extension of the Information Zone. Here, students and others can work in a more relaxed and social atmosphere. This zone may also be used in the evening and throughout the day for life-long learning activities.

The Contemplative Arts Zone is a student centered learning area focusing on the use of multimedia, digital recording and other conceptual work. The Student Union and “Retreat” area for students to rest and read is included in this zone.

The Teacher-as-Learner Zone emphasizes the changing role of the teacher to a coach. This zone is intended to be an area where teachers are learning from each other in an open way and collaborating while planning and preparing their courses. The management area of this zone has three important functions: (1) support to teacher development and delivery; and (2) greeting and orienting visitors of all sorts (parents, community members, university researchers and other professional visitors) and (3) administrative work.

In addition to the four zones for learning, the school will include a modest multipurpose room for dining (for 85 students) and social activities for the students (as well as studying, possibly some instruction or lectures, and large group presentations). A small sports hall is also provided as a workout, floor exercise and aerobics (and other) classes. The sports hall is planned for use by 20 students allowing for classes to be offered in this facility, with use of other regional facilities for competitive sports, swimming and other activities.

v. Future Steps and Considerations

The development of the concept for the school and the building program has been a collaborative effort by many people. This foundation is a starting place for the development of the school. During the next year, much work needs to be done to further develop the concept and to create the reality of the school. Specifically related to the physical environment there are several concerns to be considered. First, when the school is successful in the first two years, it is predictable that the school will require a building addition in Year 4 (completed) to meet the projected enrollment requirements. The next few years give opportunity to examine the school program and its functions and to determine the appropriate uses of the future addition. Nevertheless, it is important to prepare the site in such a way that an addition will be possible.

There are five areas of future work which are important to the development of the physical building which need to be undertaken in the months ahead. These include:

- (1) Architectural Design and Construction,
- (2) Further Development of the School Program (check with building program),
- (3) ICT Plan and Implementation Strategy (equipment, network, electrical support integrate with building plan)
- (4) Develop Community Support (secure relationship and agreements on facilities to be used to supplement school such as sports facilities, swimming pools and possibly study centers), and
- (5) Transportation Plan.

This document outlines the general requirements for the building program. Given the size of the school and the very short time frame for design, this approach is reasonable. However, as a prototype and pilot school, a close working relationship between the client and the architect during schematic design and design development is important to insure that the details of the building (such as furniture selection, lighting etc.) develop the intention of the building program as intended, and that those small, yet important concerns such as appropriate storage are not overlooked. The program for this school describes a new type of school and therefore, cannot be critiqued on traditional standards but rather should be assessed for agreement with this shared vision and usefulness as a prototype.

Fjölbrautaskóli Snæfellinga

Snaefellsnes Upper Secondary School

A Meeting Place to Learn

Challenging, Caring and Supportive

October 1, 2003

I Overview: Strategic Brief, Project and the Participants

A. The Project

The enthusiasm of the community of the Snaefellsnes Region and the Ministry of Science, Education and Culture, has created a new type of upper secondary school. This school for a rural community is to make full use of distributed learning and will incorporate new thinking about teaching and learning. To develop the concept and building program for Fjölbrautaskóli Snæfellinga, the Snaefellsnes Region's Upper Secondary School, a collaborative effort was undertaken involving key stakeholders working together over several months. Developing consensus between diverse key stakeholders for the school has been an ongoing process which has strengthened the vision while communicating and listening to a range of ideas for the school. Key stakeholders for the school include the owners of the school (the ministry and the region), the parents, educators, other community members and the students. In addition to these stakeholders, we requested the assistance of experts from throughout Iceland to assist in this process, these expert participants included a university professor specialized in teacher training; a principle for a similar school and a teacher who is experienced in distributed learning.

The school concept and building program have been developed through design workshops; individual interviews with experts and community members; and meetings with the steering committee for the project. In addition to these methods a parallel telephone survey was conducted in the region in May and June 2003.

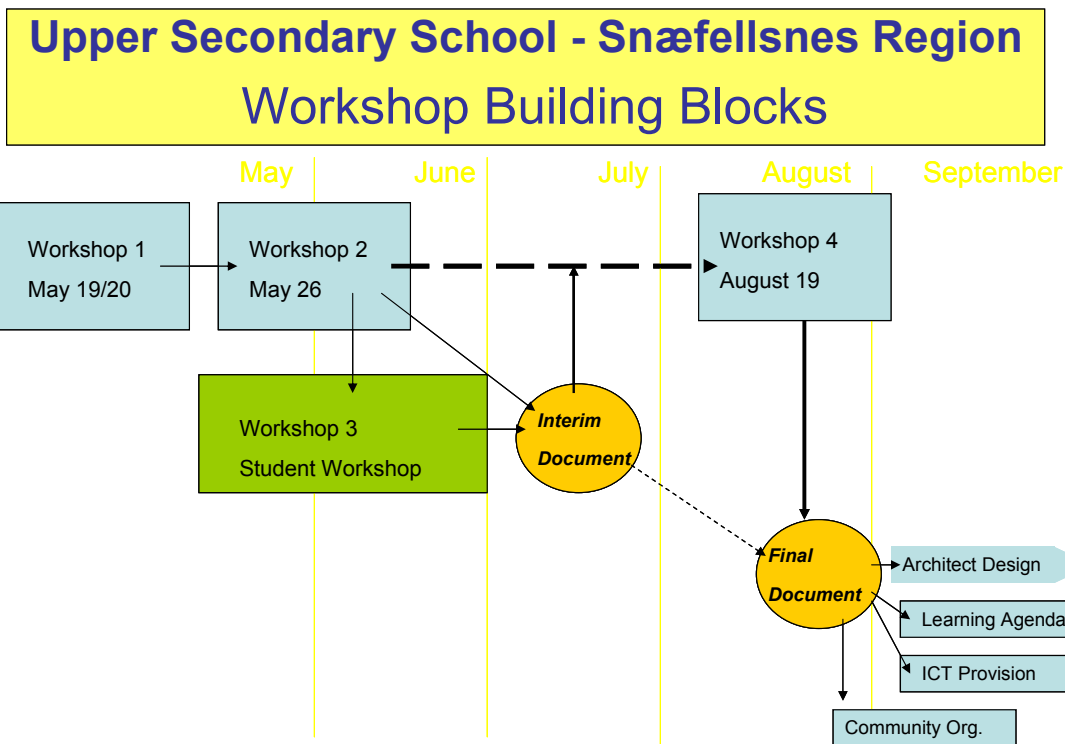


Diagram: Strategic Briefing Process

B. Strategic Workshops

The project plan was to gather input in the Spring (2003); and to develop a draft report including a draft building program in July and August. Four strategic workshops were organized to gather input to develop the ideas for the school. These workshops were held on May 19 and 20; May 26 and 27; June 13 and August 19. These were intensive two and one day workshops in which the participants listened to one another and worked diligently to develop a shared view for developing a new school. In particular messages like “think outside of the box” and the themes for the school, “caring” and “putting the learner in the centre” were repeated many times throughout these workshops. The final workshop on August 19 resulted in a recommended building program to the Ministry and the Local Building Committee.

The participants confirmed that the workshops had helped to develop the concept for the school. We reviewed the primary goals and vision for the school; and explored the meaning of learning and the types of activities which support the learning process. Particularly the students commented that the workshop stimulated their interest in the school and their desire to “make this school the best school in Iceland”.

The workshop participants worked in groups on several focus areas between workshops and made presentations on their findings. Reports were made on key requirements for (1) distributed learning; (2) supporting individual learning; (3) developing a social environment and (4) developing flexibility. Expert references were introduced in these presentations

supporting the ideas of the participants. In addition, the workshop group discussed the learning cycle, and its meaning for the school (Nonaka).

The participants in the design workshops also worked to create their own programmatic organization and design for the school building. While preliminary, these designs had many similar features including a central meeting and social area to start the day; a diversity of different types of learning spaces with different offerings; an information area of some kind; use of offsite learning opportunities and places; and a place for students to “retreat” or “reflect” in the day⁴. Common to most schools, these schemes also included a gym and a cafeteria or dining room for the students. In all the workshops, participants confirmed that the school should support a mix of learners, integrated and learning together (adults learners and traditional students; full time and part time studies).

C. Description of key support organisations

Key supporters actively participated in this effort including experts and local interest groups. Representatives of three departments took part on behalf of the Ministry of Education, Science and Culture (the departments of education, finance and ICT development). The local municipalities were involved through the participation of the Preparatory Committee, which includes representatives from the three supporting municipalities and the chair of the local building committee. Furthermore, at least one parent from each of the three municipalities participated in the workshop. Experts’ advice was additionally received through the participation of a teacher experienced in the use of distributed learning in upper secondary schools, an upper secondary school principal whose operation is in a similar environment to that of the Fjölbrautaskóli Snæfellinga, a student experienced in distance learning and a Professor specialized in pedagogy.

The input, experiences and perspectives of this diverse group of key stakeholders and experts was extremely valuable to this process.

D. Potential Partners

Supporting the school’s success, several partners are anticipated to work with the School. By establishing co-operation with research institutes and employers in the area, the School plans to extend its facilities (such as sports and swimming facilities, research facilities, workshops) and its operation (possibly employee related training in co-operation with the regional Life Long Centre).

⁴ The functions are described in detail in the building program included in this report. The function to “Reflect”, retreat and rest was initiated by parents, students and experts. They cited the long day proposed in school for many of the students (9 am to 5 pm). Including transportation to and from school (which can be up to an hour), the participants asked that there would be a place where students could retreat from the busy social and stimulating environment proposed in this school.

The regional Life Long Learning Centre, which is responsible for adult education, retraining and university level education, is likely to use the facilities of Fjölbrautaskóli Snæfellinga in its work in the region.

Due to the nature of the school, other upper secondary schools throughout Iceland and research universities in pedagogy (both domestic and abroad) may be invited to be partners in research efforts and to benefit from the experiences of this unique rural school.

Anticipating visitations from other educators representing the interest of their institutions, the school building program has been developed to support visitors with minimal disturbance to the daily school activities.

Relationship with other schools

Co-operation agreements will be made with schools and independent teachers to teach distance education courses. Other schools may also contract Fjölbrautaskóli Snæfellinga to teach their students.

Through distributed learning it is possible to offer a more diverse study programme. An educational curriculum for 170 students would be extremely limited under traditional educational conditions. Such a student number would normally only allow 2-3 tracks to be taught, if the school is to meet financial requirements. Making use of distributed learning, flexible scheduling and individual learning, it is foreseeable that the student can be taught certain basic subjects at the school. These are subjects that most upper secondary school students are required to take irregardless of the programme in which they are registered. Remaining courses to fulfill the curricula requirements for certain tracks can then be distance taught. This way a larger number of tracks can be fully taught at the school, but in addition a student can basically study in full or in part any track in which he is interested, as long as the teaching resources can be found somewhere.

Field trips and exchange visits can be expected between two or more schools, as a part of the students course work. Also, joint social events between two or more student associations can be expected.

E. Communication with community and the country

Parallel to the project described in this report, to develop the goals for the school and the building program, several communication activities were ongoing. Open information meetings were held in the three local communities as well as in the five elementary schools in the area. Articles and interviews were published in both local and national newspapers and a website on the progress of the School's development was put online.

Numerous individuals experienced in operating or participating in distributed learning and the running of small upper secondary schools were interviewed. Furthermore, a study was done among three target groups in the region: prospective students, adults aged 18-65 and the largest employers.

The purpose of the communication was to inform and interest people in the school and the work in process, as well as to get advice, suggestions, experiences and opinions. These

interviews have helped to accelerate the effort and make it more likely to succeed and ensure informed decision making.

II. The Need: A New Rural Upper Secondary School

A. From the Ministry Perspective

On the northern part of the Snæfellsnes peninsula live around 4.000 people, a majority thereof in three municipalities, Stykkishólmur, Grundarfjörður and Snæfellsbær. A independent upper secondary school has never been operated in the area. Instead the local municipalities have been partners in the upper secondary school in Akranes, Fjölbrautaskóli Vesturlands, which is located about 200 km away. Students from the region have been able to attend that school, with an access to a dormitory. At the same time Fjölbrautaskóli Vesturlands, in co-operation with the local elementary schools, has offered students in Stykkishólmur and Snæfellsbær to attend the first year at home (when there is an adequate numbers of students enrolled). In addition, long distance learning from Verkmenntaskóli Akureyrar, in the north of Iceland, has been possible for upper secondary school students in Grundarfjörður in the last few years.

The Upper Secondary School in the Snaefellsnes region will put into action a distributed learning approach. Information and communications technology (ICT) offers diverse opportunities in education.⁵ It opens previously unknown avenues of study and teaching, opens schools to the rest of the world and provides new possibilities in communications. Computer technology and the Internet have changed education over a brief period, along with the ways of work and people's lives - and will shape the school system still more in the future.

Studies will be less and less bound to a certain time and place inside designated school buildings. The Internet now plays an ever-greater role in the dissemination knowledge and builds new bridges between students and teachers. Concomitant with this trend, it is necessary to formulate a new framework for use of the Internet in schooling to strengthen access to appropriate content, open new paths of communications and train students for participation in the knowledge society. This vision entails that traditional teaching practices develop into what may be called distributed education, with students engaging in studies in distributed education schools.

⁵ This section is taken from Distributed Learning in Nordic Countries and Canada, a working paper presented for the ICT League meeting 3-5 June 2003. Arnor Guðmundsson from the Icelandic Ministry of Education, Science and Culture and Asrun Matthíasdóttir from Reykjavik University.

A distributed education school is an institution that does not necessarily require traditional buildings; it does not have a fixed schedule of classes, and teachers and students are not always in the same place at the same time. In these schools, the student is the centre, pursuing learning in various ways and from different directions. In a distributed education school, a distinction is not made between local teaching and distance education. Rather these ways of teaching are intertwined in distributed teaching, where equal use is made of traditional teaching and knowledge imparted using the Internet. A student can thus engage in distributed learning in one or many schools at a time, be enrolled in local studies and distance studies or a mixture of these two. A student can pursue a big part of his studies in a local school getting either locally based teaching or distance teaching for parts of his studies. Other parts of the student's studies can be pursued outside the local school through distance education from other schools.

It can be assumed that in those circumstances schools will specialize, offering courses to students throughout Iceland. A market can thus develop for courses in different fields where schools share courses and students find suitable courses.

In accordance with policy, a distributed learning pilot project was undertaken in Grundarfjörður. Distributed education equalizes students' possibilities for studies and better utilizes teachers' expertise, regardless of where they live or other social facilities. For example, students living in rural areas can obtain distributed learning tailored to their needs without relocating. Teachers can engage in their work from a distance regardless of where they live. These advantages of distributed education are not limited to offerings only in Iceland; but opportunities for teaching and learning with other countries become also available.

In co-operation with the local municipalities, the Ministry agreed to continue the Grundarfjörður project on a larger and more permanent scale by establishing Fjölbrautaskóli Snæfellinga.

B. From the Regional Perspective

Providing quality educational opportunities in the Snæfellsnes Region is one of the most important issues in strengthening the region, as well as being a basic element in meeting the demands of the 21st century.

For decades young people have left their homes and the region at the age of 16 in order to attend upper secondary school, many never returning to be active adult members of the community. Supporting a child to attend a school in another region is a financial burden for the families and in many cases has meant that the whole family relocates or that the young people drop out of school.

