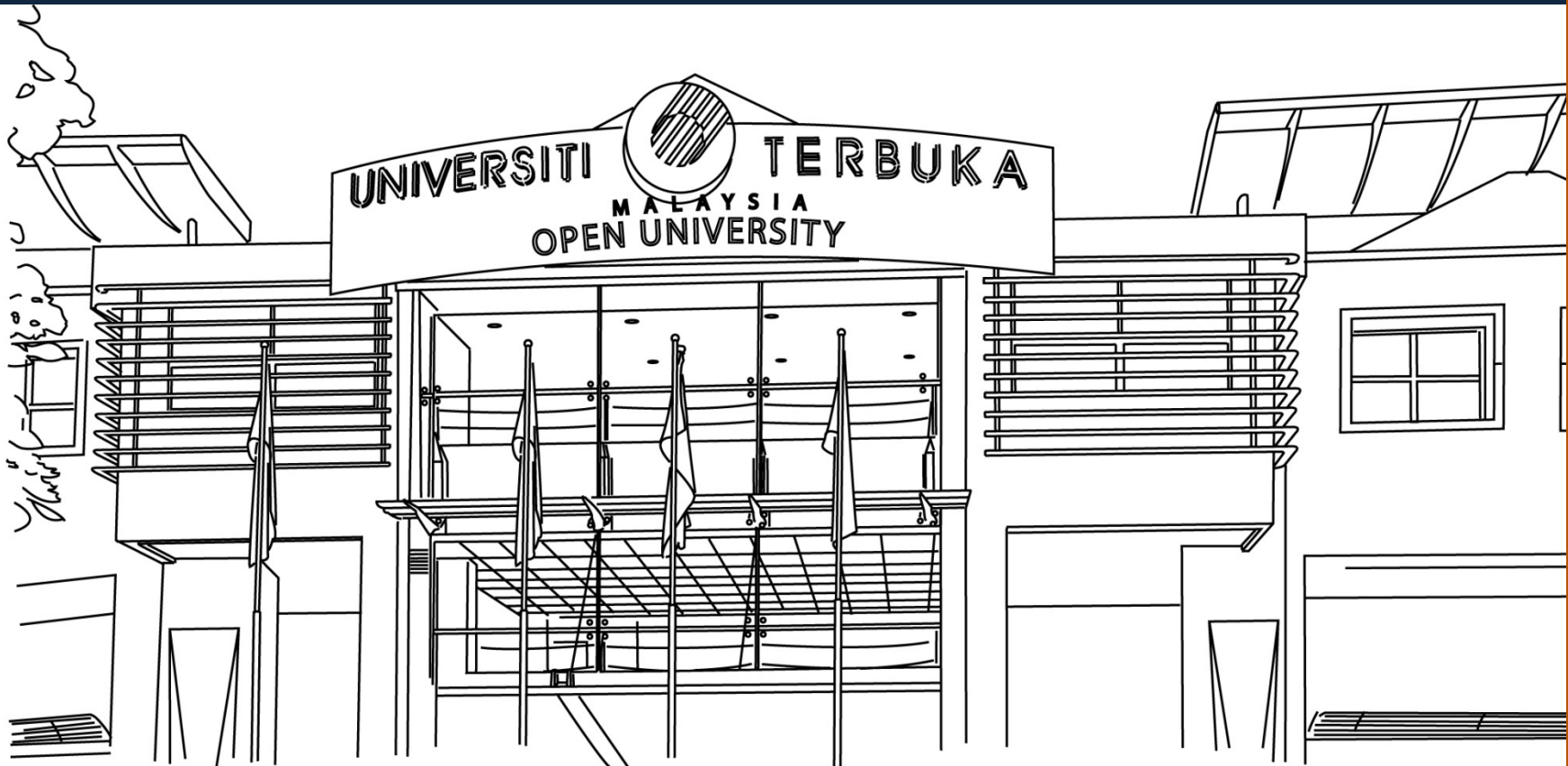


Revisiting Retro-Technology to Extend Educational Opportunity to Teachers in Remote Schools



by:

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OPEN UNIVERSITY MALAYSIA

Revisiting Retro-Technology to Extend Educational Opportunity to Teachers in Remote Schools

Extension of:

Widad, Othman. (Assoc. Prof) (2008, October 14). **Educational Opportunity for teachers in Remote School Through Open University Malaysia Learning Model.**

Paper presented at *The 22nd AAOU Annual Conference, Tianjin, China.*

Objectives:

- 1.To offer new learning model for 'pedalaman' teachers
- 2.To add value to OUM- BPG SMP (Bachelor of Teaching) Programme
- 3.To build new capacity for OUM by offering cross-platform learning model.

CURRENT LEARNING MODEL



The Open and Distance Learning (ODL) mode is used because of its three key characteristics; accessibility, flexibility and learner-centredness:

- **Accessibility**

- Accessible to people who cannot attend regular classes due to social, structural or personal reasons.
- Not limiting: people with disabilities can have access
- Learning resources adaptable to different media

- **Flexibility**

- Physical flexibility to study at a time and place that suits learners.
- Educational flexibility to study in a manner appropriate for learners' needs.
- Content, sequencing and structure of ODL programs are developed to support learners and are not strictly fixed like conventional academic institutions.

- **Learner-Centredness**

- Provides education and training in a way that prioritize learners' needs, rather than institutional convenience.
- Enables learners to pursue their studies in a way that is appropriate for their circumstances, learning goals and styles.
- Provide good quality learning materials in appropriate, accessible media, and gives sufficient support to ensure learners have a good chance of successful learning.

...with the emergence of fast, intelligent, inexpensive and high capacity learning technologies the practice of open distance learning, in the developed world, has been moving towards the 4th and 5th generation technologies where multimedia courseware embedded in a comprehensive web enabled learning management systems provide both synchronous, asynchronous and highly interactive learning environments.