The trend in the last decade has been that low skilled employment opportunities are decreasing, being replaced by high skilled opportunities. This means that a higher education level is required, in general, in all employment sectors. At the same time regions, such as Snæfellsnes, which are largely dependent on the fishing industry, have a below average educational level. Experience has shown that a higher proportion of people attend upper secondary school where a school is located close to home. Also, it is likely that an upper

secondary school will affect the supply and demand for life long learning opportunities, which are a necessity in today's employment market. In addition, an upper secondary school directly creates jobs for university educated people, which have limited employment opportunities in the area.

Furthermore, a few years ago the legal status of adult was changed from 16 years of age to 18 years. This means that the parents or custodians have a legal responsibility for the young person and his or her actions until the age of 18, something which is difficult to have a responsibility for when the young person is without supervision in another area of the country.

Finally, a good upper secondary school is a part of the image of a region and a factor when people are deciding where to live. Additionally, research has shown that the inhabitants themselves feel more positive towards their region if a school is located there. In summary, an upper secondary school in the region is both a social and financial gain, and overall important to the future sustainability of the region.

C. Enrolment Projections

Enrolment projections are an essential basis for developing the school and learning organisation, deciding the educational offer and designing a suitably sized building. Once in full operation, the student enrolment is projected to be 170 students. The following table displays this projection by study year (level of study). The average number of people in the region born each year, during 1984 to 1999 is 68.

	% of a full birth year of people	Number of students
1 year	80%	54
2 year	50%	34
3 year	45%	31
4 year	40%	27
Adults	35%	24
Total		170

Table 1: Enrolment Projections

The participation of adults (older than 18) who are currently not enrolled in an upper secondary school is an uncertain factor. However, there is clear interest based on results of a telephone survey. The projection of 24 adults learning full time, can be considered a low estimate based on the survey data.

Enrolment figures for the first four years of the schools operations can be estimated as follows:

Year	1 year	2 year	3 year	4 year	Total
------	--------	--------	--------	--------	-------

2004	60	20			80
2005	60	40	18		118
2006	60	40	37	18	155
2007	60	40	37	33	170

Table 2: Enrolment Projections per Year

In the year 2004 a full group (80% or 54 individuals) graduating from elementary school is expected to enrol as first year students. However, only 37% of those students who graduated a year earlier from elementary school will enrol as second year students. Included in the first year figures are also six adult students. The figures from 2004 then carry into the subsequent years. It is estimated that in 2007 the school will have reached full enrolment.

In estimating the enrolment numbers the following has been taken into account:

- the responses to two surveys that were conducted in the region, both to prospective students in the school and the adult population;
- the effects a different learning environment may have on drop-out rates, (positive effect anticipated);
- the increased importance of education for the employment sector and the changed attitude of society towards education;
- the possible shortening of the matriculation studies by one year;
- the effects of an effective marketing campaign within the region;
- the decrease in population in the region within this time-period, both in birth rate and through relocation from the region;
- and the connection between the national standard tests for 10th grade, and enrolment and results in upper secondary schools. Most of the elementary schools in the region show an average score below the national average in all test areas.

Lifelong learning

A survey conducted in the Snæfellsnes region in June 2003, with 415 respondents aged 18-65, showed that the working adults in the region have a real interest in lifelong learning.

- 49% indicated they were rather or very interested in attending a full or part time study at an upper secondary school level if on offer in the region, thereof 73% of respondents in the 18-29 age group stated this and 48% of those in the age group 30-49.
- 22% were interested in doing a full graduation programme at upper secondary school level if such was on offer in the region
- 14% would like to study full time
- 13% would like to study in day school
- 41% would like to attend occasional work related seminars
- 56% would like to study along with working
- 51% said that access to education and seminars in the region are rather or very bad, an additional 20% said neither nor
- Out of 347 respondents who had an interest in upper secondary school level education, 13% were interested in natural sciences, 12% in business education, 12% in legalised trades, 10% in language learning, 9% in computer science and 8% in social studies
- 47% expressed an interest in attending university level education through distance learning in the future.

There are two assumptions that can be drawn from the data which relate to: (1) the role of the upper secondary school in relation to continued education and retraining for those already on the employment market, and (2) the potential student group in the upper secondary school studies.

The regional lifelong learning centers are responsible for continued education and training. However, in many instances upper secondary schools provide the centers with teaching facilities, and in some cases increased access to teaching staff. In these cases, the centers rent teaching facilities from the schools, and contract the teachers directly, the existence of the school makes both possible. Given the results of the survey, it can be expected that Fjölbrautaskóli Snæfellinga will play the same role as many other schools.

The upper secondary schools are however responsible for upper secondary level education, what ever the age of the students. Given the response above, it appears that a relatively large number of older students can be expected to attend the school (taking into consideration that there is a difference between expressed interest and actual attendance). If so, this has implications for the operation of the school, its organisation, teaching and management.

III. Background about The Snæfellsnes Region



Map of the Snæfellsnes Region

A. General Description

The Snæfellsnes region extends from Hítará in the south to Gljúfurá in the north, covering a total area of 2.190 km². There are 6 local authorities in the region. A mountain ridge, culminating in the Snæfellsjökull glacier, separates the northern part from the southern part, with two main roads connecting the two sides, Vatnaleið and Fróðárheiði. The four local communities on the north side of the Snæfellsnes peninsula have joined hands in getting a secondary school established in the region.

Snæfellsbær is the largest municipality (672km²) and covers the western part of the peninsula from Búlandshöfði in the north to Lágafell in the south. In Snæfellsbær are the town of Ólafsvík, the villages of Rif and Hellissandur and clusters at Arnarstapi and Hellnar

Grundarfjarðarbær (150km²) is from Búlandshöfði in the west to Hraunsfjörður in the east, with the town of Grundarfjörður in the center. And lastly Helgafellssveit and Stykkishólmur (246km²).

Also in the southern part of the region are Eyja og Miklaholtshreppur (424km²) and Kolbeinsstaðahreppur (372km²), both sparsely populated farming communities.

The population divides as follows: Stykkishólmur 1228 inhabitants, Helgafellssveit 56 inhabitants, Grundarfjarðarbær 964 inhabitants and Snæfellsbær with 1780 inhabitants

(1042 in Ólafsvík, 150 in Rif and 414 in Hellissandur), as well as a few others in the rural area on the south side of the peninsula.

The population has remained fairly stable in the last few decades, and increased by 5% between the years 1971 and 1999. The population has however decreased in the rural areas and increased in the villages during that same period.

The main economic activity is fishing and fish processing, occupying 40-45% of the workforce which is much higher rate than the national average, which is around 11%. In the last few years there has been a steady increase in the service sector. Tourism is growing and other services aimed at the local inhabitants. Traditional agriculture has diminished significantly.

The percentage of the economically active part of the population is higher than the national average and also higher than elsewhere in the countryside, more than 80% of the population 15-74 years of age is economically active.

B. Key issues

The region has traditionally been very dependant on fish and fish processing. The region has seen an increase in the service sector and in job opportunities for people with higher education. More effort is though needed to diversify the economic base still further.

The local politicians have concentrated their efforts on securing funds for better infrastructure, especially the road system which has improved significantly in the last decade, shortening the road distance to Reykjavik and between the towns on the north of the peninsula. With the Kolgrafarfjörður bridge due to open for traffic in the autumn of 2004 the towns of the north will be connected with good roads. A few large projects remain however and a number of smaller ones.

In the year 2000 the local authorities at Snæfellsnes set up joint social services and child welfare unit at Hellissandur, increasing and strengthening the service to the inhabitants.

One of the recent key issues is the development of the secondary school, bringing more education to the area, serving the younger population and also enabling adults to expand their knowledge and skills.

C. Role of Region

The Snæfellsnes peninsula has a significant role to play in the regional development of Iceland. With its relatively short distance from Reykjavik and rich and diverse nature, the

area has an enormous potential in terms of tourism, in addition to the rich fishing grounds off the coast. With the establishment of the secondary school the foundations of the region are strengthened even further, enabling the region to fulfill its potential.

IV. Key Recommendations



Photos from Workshop 1

A. Experts, Community members and Ministry Recommendations:

The vision for the school is based on input from four workshops held in May through August 2003. One of the workshops was a student workshop with 16 students from the five elementary schools in the region; and the other three workshops were representatives of diverse interests in the school. These workshops resulted in a recommended building program described in this report. The workshop participants considered three versions of the building program and made modifications to two of these versions to reach an agreed upon final program. The qualitative recommendations from the workshop participants are summarized here.

Recommendation 1: Future Vision for the school.

To reinforce the region by creating a new school, offering teaching professions and students a new opportunity and method for learning in an inspired environment. By this we hope to offer a closer student-instructor relationship with focus on caring for the individual learner. With regards to the needs of the rural school, the school should offer diversity in subject choice making use of distributed learning opportunities, a learner centered approach and flexible schedules. The school should be a center of learning for the region should focus the learning community and cultural centre.

Recommendation 2: To support the Learner and Teacher to develop independent learning skills.

The school should help students to learn and work independently. This learning process includes creating and building knowledge and developing a social process. Therefore the learning experience for individual includes group learning and socializing as well as independent study methods. Such a system requires active teaching and learning with diversity, rather than passive learning. Counseling, motivation and guidance are key ingredients in this process, as well as learning organization, study management and discipline – especially as the student can be partaking in an fair proportion of his studies from other schools. Overall, teachers require time to learn new ways of supporting the student as well, and additional time for preparation. The physical environment of the school should reinforce this process. The home and the school environment should support the student as well.

Recommendation 3: To make use of the advantages of distributed learning and to support teachers in making use of this opportunity.

Distributed learning is considered a diverse palette of opportunities to learn (see section in this report on distributed learning). The school will be a leader in innovation in learning and teaching with information and communication technology as a key tool to achieve this goal. Teachers will require additional support and training, however, should all have basic skills and experience in making use of ICT in teaching at the start. Students should receive additional support and counseling when engaged in distributed learning including development of organizational and management skills. Co-operation with other schools will be the key to diverse choice in subject offers. The ICT infrastructure must be excellent to support the student in the school and at home.

Recommendation 4: To create a flexible learning environment.

Overall the workshop participants strongly advised one learning environment for the region making use of existing alternative resources (sports complex, swimming pool etc.). The School should be a place where the student feels very comfortable and open communication is enhanced. Flexibility is created through the design of the building, operational organization, use of technology and the overall program and learning methods. The school should be a place where many different groups can make use of the school building. (students and others), for the school to be a integrated part of the larger community instead of being an isolated community.

Recommendation 5: To enhance the social environment for students.

Creating a strong social environment was recommended not only as an aspect of quality of life for the school, but as important to learning and development. Social interaction will take place in at least three ways, (1) in learning activities (specifically due to shift to collaboration, communication, counseling and group learning) (2) through the school leisure time activities organized by the student union for the student body; and (3) in the community specifically with the age group 16-20 which before the school's creation would be attending school in other communities.

The school should be a 'social shelter' for the student by creating a diversity of activities (band, sports, clubs, radio and television production, outdoor club activities). Socializing should be thought of as an important learning activity that takes place throughout the day. As well special activities should be offered weekly, monthly and yearly (such as freshmen dance or entertaining events. Other activities may be "theme weeks" linked to employment sectors or other themes (environment etc.). In addition to creating a good social environment, the school should make links to other schools in other communities. Similarly, the school environment should promote communication between communities in the region. The school building should be open for diverse social and learning life, and be open in the evenings as a multi-functional building. As well, a place for sports and physical exercise is an important extension to the students' sense of well-being and social interaction.

Recommendation 6: Create a caring and personal environment

By investing in development of new learning methods, the student should experience a greater sense of caring from their instructors, the school and the community in general. The aspects of caring will be displayed through greater individual attention, counseling and mentoring. Interest in individual development and individual study goals should be encouraged in the educational system. As well, quality of life aspects such as physical well being and social activities and interaction, should be held as equally important within the school. Parental participation will be encouraged. With an emphasis on distributed learning, support for the students study development will be very important from the home and from school. In this way, the caring function is a reinforcement of a partnership in student's success in learning.

Recommendation 7: Support for the teacher

The role of the teacher and other educational counselors plus heavier need for organization will be very important for the success of the school. As well, for the school to function successfully, organization and collaboration among all of the staff of the school will be very important. As a new type of school, using new methods and intensifying the use of distributed learning; it is important that the school expands the support for the teachers. This support can be thought of in professional development, management and social terms. Overall the teacher should feel both rewarded and challenged being an important member of the school. The workshop participants also recommended that the school be established as a training ground for teachers nationwide who want to improve their skills in using distributed learning, done in co-operation with the universities responsible for teachers' education.

Recommendation 8: Name and image of the school

The school has a formal name, however, as a school with a new concept and a new type of school, it is possible that the school also needs a name which reflects this new concept.



Photo of Student Participants in Workshop 3

B. Student Recommendations

The recommendations by the community were presented to the students in the workshop on June 13 for their comment and review. In general the students agreed in principle with the recommendations of the previous workshops. In addition to these recommendations, the students presented ten recommendations to community members and the building committee in a community meeting that evening. The students also developed their own designs for the schools and discussed the type of school they would like to attend. The students were enthusiastic about the creation of the new school and most indicated that they would like to attend the new school. These recommendations echo the sentiments of the other workshop group and are as follows:

Recommendation 1: Sports

Create more sport opportunities in the school and to use the sport facilities available in the region – alternate use between the towns.

Recommendation 2: Social Life

Emphasize student social life as important and to offer diversity in activities.

Recommendation 3: Diverse Enrolment

Encourage students from other parts of the country to enroll in the school. The students were strongly in favor of actively marketing the school to other regions of Iceland and making necessary preparations to support boarding students.

Recommendation 4: Home Study

To allow students to be able to study at home if the situation demands it (weather f.e) in own home or study centre in hometown (with teaching assistance).

Recommendation 5: School Day- Work Day

Students responded positively to a 9-17 schoolday/ workday approach, if homework would be completed in that timeperiod.

Recommendation 6: Exam Study

Allow students to learn at home (for example) for exams, or in “quiet places” in the school building.

Recommendation 7: Short Day

Review feasibility of one shorter school day a week (based on 9 to 5 workday schedule), or to use one afternoon a week at the school to do activities other than study/ course related work.

Recommendation 8: School Design

Create the school building design to be friendly and comfortable. Students expressed a preference for contemporary architectural design for the new school building.

Recommendation 9: Workstations

Personal work stations with locked storage for personal items, particularly important for new students.

Recommendation 10: Library

School library should be open during the entire school day.

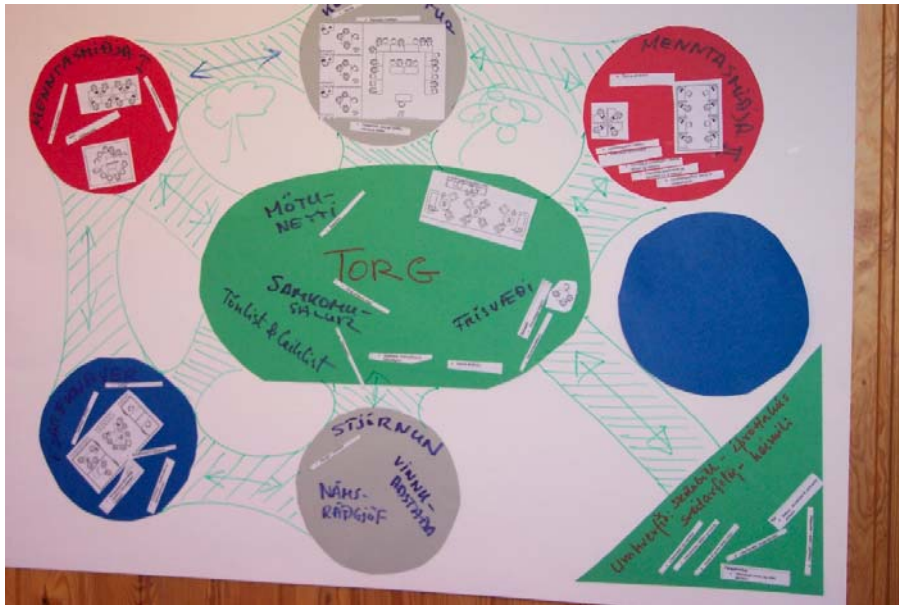


Photo example of workshop school design

V. The Learning Mission for the Pilot School

A. The Educational Approach of the school

The intention is to design a good upper secondary school built on the ideas of distributed learning. The purpose is to be able to:

- better meet the needs of individual students
- offer a varied educational programme at a small school
- hire part time teachers/experts from outside the area
- organize a flexible study schedule
- keep student schedules totally individual
- facilitate the use of different working groups

Traditional classes and class schedules will not be a feature in this school. The number of students participating in a particular course may be small and student schedules will be individual. Students work independently and in groups, on projects and on solving problems. Through this work they learn how to find, access, analyze, use and distribute knowledge, supporting the development of their creative, critical and analytical skills. In this way the student acquires learning skills as much as particular subject knowledge.

School Day

The line between traditional classroom hours and homework is erased; instead a course is organized as a solid package of work. The school day in fact becomes a working day. It is therefore foreseeable that the student will get a broad course schedule at the beginning of the semester and then a more detailed schedule monthly, weekly or even daily. The more

detailed schedules are made in co-operation between the different teachers and will require good organizational skills. Instead of a fixed classroom schedule for the semester, each student will thus know where to be at the beginning of each school day and he will possibly have a schedule of fixed meetings or events at the beginning of each week. Outside of that he can choose, by himself or in co-operation with his team mates or his teachers, what subject to work on, when and where.

Teaching Staff and Methods

While emphasis will be placed on a fixed core group of teachers who are based at the school, it is also necessary to have part time teachers based outside the region in order to offer a variety of courses or programmes. The latter group of teachers may be in part time positions at the school, free-lance contractors or their services acquired through service contracts with other schools. Their teaching may then take place during an intensive time-period at the school, or throughout the semester using the Internet, video-conferencing equipment or any other communication technology, possibly meeting the students face to face infrequently – once a week, once a month or once a semester as needed. Some courses may also only be taught long distance.

The teacher functions as an organizer, supervisor and mentor, guiding the student through each week and day of work, instead of primarily feeding him information. The teacher knows before each semester what will take place throughout the semester, having designed the course to be one learning package. The teacher is accessible to all his students during appointed study floor hours, instead of predetermined groups of students during classroom schedules. Co-operation between teachers takes place due to the need to organize the student's schedules, but different fields of study can also be intertwined through project work.

If schedules consistently do not keep teachers will be provided with assistance in reorganising their courses. Emphasis will be on monitoring the student's progress through an effective system of supervisory teachers. The role of a supervisory teacher is to monitor an individual student throughout his years at the school, providing motivation and assistance as required.

Building Design and Program

To follow the educational approach previously described, the physical school building will consist of several spaces where teachers can meet students individually or in small groups. There will also be larger spaces where larger groups can meet, or where several teachers can work simultaneously with different student groups undertaking different courses in the teachers' subject areas.

Student Contact

It is to be expected that a fixed meeting between the teacher and students in a particular course will take place once a week. The rest of the working time in the course is spent on group work or individual work, taking place in different areas in the school, often at the student's choice. The teacher therefore fully utilizes the accessible technology to interact with the students, delivering lectures on electronically narrated recordings, pinning up electronic messages with instructions, and holding discussions on chat lines. The teachers

will then spend the rest of their weekly contractual student contact time assisting individuals or groups with their work. Those students who are undertaking distance learning will get a planned working schedule and assistance in following it. At the same time it is to be expected that some students will not attend a full working day at the school every day throughout the semester, due to a part time study, weather conditions or other special circumstances.

Information and communication technology will be used to the utmost, both hardware and software. To that regard the teachers will require assistance to use the possibilities that the technology offers, to ensure quality in organization and working methods.

The role and working habits of the teachers will have to be viewed differently than traditionally today, possibly with a salary scheme set up in such a way that compensation is made on one hand for preparation and organization of course work and on the other for student supervision. The teaching itself will consist of guidance, mentoring and work management, through projects and discussions.

In such a scheme it is important that everybody knows what they are expected to do at any moment in time and where they should be at the start of the working day – but the students are of course responsible for their own work. With this system an attempt is being made to create a school environment where the students are engaged and interested, motivated to learn, enjoy learning and see the relevance of particular information or skills. By emphasizing human communication and personal interaction and support to the individual students it is hoped to minimize drop-out.

B. New focus on Learning Skills and new role for teachers

Information and communication technology (ICT) offers opportunities to overcome the restraints of time and distance. Distributed learning is one of the models of learning that draws on ICT in order to connect scattered resources to provide better educational services. In a distributed learning environment students can study away from the place of instruction and therefore increase their educational choice by selecting between courses offered at more than one school. Similarly, teachers are not limited to one teaching institution and a group of students sitting there, but can teach students that are located in various places and in different schools.

The development of distributed learning and the new possibilities that are linked to ICT, along with rapid changes in the school environment, raise various questions about organizational changes in schools and teaching and how students and teachers are reacting to the new environment. These questions are on issues such as the structuring of the curriculum, relations between schools and providers of services for distributed learning, and financing of courses that are offered via distance or distributed learning.

On the individual level there are different attitudes toward the use of school books and learning material. New forms of education may put teachers in different situations with extensive additional and different work for which they are not trained or prepared. This makes the new role of teachers and the way in which they have adapted to the new situation a matter of interest and concern. It will be valuable to find out what the teachers see as the

most important factor in this development and to prepare them to use the media creatively and maintain a high level of interactivity with the students to ensure good quality of education.

C. Distributed Learning

There are many definitions of distributed learning but in principle the concept refers to distributed resources as Browman states (1999) "It is an instructional model that allows teachers, students, and content to be located in different non centralized locations so that instruction and learning occur independent of time and place". Others have emphasized relationship to economic, political and cultural situation as well as the impact of globalization (Edwards, 2002).

Distributed learning has further been defined as student centered education, which uses the possibilities of new technology to offer opportunities to active learning and communication both asynchronous and real-time. This gives the teachers possibilities to adapt the learning environment to the user (student) to be able to meet the different needs of different groups and offer both high quality and cost effective education (Bates 1993).

Lea and Nicoll (2002) have suggested that "distributed learning is concerned with:

- the breaking down of traditional boundaries between face-to-face and open and distance education;
- the growth of new information technology as mediating means in distributed learning settings;
- changes in our conception of the ways in which learning and teaching are distributed across space and time;
- learning as a shared enterprise distributed between individuals in several different contexts;
- learning as distributed between diverse contexts and not tied to formal institutional settings;
- the relationship between the global and local contexts of learning" (p.2).

In distributed learning an emphasis is placed on extensive use of the ICT and Internet with focus on the student, not on the teacher, and communication. It replaces the traditional teaching bound to text books with variety of e-material, multimedia and interactive material and connects the learning experiment to the world outside the classroom.

The distributed education model can combine the traditional classroom-based courses with traditional distance learning courses, or it can be used to create a wholly virtual learning environment. In the traditional model an institutional organization or function is at the centre, the students must move from place to place or person to person when pursuing their education.

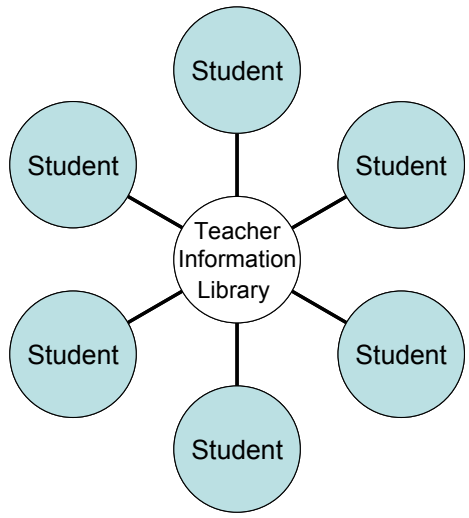


Figure 1. A traditional learning model.

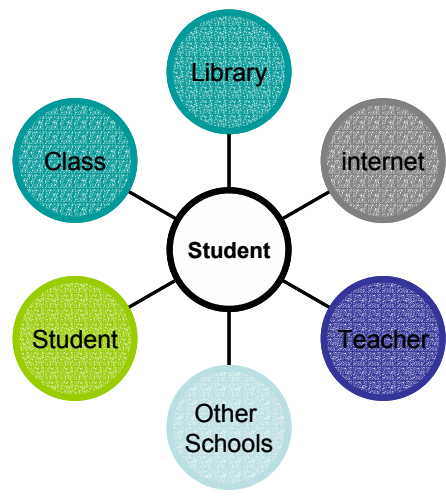


Figure 2. A Distributed Learning Model.

In the distributed learning environment the student is placed at the centre, with more flexible access to people and resources. Figure 2 implies that instead of the student having to move from place to place ICT can now help to bridge the geographical distance between him/her and the teachers, other students, libraries and so on.

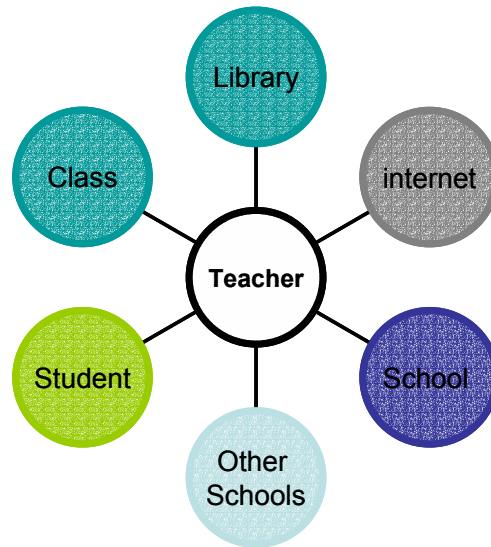


Figure 3. A distributed teaching model.

Distributed learning, see figure 3, differs from distance learning in that it is not confined to delivery over distance but instead represents a mix of localised and distance learning. It can be used as means to *course enhancement*, *hybrid delivery* or as a *virtual learning environment*.

Distributed learning as *course enhancement* can mean embedding new instructional technologies in traditional classroom settings to enhance localized learning. This includes posting course material on the web that is used during class and students can also refer to outside the classroom. This can make learning less dependent upon time and location and allows students to go through lectures at their own pace, but the material and delivery is tied to one institution.

The *hybrid model* represents a more advanced distributed learning implementation. At this stage delivery is not tied to a particular place or classroom, but represents a mix of distance and localized learning. Both teachers and students can be dispersed in different places, but it is assumed that they have one central location for learning and teaching.

At the level of *virtual learning environment* distributed learning has realized the principle of “any time, any place at an own pace”. At this level learning is independent of time and place and different students absorb the material at the times and places of their choice.

D. Relationship to National Agenda

The present school system has its roots in the age of the industrial revolution. Although education adapts to and seems to grow with developments in society, no fundamental changes have taken place in the way schools organize and deliver content or help students learn.

The growing importance of ICT in society is increasingly impacting education. The actual application of ICT forces schools to consider fundamental and structural changes, such as the way they teach and organize. It is beyond dispute that these changes will have a revolutionary scope. The possibilities to learn anywhere and anytime will appeal to many learners. For the institute we call school it is an enormous challenge to get on with this change in an adequate and meaningful way. School management will have to balance possibilities and limitations by operating in smart ways.

The integration of ICT in education is a complex subject involving many different actors. Traditional management structures have some difficulty grasping this complex situation, let-alone being able to manage it. While there is much talk about innovation and the learning society, those responsible for managing educational systems invest very little in increasing understanding of change management and elaborating suitable strategies for encouraging and handling innovation.

E. Examples from other Icelandic Schools

Explorations with application of distributed learning principles have been taking place in Icelandic life long centres, universities and upper secondary schools since 1994. These activities started with courses essentially through an electronic mail system, but gradually other forms of distributed learning have emerged.

On the upper secondary school level, the Comprehensive College of Akureyri was the first to offer distance learning, primarily through an electronic mail system. Following this example, the three upper secondary schools in the East of Iceland set up a joint project where each school specialises in a certain subject area, and teaches that subject to the other two schools. The schools' primarily use the video conferencing medium, but up to 20% of each school's courses are taught from a distance. In Reykjavík, several schools have started a distance education programme in the last few years, including the Comprehensive Collega at Ármúli, the Technical School in Reykjavík and the Breiðholt College, primarily using a web based learning system. Other upper secondary schools are also involved in distance education, but to a lesser level so far, and most are involved in some form of distributed learning.

Four universities are engaged in distance teaching, The University of Akureyri, The University of Iceland, Reykjavík University and the Bifröst School of Business. Of those the University of Akureyri has the highest number of students involved in distance learning. Other universities are also engaged in distance teaching, but to a lesser extent so far.

In each of these cases the students are partly from the schools own student body, but the majority of the students come from the outside. A majority of the distance students are

adults going back to school, and the distance programmes are largely operated independent of the school's traditional educational operations. The organisation and support that the schools give to their distance students vary greatly, from minimal personal contact and supervision to weekly personal contact and strict supervision.

Using ICT in the classroom or on location has also been increasing in the last five years. The training of teachers, development of educational material and acquiring the necessary equipment have been a priority there. Schools have also started encouraging students to bring laptop computers to school. It has been criticised by students that many teachers are replacing the pen and paper with the computer, without bringing an additional element to the learning.

The eight regional life long centres have all been developing distance education for the last four years. In co-operation with upper secondary schools and universities they act as middle agents in providing education closer to home. They are the agents for the schools, handling student enrolment and providing study facilities and other support to the students. The regional centres operate 63 branches, thereby creating a country-wide network. The recent establishment of FS-net, a fast data transport network linking all the upper secondary schools and lifelong education centres in Iceland, facilitates further co-operation between institutions in this field.

The goals of distributed learning have in most cases been to ease access to educational opportunities and to broaden an existing subject base.

VI. School organization and Description

A. Support for the changing role of the teacher

As mentioned in subchapter Va, the planned organizational features of the new school will put the teachers in a situation that is new for them and for which they are not prepared or trained. Obviously then, they will need some supportive structures. The question becomes, what kind of support will be needed?

One way of approaching this question is to imagine two kinds of supportive structures, namely *external* and *internal*. External support would be a support from the outside while internal structures would be from within the school itself. Recognizing the fact that Fjölbrautaskóli Snæfellinga is not only a local school but also a new type of school in Iceland, different agents might feel interested in the new school and even feel obliged to support it in one way or other. Examples of such agents include other secondary schools with particular expertise (e.g. some experiences of trying out distributed learning) and teacher education institutions like Iceland's University of Education (KHÍ) and the Departments of Education within the University of Iceland and University of Akureyri. All institutions might be interested to follow closely how the new school takes form and

eventually initiate some kind of research for this purpose. It seems reasonable to expect that these institutions would see it as most interesting to inquire into the birth of the new school. In doing so valuable insights might be gained for the good of both parts.

In particular, research *with* the school teachers (instead of doing research *on* them) might be useful in this regard, e.g. some kind of collaborative action research whose aim would be to help the teachers to understand better how things are going and even help them develop things for the better.

While external support might be of great value, internal support structures might be even more important. Here, various factors might be of importance, for example a well designed management system that secures smooth information flow, defines roles, and divides responsibilities between the different staff members. However, focusing on the teachers, structures that enable *conversation* and *sharing of ideas* might be a key issue. Building on research into successful companies, Fullan (1999) asserts that the secret of their success “is that they consists of intricate, embedded interaction inside and outside the organization which converts tacit knowledge to explicit knowledge on an ongoing basis ... [and] tap into the values, meanings, day-to-day skills, knowledge and experiences of all the members of the organization ... and make them available for organizational problem-solving” (p. 15 – 16). In other words, the key behind successful companies seems to be that they allocate space and time for collaboration, inside as well as outside. Turning to successful schools, Fullan (1999) argues that:

What happens in these schools is that teachers as a group and as subgroups examine together how well students are doing (i.e. they study student work and assessment data), they relate this to how they are teaching (i.e. to instructional practice), and they make continuous refinements individually and with each other (i.e. as professional community). By contrast, in individualistic or balkanized cultures, teachers either leave each other alone or are at loggerheads – disagreeing without any inclination or process to solve differences. (p. 33)

Icelandic secondary schools are – as a rule – not collaborative cultures, at least not in the sense indicated in the quote above. The teachers are not used to share their pedagogical ideas nor inquire (collectively) into their practices and thus learn from each other. Accordingly, the idea of “collaborative and inquiring teacher communities” remains to be realized in this Icelandic context. While such a community or culture might be good for all schools it may be *essential* for a new school that wants to go beyond the tradition and establish new types of learning environments. No doubt, *Fjölbrautaskóli Snæfellinga*, in order to have some success must go against the grain in this respect and develop a genuine professional learning community. It has to become a school that learns – a *learning school*.

This does not mean that everything from the traditional school must be thrown away. Indeed, that cannot be done. The subjects taught, for example, will basically be the same and in accord with the state curriculum. And their value should not be underestimated. Besides, good things happen in the traditional school. At issue here is rather how to reconcile the old and the new, figure out what to take - and what must be taken - from the past and what needs to be created for the future and the visions of the new school. Unquestionably, this is a formidable task to grapple with, a task that requires time, courage, enthusiasm, and – most of all – collaboration inside as well as outside. Educational change, we should remember, is complex because it implies leaving the familiar and entering the unfamiliar. Such a process

always evokes anxiety in the people involved. However, anxiety need not be destructive. As Stacy (1996) has pointed out, "if relationships have the quality of trust and compassion, if they are based on empathy and love, then they operate as very effective containers of anxiety. Given high quality interconnectedness, a group can contain anxiety and stay at the edge of chaos" (p. 162).

Apparently then, creating a new school those involved need each other not only to build and manage new ideas but also to support each other emotionally. *Genuine collaboration* is what counts.

B. Support for distributed and other ICT related learning

The main goal of the school is to support the right of students to develop as individuals living in a certain society and their aesthetic sense. A school is a place where young people spend their time, to learn and enjoy the company of others. Distributed learning is not the easiest method of studying and it is therefore important to design a school that is attractive and where students get the mental and educational support they need. An attractive building and support from other students, teachers, student counsellors and other staff is included.

Supporting distributed learning means guiding the individual through his or her learning. This does not apply only to the students but also to teachers. Inner support can therefore be based on the working methods of teachers who are guided by, for example, problem based learning (www.pbl.is) but the students also need to be supported when taking distance learning courses. The school therefore has to provide facilities for video conference learning and internet use, meaning that a broadband network is a basic requirement for the school.

Emphasis will be placed on students finding information and knowledge, which means that the latest development in knowledge gathering will have to be taken advantage of. This means that the school "library" will first and foremost be an information centre where students are supported in increasing their skills in finding information through the Internet and other media. Guidance will be provided on the use of electronic databases accessible via the Internet, and on using tools to receive data – whether it is magazine articles, video files, audio files or books.

Placing the individual at the core of the school operations means that he will be encouraged to do independent work but also to gain competence in working with others. The physical building has to provide spaces for both – all students need a space for solitude, to dwell on their own thoughts and focus on their own work, to strengthen their sense of independence and creativity. However, equal emphasis will be placed on creative group work and the social aspect of learning. A social environment has therefore to be created, an environment where the students feel comfortable, that they trust and where they feel that their interests are respected. Through this the creative aspect of the school will be reinforced. Therefore, a good hi fi system is needed, equipment to film and broadcast movies, theater and dance facilities and even equipment for processing photographs and audio, as well as visual arts.

Supporting students engaged in distributed learning is based on a technical support in getting and sharing information. However, emphasis should also be placed on strengthening the students' aesthetic sense, philosophy and social nature. It is therefore important the school building is creative, beautiful, bright and comfortable. We want the students to be happy at school and to feel comfortable there, to be proud of attending the school, to make it through their studies and leave as demanding and strong individuals.

For the last years the Ministry of Education has systematically been working on developing the necessary support for distributed and other ICT related learning. The support can be grouped into four fields; technical infrastructure, administrative systems, learning systems and teachers training.

The technical infrastructure is already in place, that is a broadband network that allows easy electronic communication and video conferencing. The network links together all the upper secondary schools in the country and the life long learning centres, also the universities and research institutions. Within the upper secondary schools the necessary infrastructure for wireless networks and laptops has been developed.

Administrative systems and databases at upper secondary school level include inna.is, which is a centralized information system on registration and courses offered in the schools. Also existing is menntagatt.is, which is an educational portal that provides comprehensive information on course offerings, educational content and various educational services. Access to electronic databases and libraries has been negotiated on a national basis, that is anybody with an Icelandic electronic address can access the information for free. Also, a centralised library system has been set up, where students can search in all national and many international libraries for books and resources.

Support has been provided for the development and use of learning management systems for the upper secondary school level, systems such as WebCT and Angel. Furthermore, a limited number of licenses have been bought for the three dimensional software SMARTVR, which is being adapted for school use, as an extension to the learning management system.

Training for teachers in the use of laptops, networks and ICT in teaching has also been developed, along with continuing educational programmes on the use of ICT in education and resources available. In the last three years around 90% of upper secondary school teachers have attended training courses on using ICT in education. A course in leadership has been run for teachers who wish to lead the development of ICT use in their schools and to act as supporters to other teachers.

VII. Physical Design Requirements



m: Aerial View of Site

Diagra

A. Site Description

The school building site is located in Grundarfjörður which is a central location in the region. The site is approximately 9000 m² and is located on the the main street of the town. The site has magnificent views of the Kirkjufell Mountain, considered a natural monument in the region. This view is to the North and also toward the sea. The view to the South is also inspiring as it looks toward the snow-capped mountain range near the town.

The town can suffer severe weather conditions in the winter as well as other seasons due to the sea-front location (North) and the mountain range. Wind conditions with driving rain can be extreme. The wind coming from the south and south west are the most extreme as advised by the municipality's building engineer. It is not advisable to have too many openings in the building in that direction (along the main street or south side of the site). The entrance should be located on the east or north sides of the site. Vehicular access from the main road would suggest that the east side for entry would be more advisable.

The site has a slope of approximately 20%. The building would most likely need to be designed with at least two levels or half levels, or significant site work will be required to allow for the building on one level.

Surrounding the site is primarily residential and some commercial use. The access road to the north side of the site is primarily industrial and commercial. However, immediately adjacent to this side are residential houses, as is the same for all sides of the site.

B. Projected budget and size allowance

The maximum budget benchmark for the cost of design, tender, construction and supervision/inspection for a new upper secondary school building is 122.737 IKR per square meter.

Exempt from that figure is the cost of a building site, as the Upper Secondary School Law states that the municipality where the school is located should supply an adequate site. The law does not define what an "adequate" site is, but traditionally it has been interpreted that the necessary transportation infrastructure is in place and that the necessary water, electricity and waste cables and pipes are conveniently located for the site.

The budgeted cost for finishing the external grounds varies, depending on the quality of the site itself. As the site where the building for the new Fjölbrautaskóli Snæfellinga is to be located is rather accessible it can be estimated that the cost will be an additional 5-7% to the above building costs.

The equipment cost for upper secondary schools is 15-30% of building costs depending on the educational programs that a school offers. Fjölbrautaskóli Snæfellinga will not be offering vocational training on venue, but is to be a prototype school in using ICT and therefore equipped in a different way from the traditional schools. It is therefore to be expected that its equipment costs can run up to 30% of the building costs.

The estimated maximum size of the school building itself is 1.500 square meters. It is not expected that a full size gym and swimming pool is to be constructed, but a smaller multi functional room that could function as an exercise area could be included in a building of that size.

It is furthermore to be expected that as the school is a prototype its operation will be developing over the coming years, with the implication that the building should be designed to be as flexible and changeable as possible. This means that when designing the building, the key areas can be put in place but otherwise emphasis is on open spaces that can be developed as the operation develops. The actual interior design of the building would therefore not be finished before its construction, but would rather be taking place over a number of years.

C. Projected Additions to Building

The school is planned to be a success in terms of enrolment, based on a new approach to learning which is described throughout this document. If this vision is realised, the school

building will inevitably require an addition approximately in Year 4 of the school's operation (construction in Year 3). The explanation for this needed addition is as follows.

The architectural building program is approximately 1500 square meters gross area and is intended for a total enrollment of 170 students (see Section D. Building Program). With full enrollment, the building would be utilized at 80%, making use of all possible learning spaces (very high utilization). In other words, with full enrollment of 170 students, the entire building will be utilized to its full throughout the day if all students are on site. Daytime use for lifelong learners and other community members (30 students at anyone time) during full time enrollment, will render the school over-capacity as utilization will be nearly 94% for all spaces. In the first years of use, this is not a problem as the enrollment is projected to be only first and second year students. By the end of the second year, an addition to the building may require serious consideration if full enrollment is anticipated by the fourth year.

Possible, logical additions to this building could include the following use areas. These possibly additions are not listed in any priority order. When considering an addition it is recommended that a selection from this list be made.

- (1) Add Auditorium to alleviate many uses of multipurpose space and use of open learning area. An auditorium for 200 people is approximately 260 m².
- (2) Double size of Open Learning Zone (approximately 306 m²).
- (3) Add only additional discussion rooms to existing Open Learning Zone. 4 Additional Discussion Rooms would be an addition of 120 m².
- (4) Double size of gym and locker spaces (130 m²).
- (5) Increase the size of the information area (90 m²).

To properly site and design the building, the inclination of the community and ministry with regard to future planning for additions would be best indicated before schematic design is completed. In this way, adequate space for addition can be anticipated and allowed in the site design. For example, if the gym is to be doubled in size, the site and adjacency must be planned to allow for such an addition.

It is further recommended that the building be assessed at the end of Year 2 and the needs of the school for future addition be determined at that time.

D. Building Design

The physical design for the school (and the program leading to the design) follows from the recommendations of the workshop participants. The theme "a meeting place for learning" will be visible in the physical design of the school as a welcoming and caring environment that supports a range of social activities. This mission will be transparent and evident from the street and upon entering the building. The external design (façade) of the school will be both sensitive to the surroundings while reinforcing the image of a new type of learning environment.

The fundamental goal of the school is to demonstrate a new way of learning and teaching using information technology and distributed learning opportunities. The vision for the school is that all students will have their own laptop computers and will move throughout the school. In this way, the students' "desk" is their laptop computer and the students can choose where to work within the school. The building design must support this use of laptops from organizational, furniture design and technical perspectives.

While the students will have some form of schedule (necessary for gym and lecture based classes or discussion groups), students will largely be responsible for their own unique schedule and will therefore have a good deal of choice in where they work and when they work. The design goal for the school is to create diversity in types of spaces, sound levels and socialization-levels (very social to more quiet and individual).

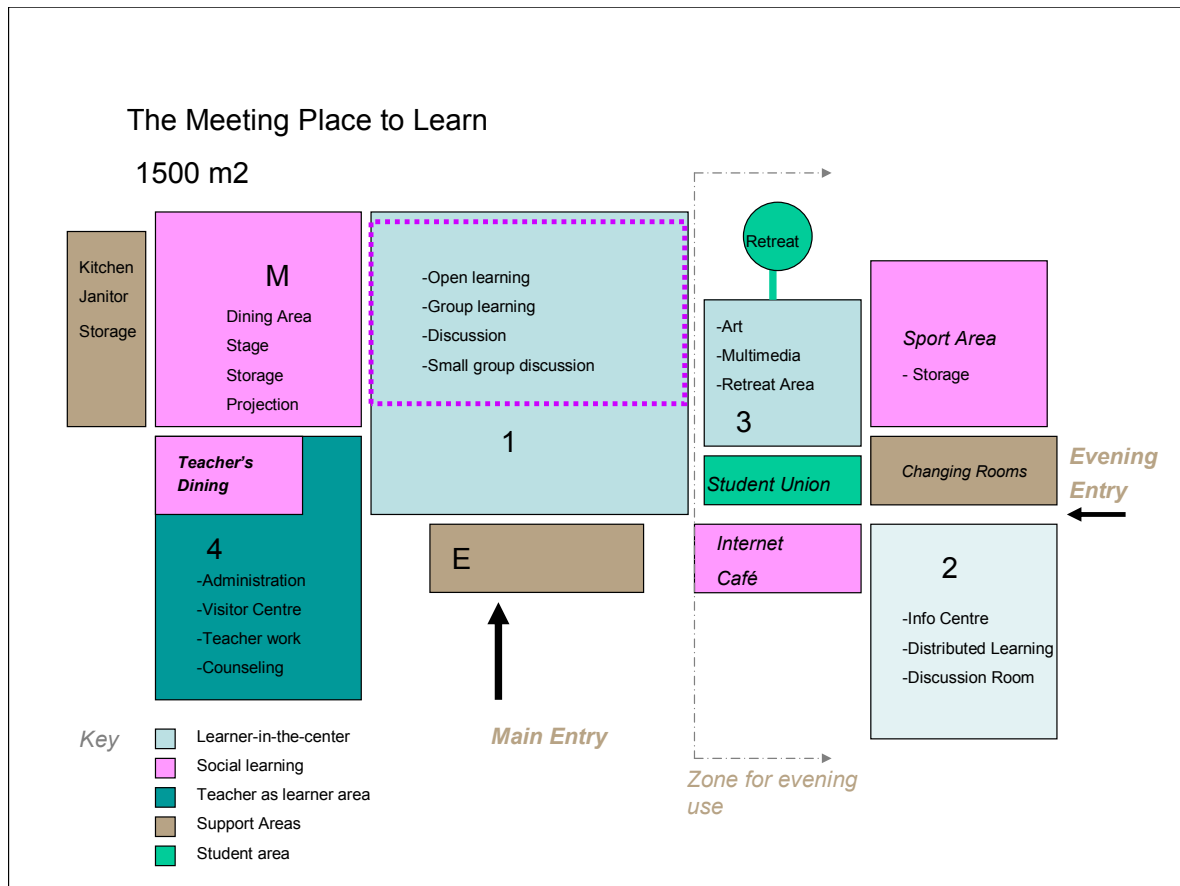
The school is organized in four zones (section E Building Program). Each of these zones will be designed with contemporary concepts, however each zone could have a distinguishing design theme.

The physical design of the school should be developed not as finished environment but rather as an exposed "platform" for working and for student expression. Supports for learning such as pinup space, marker boards, video presentation areas, group work areas, frameworks or open trellis areas for a variety of uses will be evident and available. Movable landscape furnishings and movable high quality acoustical walls will allow for continuous growth, change and alteration (see description of Open Learning Area) . The places "between" traditional learning settings will be as important or more important in terms of design development to support social interaction.

Special design attention will be given to infill furnishings, movable kiosks and other partitions which frame learning environments and social environments. The open spaces will be designed to allow for some room infill in the years ahead. While fixed spaces, such as the sports area and the multi-purpose room, will be built with the necessary support for multiple uses.

The physical and programmatic organization of the school should encourage and inspire the creative development of the student in every class and activity. In general, this school is a platform for expression. The physical design of the building provides a place, time and value for student expression. For example, rather than a fixed schedule with 45 minute periods, the school will offer students more time for learning activities based on individual needs, and more time for discussion, exchange and listening to one another.

The design of the places within the building should offer a secure and safe environment for students to express themselves and explore new ideas. The building design should allow for a range of types of learning spaces for different types of learners, and places for reflection as well as interaction. Giving importance to each individual learner means creating an environment which supports communication and displays the work of students to one another.



Adjacency Diagram*, Relational Scale Approximate to Building Program⁶

E. Building Program

The building program is approximately 1500 square meters gross area and is intended for a total enrollment of 170 students. The specific area of each space is found in the addendum of this report. The building is organized with four Learning Landscapes or Zones distributed throughout the building including: (1) the Open Learning Zone, (2) the Information Center, (3) the Contemplative Arts Area and (4) the Teacher as Learner Zone (also Administrative and Visitor Center).

Overall, there are no traditional classrooms in this building. Diverse types of spaces are provided for learning activities including social learning. These spaces include 4 discussion rooms (12 to 15 people each), the open learning zone for up to 80 students, a multimedia room and the multi-purpose room which can be divided to form two large work/classroom areas and a few small group rooms. As well, the Internet Café will be used for study and for

⁶ Adjacency Diagrams should not be considered "Building Design" only indicates size of overall spaces and relative position in the building.

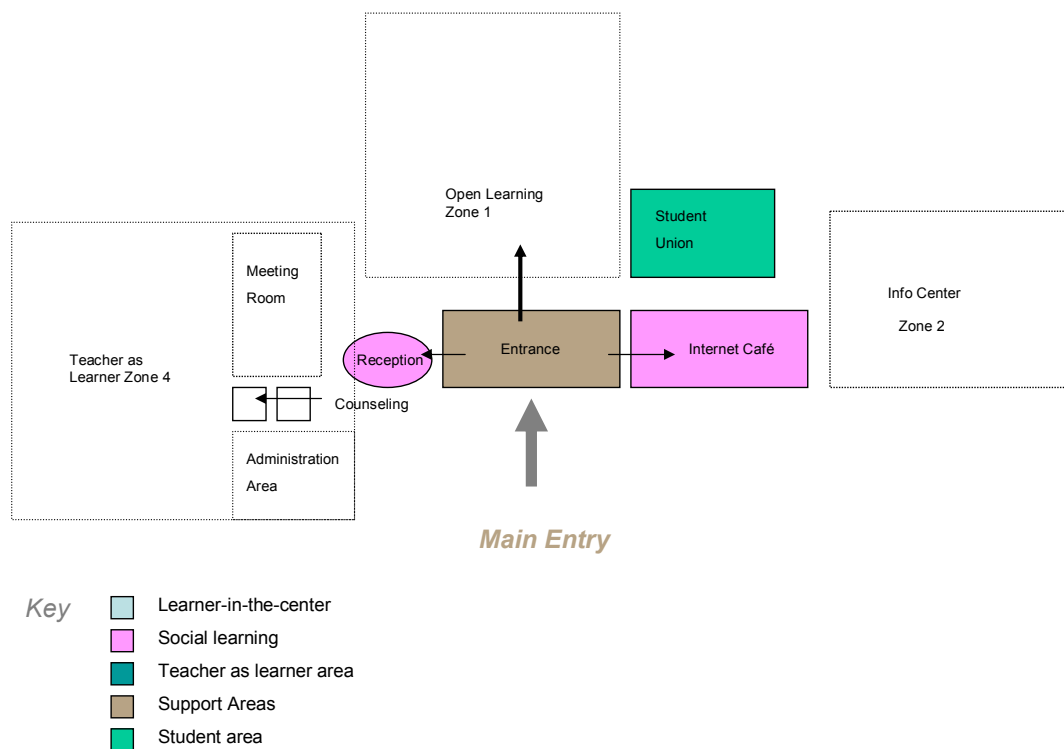
occasional presentations and lectures. The following matrix summarizes the key features of the building program and the narrative describes each of these areas.

Space and Function Matrix

<i>Space</i>	<i>Function</i>	<i>Detail</i>
Zone 1.0		
Open Learning Zone 306 m ² 123 users*	Focal Area for Learning Most important area of the school	60 Movable Desks which serve as workstations + Work benches for 20 students. 3 Discussion Rooms 2 Small meeting rooms Open Area defined with 3 learning spaces
Zone 2.0		
Information Centre w/Internet Cafe 174 m ² 55 users	Learning, Quiet Reading, Research and possible group work IC: extention to Info area Social study and work area, and lectures.	Quieter area for learning; Open Workstation area for Distributed learning (14 stations) 1 Discussion Room (13 users) 2 Work rooms (2-4 Users)
Zone 3.0		
Contemplative Arts Zone 110 m ² 25-40 users	Quieter, alternative learning space Supports creativity Allows place for students rest during the day	Multimedia Room and Arts Area (see Narrative) Retreat Area Student Council Office
Zone 4.0		
Teacher as Learner Zone 186 m ² 20-25 users	Teacher zone is active learning area with open learning landscape for teachers Also seconds as visitor zone	Reception Desk Workstations for 15 Teachers 1 Discussion Room (12) 2 small counseling/ discussion rooms (2-4) Administrative Area w/Director's Office School Server Closet and other Storage
Other		
Multipurpose Room 170 m ² 85 users	Breakfast, Lunch and sometimes Dinners; Possibly Instruction and Presentation Area Large Group Presentations	85 students dining area; 110 people for events and 200 for special events (with open learning area) Includes 2 Presentation areas and dividable wall to form 2 large group work room areas Possibly include movable wall between open area and multipurpose room
Gym/Aerobics area 100 m ² 20 users	Sports area for diverse indoor gymnastics, aerobics, and weight lifting equipment	Mirrored Gym Storage for weight lifting equipment 2 Changing rooms for 10 people each

* User numbers are listed as maximum use of each area. Total utilization of the building with 170 students is designed with this program at 75%, advised is preferred at a lower utilization 60-65%.

The multi-purpose room (see M on diagram above) is intended to meet five purposes (also see narrative on multipurpose area which follows). The combination of purposes always introduces compromises in the appropriateness of use. However, there is an opportunity to monitor future needs which may lead to building addition to alleviate some of the uses of this space, such as the addition of an auditorium (keeping in mind potential over-capacity in future years see Section C. Building Additions). The four uses are dining, presentation, large classroom and study space. The primary purpose is as a restaurant or cafeteria for the students, and for student body social events. It is designed for 85 students to sit at one mealtime (or 50% of total enrollment).



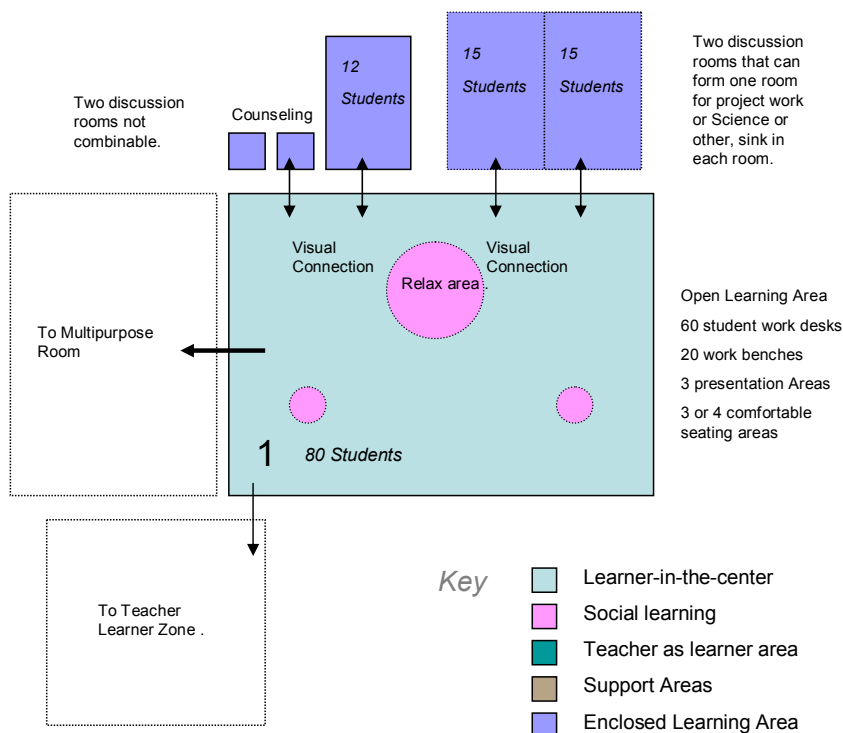
Entrance sequence

To highlight the concept of a “Meeting Place to Learn”, the façade of the building is a transparent view into the school. Activities in the open learning area and in the Internet café (the social part of the Information Center) can be viewed as one enters the building.

The school entrance (shoe and coat area) leads to the student areas (Open Learning Zone 1 or Internet Café) and to the “Teacher as Learner”/Visitor Centre area Zone 4. In this way, guests (teachers from other schools, parents and business people) would announce themselves at the reception area which would be visible from the entrance. They would then be guided to the meeting room within Zone 4, the administrator’s office or possibly to the teacher’s dining room or Internet Café (depending on nature of visit).

The entrance area handles coats, shoes and some locked storage for students. 30 coin operated locked storage for coats or shoes is recommended to be increased based on demand during the first two years. Other smaller locked storage units for books and computers are to be distributed in the Launch zone and other areas in the school. Recommend that the school begin with 100 storage units to be increased at the end of Year 2 based on enrollment (see enrollment projections). Storage units should be combination locks or other non-key based lockers.

There is full visual connection between the open learning zone and the internet café. This connection could have a movable wall or a series of doors which could be fixed open during the morning entry and the afternoon departure, to allow for ease of flow.



Open Learning Zone (1.0)

The Open Learning zone is considered the “heart of the school” or “the central meeting place-for-learning”. This is the largest of the three zones where diverse learning activities are taking place: group work, individual study, lectures and discussion.

The center of the Open Learning Zone is an open hall with movable (on wheels) work stations for 60 students. As well there are work benches for 20 students. The open hall is

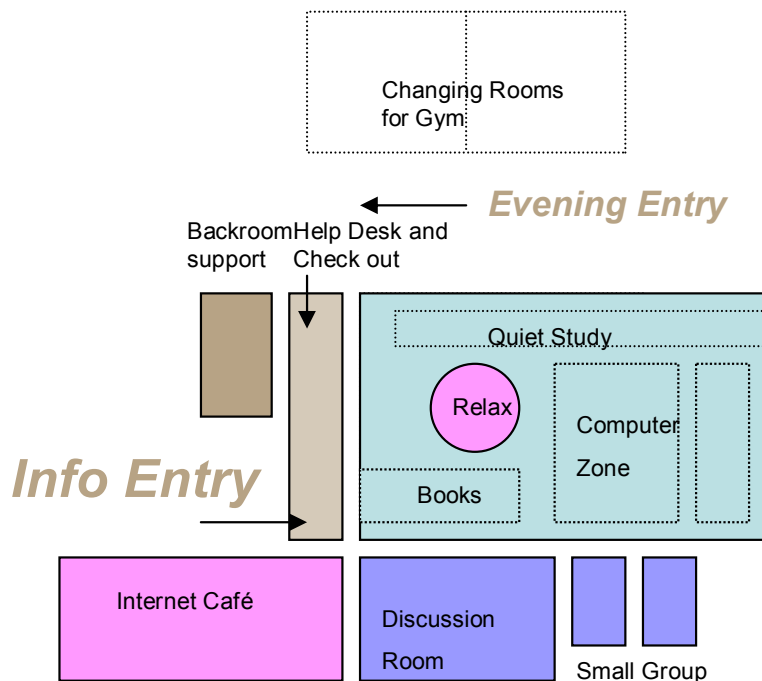
subdivided into two or three areas through placement of building columns; movable posting kiosks or other architectural feature. For each of these areas, there is an open presentation station with a screen (ceiling/wall mounted), mobile presentation station and a data projector. There are also three comfortable seating zones (two small and one large). These seating areas are low seating with low tables and specific lighting. This zone includes 60 mobile workstations for students (approximately 1.25 m x .75 m). As well, each area should have a work table (or several tables which form one table) for student projects. Students will work with their laptop computers at these desks, alone or in groups. As well, there are mobile computer workstations for shared use of high end computers (number to be determined). This area should function on a wireless network.

Overall, this zone is considered a highly switch-able and movable space for different teaching activities. Within the open area there could be two short lectures taking place; while some students work individually or are participating in a distributed learning courses working on their laptop computers or in discussions with other students or their coach (see section on Distributed Learning Activities). Workstations are combined to form group work areas. Small groups hold discussion at relaxed seating areas.

The acoustic attenuation of the open space should be studied and designed by an expert to dampen sound levels and maintain a positive learning environment where speakers can be heard in open areas.

There are 3 discussion rooms for 13 or 15 people in the open learning zone. The discussion rooms are organized with three or four tables which can form one discussion table and comfortable chairs. Two of these discussion rooms have a movable wall to form a classroom for 30 people. These rooms can also be used for smaller work groups (4-8 students which require a quiet workspace). The discussion rooms have visual connection with the open learning areas. The other discussion room is sound attenuated, and equipped with monitor or other equipment to allow for long distance conferencing and/or production/distribution of real-time distributed learning course from the school. Mobile digital video equipment for distributed learning classes can be used in all spaces throughout the building, but with the possibility of some background noise disturbances.

Two small counseling rooms have also been provided for teacher student counseling sessions. The learning program has been designed to support individual learning and student responsibility for scheduling. Throughout the year, there may be a need for academic based counseling. Rather than bring this counseling (and large numbers of students) into the teacher zone, these counseling rooms supported by the lounge area, allows for ease of flow of private academic counseling. More personal, psychological counseling would take place in the Teacher/Administrative zone (4.0) for privacy. These counseling rooms may also be used for short discussions between teachers which need to be private and two students working together that prefer a separate environment. Some visual connection should be provided to the general open learning area.



Information Zone (2.0)

The information zone offers the students and teachers special help for research purposes, training in research skills, access to print media and an alternative quieter work environment for students (as compared to Open Learning area). The information area includes the Internet café with some visual connection but no acoustic connection. Students working in the information area for long periods can easily go to the Internet Café to take a break or to work in a more social environment. While the information zone is intended to be a quieter area, it is not a silent area. Activities such as group work and quiet discussion may take place in this area as well.

In addition to offering limited stacks (books and periodicals) most special books will be ordered from supporting libraries on exchange. The information Center includes research consultancy area, relaxed seating, work tables with data power points, and four workstations for reference. 14 Computer workstations will be provided for independent participation on synchronis and non-synchronis learning activities. These workstations will be provided with generous work area for distributed learning and also possibly two people working together (student and coach or two students). This setting may also be actively used by lifelong learning students.

Generally, this is an area in which students are working with headsets and may be engaged also in language practice sessions. This may also be a setting in which students are conducting research on internet in a semi-quiet environment.

Adjacent to the open area are two small group work rooms (for four people) which can also be used for meetings of 2 to 4 people.

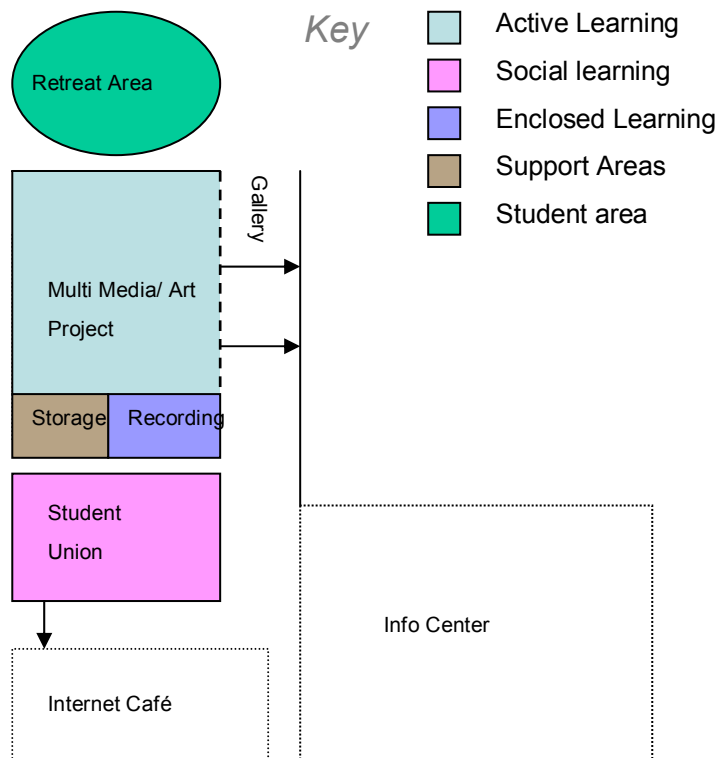
There is one group discussion room for 12 people in the information area. This is an alternative area for lectures or other class use, or possibly for evening courses. It is also an area where groups can meet with the research librarian and discuss research needs, ideas and strategies. The combination of the computer workstations in the information area with the discussion room makes this area specifically useful for language learning as well.

Internet Café

The internet café is a casual and welcoming area for socialization and discussion. It is considered part of the Information Center. The café has 5 workstations for easy internet access and data/ power points for laptop plug in. The café has a comfortable contemporary look with benches with cushions, tables and counters along the outer wall with stools. The internet café is not a restaurant but an alternative casual learning zone which can be used throughout the day by the students and teachers as desired. A small, open preparation area should also be provided. The Café should comfortably seat 20 students at tables, booths or a bench with high stools.

The information zone would also be appropriate for offering community workshops or employee professional development courses in the evening or in the day. The internet café makes this an excellent breakout space for professional workshops as well.

The information center is adjacent to an evening entrance which would allow a small part of the building to be open for security reasons. This same entrance use would allow community use and lifelong learners to access the Information Center without disturbing the larger activities of the school.

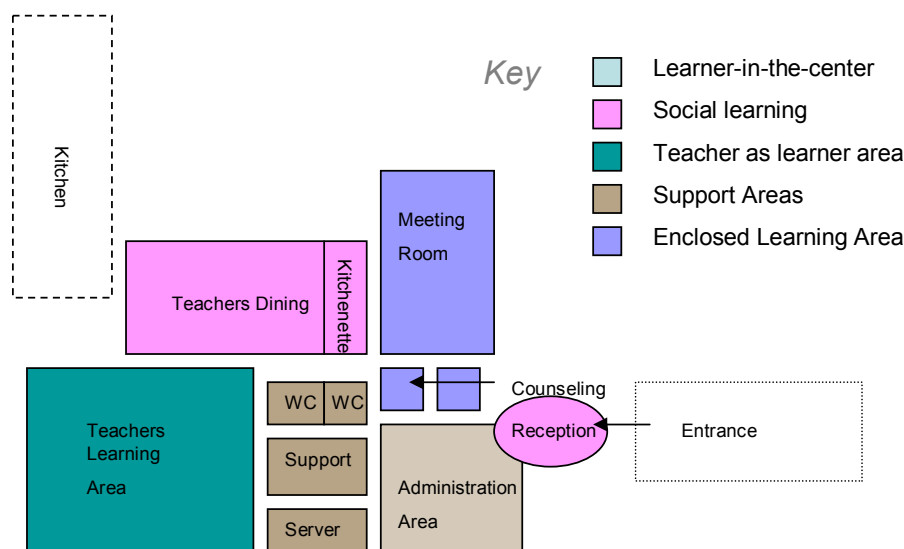


Contemplative Arts Zone (3.0)

This zone includes a work area for plastic arts, a multi-media room which may be associated with art, music and digital photography and a retreat area for students (to take a rest from a busy and demanding 9-to-5 learning-work schedule). A small art work area is provided and a separate multi-media room for video and music editing, as well as possibly an sound attenuated recording room which could also be used for some distributed learning course development (such as language lessons for on-line use; as well as radio presentations). One wall of the art area is movable and allows the corridor to be used as pin-up space which has appropriate lighting. The room frames the special view found on the sight and captures north light if possible (roof/high wall).

The contemplative arts area would have a relaxed lounge area which could be in combination with the corridor/gallery area. This is a quieter zone than the Open Learning area. In addition, there is also a retreat room for students to relax. This is not an eating or drinking area or socializing area but rather a personal resting reflection area for quiet

reading etc. Some references for this area may be a green house; glass house (with artificial lighting); or even snow house or light tent. Some visual connection should be provided.



Teacher as Learner Zone (4.0)

This zone provides a space for teachers to continue their own professional development and learning process throughout their day to day work. This zone is intended to be an area where teachers are learning from each other in an open way and collaborating while planning and preparing their courses. The proposed system for the school will require continuous teacher support and development. Teachers will be active with learning new methods of delivery, coaching skills and technology skills as well as a place to prepare course work, design evaluations and assess student work. They will learn from each other both through formal discussion and incidental discussions throughout the day. In this way, the open, landscaped teachers zone is very important to support the teacher exchange and flow of ideas and observations.

A learning landscape is provided for a maximum of 15 teachers including visiting teachers and visiting distance teachers. There are 3 work areas (4 teachers each zone) and one zone for 3 guest teachers. A work area includes an assigned workstation for the teacher with storage; and a shared work area in an acoustically separated space. Teachers will be working with their laptop computers or may have a personal computer workstation.

There is a comfortable seating area for discussion and coffee as well. A meeting room for 12 people can also be used for collaboration between groups of teachers, orientation to visitors, meetings with parents and their student (see also counseling rooms), and management team

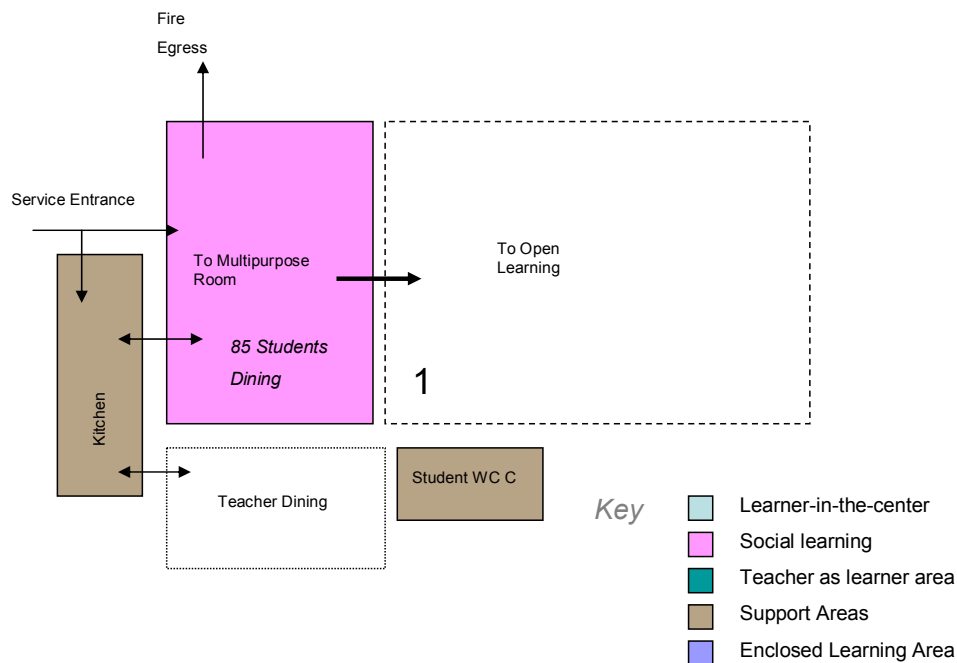
meetings. Full staff meetings would be held in the teacher's dining room. Two small private counseling rooms without visual connection would also be provided for personal discussions with students (therapists etc.). Two additional counseling areas for academic counseling (less personal or psychological) are provided in the Contemplative arts zone (see 3.0 above). While internal professional development classes may be offered in other rooms in the school, the meeting room in this zone would be appropriate for professional development sessions with teachers.

Management and Visitor Area of the Teacher Zone

The management area of this zone has three important functions: (1) support to teacher development and delivery; and (2) greeting and orienting visitors of all sorts (parents, community members, university researchers and other professional visitors) and (3) administrative work. In this way, the management is considered facilitators to make the school run smoothly. This area would include a director's office, also office for assistant director and student counselor, an administrative area for staff a front office orientation desk, and a small meeting area for four people (flexible use). The meeting room for 12 people is a link between the management area and the teachers' area as it is used by both actively and sometimes used for visiting groups. If groups are larger than 12 people, orientation would take place in the teacher's dining room or occasionally in the internet café (depending on schedule and type of group).

The management area includes a support area with copying machines, materials distribution and other paper related activities. This room should be acoustically separated from work areas (as it can be a noisy area); spacious for several people to work at the same time; and well ventilated. A large counter and work table should also be provided to allow for sorting and other activities.

The teachers' dining room is considered a part of this zone however, will be adjacent to the kitchen. The dining room should provide a mini-kitchen for self-service and after hours use. The teacher's dining room is designed for staff meals 20-25 people. The teacher's dining room is also used for staff meetings and rarely used for orienting large groups of visitors.



Multipurpose Room

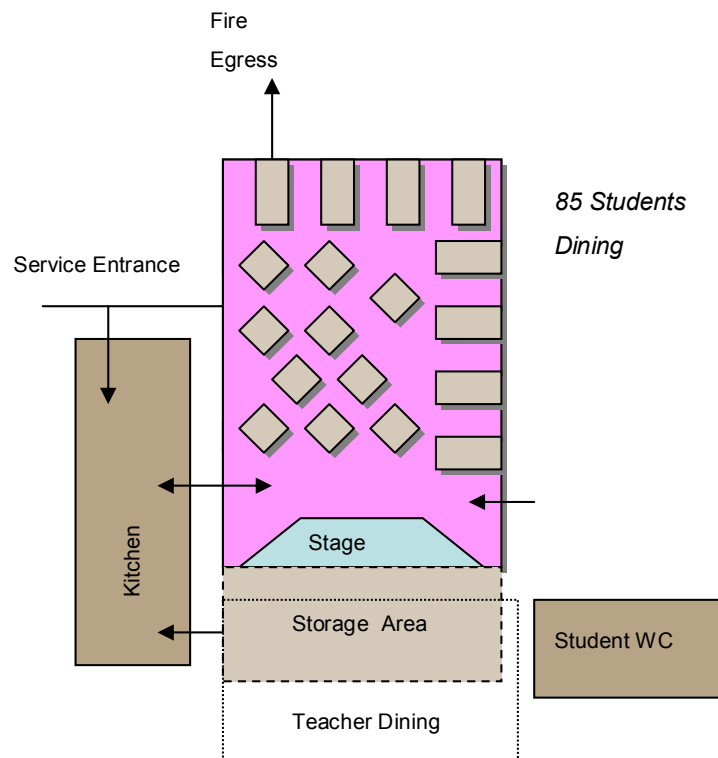
The primary purpose of the multipurpose room is to meet the diverse needs of student social activities, during the day and in the evenings. The multipurpose room is designed for five purposes: (1) as a dining room for student meals (possibly breakfast, lunch and dinner seating 85 students; (2) as an alternative presentation space for two classes to work simultaneously; (3) as an alternative study space (particularly beginning and end of the day); (4) as a large presentation area (for 200 people) making use of the adjacent open learning zone and (5) student social activities such as dances. Therefore this space is a highly flexible and sound attenuated space. The room is equipped with two movable walls: (1) between the open learning zone⁷; and (2) to subdivide the room into two class areas. Entry to the multipurpose room should be provided from both sides of this area as well.

A multipurpose room is a complex room from a design perspective and generally is less desirable than a “purpose built room”, however to meet economic requirements, such a space is often included in school programs. If the limitations of the multipurpose room and the inherent compromises are accepted, the space can meet a variety of needs satisfactory. Nevertheless, the pressure of five different functions for this room may be excessive. In the

⁷ Movable wall is to be explored for cost and design considerations. If a movable wall is not included between the open learning zone and the multipurpose room, the feature of using the two spaces as one for large presentations of 200 people is not possible.

starting years of the school, meeting all five needs will not be necessary due to the small enrollment; allowing for some time to prepare for possible additions to the building to alleviate the stress on this space.

The following text outlines the needs of the multipurpose room based on each of the four functions (dining, class space, work area, large presentation - 110 people and 200 people).



Dining

The primary role of the multipurpose room is as a restaurant or dining area. For this purpose the room should open to the view and should be an inviting atmosphere. Tables and chairs for eating should be functional and attractive. Lighting should enhance the atmosphere. The kitchen is planned to be adjacent to the multipurpose room and should include a cafeteria style serving area with an area for students to store lunch from home and prepare food (microwave, etc.). The room is programmed for 85 students to eat lunch at one time. This may be separate lunch periods but is more likely to be an open lunch period from 11:30 to 1:30 allowing students to choose when they eat lunch (sometimes crowded). It is assumed as well that some students will choose to go home for lunch, eat in local restaurants or eat their lunch from home at the Internet Café (only drinks served) or at one of the comfortable seating areas.

During lunch, presentations may be made by student groups or invited theatre or music groups. For this purpose a small movable stage should be provided. Storage of the stage should also allow it to be “slide” out of view when not required. The stage would also frequently be used by evening social events organized by the student union or during all student meetings organized by the school.

The room may also be used for evening dinners or to serve breakfast as well (to be determined).

Presentation/Class space

The multipurpose room could also allow for two large (or small) class presentation to take place. A movable wall located near the middle of the multipurpose room would help to create a sound attenuated room. This approach has been used in other Icelandic Upper Secondary Schools (Selfoss) in a satisfactory manner, however the room was not used for dining. To allow this room to be used as a class area, two presentation areas should be provided with wall mounted screens (could be used for other purposes). Dining tables and chairs will be used by the class on an as needed basis. Entrance to both spaces should be provided. This function could be added in year 2 or year 3 as needed. This space may also be used for standardized exams sitting a large number of examinees at one time.

Study Space

The multipurpose room will be an appropriate study space for the end of the day or even throughout the day, for individual work or group work when not used as a dining room. As the school operations will start at the beginning of the day (possibly 8:30 and end at 17:00), in the learning-day/working-day concept; additional study space will be required to allow for students to complete homework. It is possible that the movable wall may also be used in this purpose to create a quiet study area and a social study area to give students a choice. However, students will also be able to study in the library and in small discussion rooms (when not in use) which will offer a quiet environment, and in the open learning zone.

Large Presentation Area

The multipurpose room can easily provide seating for 110 making use of the movable stage. For this purpose, tables could be collapsed and stacked (required collapsible tables) or pushed to the back of the room (takes much more space). A storage room for the tables would also be appropriate.

For presentation of videos, a large screen and appropriate digital projector should be ceiling mounted or provided in control booth.⁸

Window should be fitted with room darkening, electronic driven shades to support the switch-ability of the room.

To allow for this room to be used for a larger group (up to 200 people), it is possible to consider opening the multipurpose room to the Open Learning Zone which is adjacent. This would require a superior movable, acoustical wall (electronic and would require some staff

⁸ To be determined.

support to open). The cost of this feature must be balanced out by the perceived benefit. This connection could be used as well in the late afternoon to open the multipurpose room to the Open Learning Zone as a study space, which could be a desirable feature.

As the Open Learning Zone has daylight requirements, this area will need electronic shades to darken the room for large presentations particularly for use in spring, summer and early autumn.

Another consideration is the need to move the furniture used in the Open Learning Zone to one side or into storage. This is considerable effort and requires student and staff time, even though most of the desks are on wheels. For this reason, the use of the two spaces as one presentation area, may be only feasible a few times a year, and should be considered for major functions only (graduation, or student musicals). These events could also take place in existing community halls in the area.⁹ A student dance could be held easily in the multi purpose room for approximately 150 students. For both this purpose and the large presentation appropriate fire egress must be provided.

Gym

The gym is for some sports classes and for student use during free time. Many of the sports classes may be taken off site at other local facilities (swimming and team sports). The gym is a work gym with a mirrored aerobic area and weightlifting and other workout equipment. Small changing rooms for male and female students are also provided (10 students total each area): lockers, two showers, and toilet area. The gym is located at ground level with isolation floor structure with sound separation with other building spaces. Access doors for equipment removal or delivery is also provided.

WC Locations

The WC locations for the school should be considered both for the day and evening use of the school. As the school has been zoned to allow for the information and gym area to be used in the evening separately from the rest of the school, WC facilities should be provided somewhere in this zone in addition to the locker rooms. It would make sense to locate a central WC area for student use between Zone 1 and the Multipurpose Room. As these spaces will occasionally be used for presentations the WC should be appropriate for a large number of users. Teachers and administrators should be provided with a WC area in Zone 4 (Teacher as Learner Zone). The kitchen should also be provided with a WC for staff.

VIII. Community Participation and Requirements

A. Inventory of community resources to support school

⁹ See note 2 on cost of movable wall.

In Stykkishólmur, Grundarfjörður and Ólafsvík there are many different facilities that could be used by the school. Most of them are in full or near full use already by the elementary schools and the local sports associations. However, the role of the upper secondary school is generally deemed so important that the local authorities will do their utmost to ensure that the needs of the secondary school are met.

There are hotels in Hellissandur (so far open summer only), Ólafsvík, Grundarfjörður and Stykkishólmur. The tourist traffic is mostly during the summer (June to August); the general rule is that there are vacancies over the winter months. Note however that the upper secondary school starts late August and efforts are being made nationwide to lengthen the tourist season.

In Stykkishólmur there is a large sports hall, an excellent swimming pool and a good outdoor sports facility for soccer. There is also a public library and a community hall. The regional nature centre in Stykkishólmur has excellent lab facilities and employs a few scientists; the regional heritage custodian is also based there.

In Ólafsvík there is a large sports hall, a small indoor swimming pool and a public library. There is also a privately run sports centre with aerobics, weight lifting, etc. In Ólafsvík there is furthermore a large community hall, which can be used for large meetings, cinema, concerts and dances (this is the best house of this type in the area). The National Marine Institute has a small office in Ólafsvík.

In Grundarfjörður there is a sports hall, an outdoor swimming pool open half the year, and a community hall. The community hall is used by a number of local clubs, the elementary school and the playschool, etc, and could be used by the secondary school on occasions. Given the number of users and how much the community hall is currently in use, it is probably necessary to have an auditorium or a large meeting area in the school building itself. Other facilities in the region can then be used in addition, to provide diversity.

B. Transportation

At the moment there is only daily transportation between Grundarfjörður and Stykkishólmur, provided by a regional bus company that provides the transport in and out of the region. It is generally assumed that there will be transportation between the towns and the school, as the needs of the school dictates. The consideration for the frequency of the school transportation is based on organisation of the school activities and financing. The school transportation could perhaps be used by the general public as well.

C. Other uses of the building

The public library in Grundarfjörður is recently built and is used by the elementary school as well. The town council is open to the suggestion of combining the public library and the library for the upper secondary school if that is considered feasible. Here the question arises, of how large the school library is going to be, considering that the school is based upon the use of information technology through very good access to the internet and various databases. The similarities and difference between the traditional school library, this schools

library and a public library will have to be determined to see if the two libraries belong together.

The regional Life Long Learning Centre is based in Akranes but is responsible for organising adult education courses within the Snæfellsnes area. The Centre functions in such a way that it “rents” facilities in the region, as needed for a planned activity. The educational service of the Centre can be grouped into: Occasional seminars (linked to recreation or job skills), a linked series of retraining courses for a specific vocation, acting as middleman in university level degree courses whereby the Centre provides the distance learning space and is the representative of the university in question. Which of these are offered in the Snæfellsnes region depends on the demand and the available facilities. In Stykkishólmur, for example, a study centre for university students is being set up – a facility that does not exist in the other communities.

It is therefore foreseeable that the physical facilities of the upper secondary school can be shared with the Life Long Centre, as well as the available expert staff that are interested in teaching adult education courses. In this case the Centre would rent the learning spaces (classes, independent studying, video conferencing etc.) from the upper secondary school. The space would primarily be used by the Centre in the evenings and during weekends. The Centre would also make direct contracts with the teaching staff.

Which type of adult courses would be taught at the school would depend on the space and equipment available at each time.

IX. Project management and key next steps

This document and the suggestions presented in it are the basis for all further work to be done in establishing Fjölbrautaskóli Snæfellinga. Once these suggestions have been presented to and accepted by the Minister of Education, further work will take place in relation to:

- formally founding the school
- designing and constructing the school building
- developing the educational concept
- deciding on the educational offering of the school and preparing it's implementation - including the approach to those student who require special assistance due to mental or physical disability or are of immigrant background
- planning and implementing the infrastructure and running of the school's regular operations
- ensuring the necessary equipment and technical facilities for a distributed learning school are in place
- introducing and promoting the ideas behind the school to the Snæfellsnes population as well as the educational sector in Iceland
- promoting the school to prospective students, planning their registration and induction
- determining the necessary staff requirements and hiring those staff members
- establishing the necessary school support services, such as library, book sale, catering, maintenance etc.

The above mentioned is only a brief indication of what needs to be done before August 2004, when the school starts its operation. A more detailed project plan, with individual tasks, a time schedule and indication of those responsible for tasks is available from the project manager.

October 1 2003

Fjölbrautaskóli Snæfellinga

*Snaefellsnes Upper Secondary School:
A Meeting Place to Learn
Welcoming, Caring and Supportive*

ADDENDUM

1. "Whole Student Life"
Contributed by Hafþór Guðjónsson, PhD
2. Distributed Learning and Information Technology
Contributed by Jona Palsdóttir
3. Adjacency Diagram
4. Building Program in meters squared
5. Outline of Building and Site Requirements

Addendum 1: Whole Student Life

Contributed by Hafþór Guðjónsson, PhD

A. Social, learning and caring

Traditionally, learning has been thought of as a mental process, i.e. as an accumulation of knowledge in the mind of the learner. Bruner (1996) asserts that this view of learning is a dominant one in schools and in society at large. Guided by this view, teachers see their role as providers and transmitters of pre-packaged knowledge chunks to the passive minds of their students. And students, on their part, tend to consider their role as passive receivers of this pre-made knowledge: they take notes and read their textbooks for the purpose of remembering facts and principles keeping a firm eye on the exam that is around the corner, knowing that they will be judged from their achievement, the test score. Unfortunately, many students do not experience much success in this school-exam-remembering game. Even worse, many of them become marked by their failed attempts to live up to the standards underlying such school practices, dooming themselves as losers or as not being “able” or “smart enough”.

Facing such detrimental impacts of schooling, many scholars have suggested that time may be ripe to take a critical view of current school practices and their underlying principles. Gardner (1983, 1985), for example, has suggested that instead of reducing an individual’s potential to a single score on an IQ test we should celebrate the multiple capacities individuals carry with them and create conditions for those capacities to flourish. And Bruner (1996) has stressed that the dominant model of the learner (as passive receiver of knowledge) is but one alternative. Building on the ideas from Kant and Piaget the learner may be portrayed as an active meaning-maker who constructs his inner world by various means and from various sources, the teacher and the textbook being parts of them but by no means the only one. Indeed, such a view of the learner seems to be particularly promising in the varied and technologically impregnated society we live in today. In the past when the teacher and the textbook were almost the only learning resources the model of the learner as a passive receiver of knowledge may have been justifiable, at least to some extent. Nowadays, however, we are in need of new models, in part to overcome the detrimental impacts of schooling mentioned above but also for the purpose of figuring out ways of enabling our students (and even the rest of us) to cope with what seems to be the single most obvious characteristic of modern society, namely *change*.

B. Learning How-to-Learn

Contrary to earlier times modern society changes continually and at an ever accelerating pace. This implies that individuals are constantly facing new situations which they need to make sense of. In other words, living in a modern society requires people to *learn* all the time. This explains the emphasis now put on the slogan “learning how to learn” in many countries. Underlying this slogan is the idea that it is all-important to educate our students in such a way that they become capable of adapting or coping with a constantly varying

environment. If this holds, the question arises how schools might respond to this challenge. Can they offer or develop a learning environment that might be of help to the students to deal with the complexities of their lives? If so, what would be the characteristics of such an environment?

This issue has many aspects. No doubt, propositional knowledge (“knowing about things”), characteristic of the traditional secondary school, has a role in this endeavour. It may be helpful for our students to know some of some basic facts provided by the various subjects taught in schools. However, the learning strategies and the attitudes they develop in the course of their studies and in relation to the subjects might be even more important. In other words, *how* students learn may matter more than *what* (content) they learn. Traditionally there is in most (secondary) schools an overriding emphasis on lectures and note taking. The familiar picture to most of us is the teacher speaking at the blackboard or the overhead and the students listening and taking notes. If conversation is on the agenda it usually takes the form of the students answering teacher initiated questions whose answers need not be thought about because they are already “there”, that is, in the textbook and the teacher’s head. The students’ role is simply to respond with “the right answer”.

C. Collateral Learning : The whole person and self-creation

Although some may find the picture drawn here as somewhat caricaturized, it can hardly be denied that school practices most places tend to provide the students with a rather passive role and treat them as “receptacles to be filled” to borrow terms from Bruner (1996). The danger inherent in such practices is that students develop *unproductive learning habits*. Simply stated, they learn to be passive and not to think for themselves. Dewey (1916 / 1944) made the point that classroom practices of the type sketched above are rooted in old dualistic conceptions that portray the mind as a container-like entity disconnected from the body and the environment. In this picture, the body is a sort of holder for the brain that does all the work (thinking and learning). In Dewey’s view, in contrast, it is the whole body or rather the individual or the *person* that learns – not merely the brain or the mind. This implies the view that emotions and attitudes should be seen as not separate from but rather as part of or integral to the learning process. Indeed, in Dewey’s educational philosophy, emotions and attitudes are given no less status in the learning process than the cognitive aspect. Deliberating on this issue in *Experience and Education*, he claims that:

Perhaps the greatest of all pedagogical fallacies is the notion that a person learns only the particular thing he is studying at the time. Collateral learning in the way of formation of enduring attitudes, of likes and dislikes, may be and often is much more important than the spelling lesson or lesson in geography or history that is learned. For these attitudes are fundamentally what count in the future. The most important attitude that can be formed is that of *desire to go on learning*. (Dewey 1938, p. 48, my emphasis)

We need only think of our own school experiences to grasp the truthfulness of this statement.

Recent years have seen a renaissance of Dewey’s educational thinking. Facing the complexities and uncertainties of our current social situation, many scholars of education

now see his holistic thinking as a useful frame to guide the design of productive learning environments, “productive” in the sense that they may enable young people to develop competencies adequate for their lives and for an uncertain future. Nixon, Martin, McKeown and Ranson (1996), for example, point to *agency* as crucial to learning, asserting that “the deeper significance of learning lies; through it’s forming of our powers and capacities, in our unfolding agency” (p. 49). Developing a theory of learning for “the learning school” they suggest that learning may be envisioned as proceeding on different levels, that is, on the level of *understanding* (of the subjects), the level of *self-creation*, and the level of *social creation*. Furthermore, they portray each of these levels or “layers of learning” in three dimensions, namely the *individual*, the *interpersonal* and the *public* dimension. Condensed into a table form their framework takes on the following shape:

	Bases of learning		
Layers of learning	<i>Individual</i>	<i>Interpersonal</i>	<i>Public</i>
<i>Understanding</i> (minds)	Practical reason: the examined life	Expectations: ourselves and others	Values: recognizing difference
<i>Self-creation</i> (selves)	Motivation: agency and identity	Support: encouragement	Justice: rights and responsibilities
<i>Social creation</i> (communities)	Mutuality: identity	<i>Civitas</i> : co-operation	Discourse: conversation

There is not space enough here to explain the concepts and issues addressed in this table. The interested reader is encouraged to explore the reference given. Suffice to point out here that the table as such might serve as a useful guide for a school that wants to create a learning environment with the aim of enabling students grow individually as well as socially. A framework of this type might facilitate the new school broadening its scope (relative to the traditional school) and figure out new ways of working with the students.

Addendum 2: Distributed Learning and Information Technology

Contributed by Jona Palsdottir

A. Definition for this school

A distributed learning school is an institution which does not necessarily require traditional school buildings, does not have a fixed course schedule and the teachers and students are not always in the same location at the same time. In this school the student is at the centre, he does his learning through different means and from different locations. It is to be expected that in the core courses of the school, courses that traditionally are taken by beginning students, there will be large groups of students studying the same material. But as teachers are guides rather than lecturers there is no need for traditional class rooms. Instead students work together in groups and as individuals in finding and using information. Groups can be gathered in an auditorium to listen to short lectures when necessary. Natural science courses are taught in the same way so there is no need for traditional class rooms there either, in fact the students can visit other schools, research institutes or companies to do experiments or other things that traditionally are done in the school lab.

The school does not differentiate between local teaching and distance teaching, rather these two teaching methods are interlinked into distributed learning, where knowledge is gathered and shared through the Internet. In this way the student can take courses at one or more schools at the same time as he wishes. With the support of guidance teachers, supervisors, student counsellors, librarians, each student will find the most appropriate way to learn. The student can attend the biggest part of his studies in the local school, which uses mixed working methods, and the rest he can get through distance learning from other schools. The student can take the biggest part of his studies from outside the local school, through video conferencing or other means of distributed learning, but be stationed at the local school where he receives support from the specialists that work there, and finally graduate from the school.

B. Diversity of ICT use

- i. Synchronis - Crowded courses, especially from first year students, are synchronized in space and time, whether they are taught locally or through video conferencing, television or the Internet. Students will use the first year to acquire new methods of work and learn how to use the technology. They will also acquire independent study skills and how the new environment of the school functions. The emphasis is on interactiveness and open communication.
- i. Asynchronis - A big part of studying is independent of time, even if it is to be expected that an attempt will be made to schedule group work and some distance

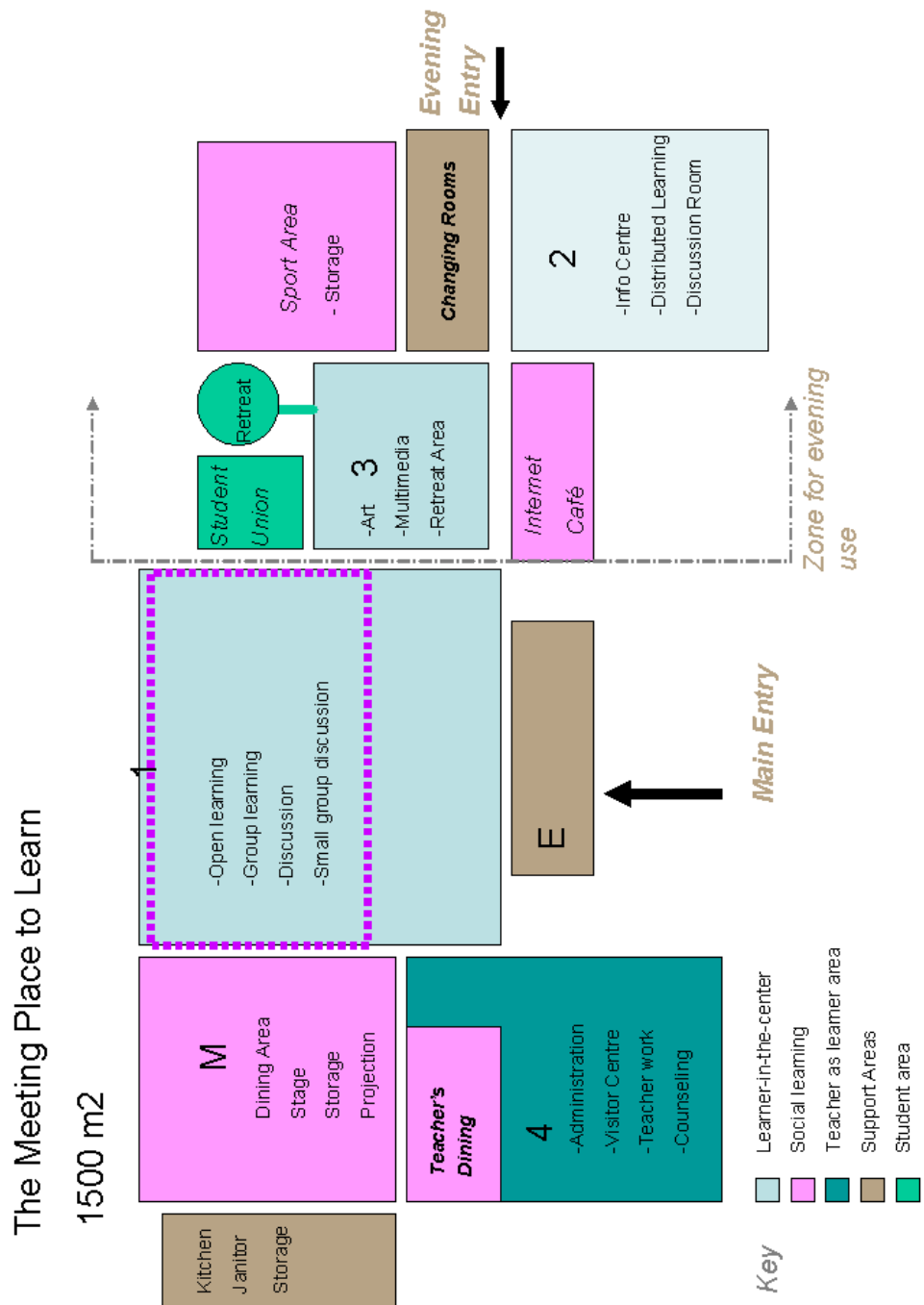
learning. This will be done through real time chat on the Internet, video conferencing and local co-operation teams.

Part of the studies will be independent of both time and space. Teachers will be in a different location than the school, they will put forward teaching material that the students can access any time and any place. It is to be expected that students will want to do part of their studying at home or their home community, as some will choose to use their time in school for communication rather than studying. Chat lines on the Internet are both independent of times and space as well as many kinds of learning management systems. Emphasis is on interactiveness and organizing communication.

C. Tools

To day we need a broadband network and phones. We will use mobile phones and SMS, video conferencing, computers, projectors, large screens, cameras, editing equipment for film and sound, running machine and a stationary bicycle connected to television/radio – and many other things. We need to have the possibility of adding equipment as needed.

Addendum 3 - Adjacency Diagram



Addendum 4 - Building Program, 1500 (m2)

Space #	#	type	# students/users	Room size	total m2
0		Main Entrance			
0,1	1	coat and shoe area		40	40
0,2	1	locked coat coin storage area			10
		Total Main Entry			50
1		Learning Landscape 1 – Open Learning			
1,1	1	Open Learning Space	60+20	190	190
1,2	1	Discussion room	12	24	24
1,3	2	Discussion rooms (combine to make 1)	15	30	60
1,4	1	Relax area			20
1,5	2	Small Discussion room (counseling)		6	12
		Total Capacity Landscape 1			306
2		Learning Landscape 2 – Information Center			
2,1	1	Information Center			60
2,2	1	Discussion room	12	24	24
2,3	2	Small group discussion	4	10	20
2,4	1	Relax area			20
2,5	1	Support area (checkin/out)			20
2,6	1	Internet Café	15	30	30
		Total Capacity Landscape 2			174
3		Learning Landscape 3 – Contemplation Arts			
3,1	1	"Reflection space" resting area		30	30
3,2	1	Multimedia/ Art	14	48	48
3,3	1	Recording Studio and Equipment		12	12
3,4	1	Student Union		20	20
		Total Capacity Landscape 3			110
4		Learning Landscape 4 - Learning Teacher			
4,1		Management		26	26
4,2	2	Small meeting		6	12
4,3		Teacher Learning/working space	15	60	60
4,4	1	Discussion room	12	24	24
4,5		School information area (reception)		12	12
4,6		Support area		12	12
4,7	1	Teacher dining		40	40
		Total Capacity Landscape 4			186
5		General Areas			
5,1	1	Multipurpose room with movable stage	85	170	170
5,2	1	Student Lockers (170)*			20
5,3	1	Aerobics Gym	20	100	100
5,4	2	Locker area for gym (10 each)**	30	15	30
		Total Capacity General Area ***			320
6		Support Areas			
6,1	1	Kitchen		35	35
6,2	1	Storage			15
6,3	1	Janitorial		6	6
		Total Support Area			56
		Sub - Total			1202
		construction, circulation, toilet, additional storage (25%)			301
		Total			1503

* Student storage lockers should be phased in. For first two years install 100 lockers, More lockers should be installed with growth in enrollment. Design appropriate space for lockers.

** In case of gender separated gym classes, the changing areas have been called out as larger than 10 for each. In case of a full 20 person, single gender gym class, these changing rooms would be over utilized (or crowded).

Addendum 5 - Outline Building Program

I. General Goals

- a. School is organised on a model which makes use of a hybrid model for distributed learning and traditional teaching and learning delivery.
- b. School is organised to focus on the learner in the center with students learning-to-learn; independent learning, study research skills; working in groups and individually;
- c. The building should reflect the identity of the community and should offer identity to the students.
 - i. Recognize the needs of the learner has many faces: student; teacher; adult; employee; employer
- d. The building should inspire students both academically and creatively
 - i. The school should be welcoming, transparent and open.
- e. Support quality of life and socialization
 - i. Socializing throughout the school, not only in one place
 - ii. Life long Learning
 - iii. Sports
- f. Minimize corridor like circulation as much as possible
- g. Develop open space making use of vertical separation where possible
- h. As the school program is in development, the school building should be highly flexible, switchable and changeable.
- i. The interior design and structure for open spaces should allow for possible infill over time.
- j. Additions to the building are likely.
- k. School is designed for a 9 to 5 school day.
 - i. Some activities will take place off site.
 - ii. Students may also be given option to learn off site one day a week (or two).
- l. Provide settings for diverse activities
 - i. Learning to learn
 - ii. Self management
 - iii. Information management
 - iv. Working together
 - v. Presentations
- m. Create diversity and choice throughout the building
- n. Support community use throughout the day and in the evening

II. User Groups

- a. The building is organised as a learning centre for several types of learners:
 - i. upper secondary students
 - ii. vocational
 - iii. matriculation
 - iv. first year legalised trade (core courses)
- b. community learners
 - i. adults completing degrees
 - ii. employee training and workshops
 - iii. specific skill or knowledge courses (non-degree)
 - iv. professional development (within specific vocational areas offered at school)
 - v. quality of life enhancement (creative arts etc.)
 - vi. children (children's area not included)

- c. Teachers and Administrators
 - i. Are also considered learners in this school
- d. Visitors
 - i. Visiting teachers (week, month, year)
 - ii. Researchers
 - iii. Professional tourists (other regions of Iceland and Internationally)
- e. Summer professional seminars
 - i. Regional, national and international

III. Exterior Façade

- a. The exterior façade should be transparent and stimulate interest
- b. East or North Entry
- c. Special attention to window and other installation on North side (see severe weather conditions)
- d. Some internal activity should be obvious from the street level
- e. The Internet Café should be the most transparent item
- f. Possible community entrance will be present at Gym/ Library Make use of site slope to “step down” the building/ make vertical spaces (consider related expense)
- g. Exterior should have signage, architectural vocabulary which helps to support the identity for the school.
- h. Theme for the school is a “meeting place” for learning; social centre should be recognizable from exterior as well as interior design
- i. Possible some reference to the “mirror” (see Laxness quote)

IV. Interior Design

- a. Entry should signal contemporary design which carried out throughout the building (innovative design for storage etc possible)
- b. Interior design should reflect an environment which can built into (loft-like; scaffolding; supports)
- c. Design of “space between” use spaces important to promote social interaction (i.e. no long corridors; yes, places to pause and talk).
- d. Switchability is very important with movable walls (indicated in program text)
- e. Develop a range of movable partitions, kiosk, etc.
- f. Develop family of movable furnishings, ranging from traditional seating to comfortable relaxed seating
- g. Movable workstations on wheels in Open learning zone must be carefully selected or custom designed
- h. Schemes A and B may have different interior design themes (of the same genre’) in different zones
- i. Provide ability to easily display work and make presentations throughout building (based on code issues)

V. Circulation, Storage, Construction and Toilet Areas

- a. 25% of net area devoted to circulation etc.
- b. Check storage requirements with Ministry
- c. As well, some additional lounge area has been provided in the program (relax area) which would often be included in this percentage.
- d. The 3 m² per student in open learning area should be generous as well.
- e. Students recommend toilet areas be considered social areas.

- f. WC areas recommended by Open Learning/Multipurpose Zones; and by Information Area/Internet Cafe; as well as separate WC by Reflective area.
- g. WC area in Teacher-as-Learner Zone; and separate WC for kitchen staff.

VI. Mechanical and Acoustics

- a. Open Learning Area and Multipurpose room should be acoustically designed and attenuated for the purposes designated.
- b. Wireless network to be provided throughout building
- c. Extensive electrical access (floor based) to be found in the open learning zone for mobile workstation access.
- d. Video projectors to be ceiling mounted in several learning spaces and in the multipurpose room
- e. Network cable tray locations to be determined by network specialists
- f. Electrical and Server closets to be determined by network specialists

VII. Special switchable spaces

- a. Multipurpose Space
 - i. Dining Room (include small movable platform for ad hoc presentations)
 - 1. Serving stations (?)
 - 2. Provide student food prep area (microwave, refrigerator, etc.)
 - 3. Mobile stage which can be stored
 - 4. Demountable tables preferred.
 - ii. Theatre
 - 1. provide ceiling mounted data projector and control location
 - 2. provide appropriate lighting and screen to make use of "stage" where appropriate
 - 3. provide scaffolding for additional lighting for (if) large production
 - 4. Assume mobile unit controls for lighting (no control box required)
 - 5. Electric operated room darkening shades where required
 - 6. Possible movable wall between MP Room and Open Learning Space
 - iii. Learning Space
 - 1. provide movable wall to divide room in two spaces.
 - 2. provide two presentation areas with appropriate lighting and
- b. Open Learning Space
 - i. 3 m² per student allows for casual seating, workstations for 60 students and unassigned work bench for 20 students (along walls), with two presentation stations
 - ii. Create two defined learning areas within space
 - iii. Visual connection between discussion rooms and open learning space.
 - iv. Possible room electrical operated room darkening shades (see above)

VIII. Programmatic Design

- a. "Learning Landscapes which are interconnected (see schemes)
 - i. Open Learning Landscape (all schemes)
 - ii. Information Centre (Community and School)
 - iii. Contemplation Arts
 - iv. The Learning Teacher Landscape

IX. Additional areas within the school (distributed appropriately) include:

- a. Main Entrance and Community Entrance
 - i. Entrance at North or East side of building
 - ii. Main entrance is secondary school, teachers, visitors etc. located near bus drop off and teacher/visitor parking
 - iii. Community entrance is located near zone 2 for all day and evening entrance for community learners
- b. General Areas (Social and Physical areas)
 - i. Student Union
 - ii. Internet Café
 - iii. Multipurpose room (see notes above)
 - iv. Aerobics gym
 - v. Teacher Dining (also for visitors)

X. Important adjacencies include:

- a. Appropriate circulation and fire egress for use of Multipurpose room for social activities and for large group presentations must be included in design
- b. Multipurpose room is to be used as student lunch area
 - i. Must be adjacent to kitchen
 - ii. The capacity of the multipurpose room as proposed is 85 students during one meal. As the school is to be designed for 170 students; meals would require two seatings when the school reaches full occupancy
- c. Internet Café should be link between open learning and information centre and is used by both students and community

XI. Designated Learning Space Types

There are several learning space types which are called for in this program they include: (see schemes for number of rooms per type).

- i. Discussion rooms
 - 1. Combine 2 discussion rooms in Open Learning Zone to form 1 classroom With high quality acoustical movable wall
 - 2. Include large sink in both of these two discussion rooms with cover when not in use.
 - 3. Smaller discussion room to be accoustically attenuated
- ii. Other Learning Spaces
 - 1. Multimedia Room
 - 2. Internet Cafe may be used for lectures (ex.special guests)
 - 3. Open Computer Workstation area in Information Zone
- iii. Open Learning Area (more on this space)
 - 1. Open area with two distinct zones
 - 2. Possible dividable for special situations with movable wall (affordability?)
 - 3. Accoustically attenuated

4. Area will include movable workplace with electric power
5. Area will provide wireless network connection for workstations
6. Possibly mix of high end workstations and notebook computers located in this space
7. 1:1 ratio computer to students /staff
8. Work “bench” or counter for 20 students on perimeter of the room

iv. Relax areas

1. Alternative work/learning areas with comfortable seating
2. “Fun” and attractive
3. Thematic for each zone
4. Could also be considered circulation space (in part)

v. Multipurpose Room

1. While intended for use for dining (breakfast; lunch and possibly dinner); multipurpose room may be seen as alternative open learning area when not used at meal time (see other notes)

XII. Special Spaces

i. Retreat Area

1. As there is a 9-5 schedule, there may be need for students to have quiet time/ even a nap, also to read without distraction or work on computer without distraction. The retreat area should give space for those who want to withdraw from the school activities. This should be a quiet area, but allow for visual survey

XIII. Site Requirements

- a. Parking for teachers/ administrators
- b. Parking for students
- c. Bus drop off area
- d. Parking for community
- e. Future extension areas could be located at (depending on scheme see Text on additions)
 - i. Multi-purpose area
 - ii. Aerobics Gym area
 - iii. Learning Zone
- f. Building Orientation
 - i. Take advantage of views
 - ii. Take advantage of site slope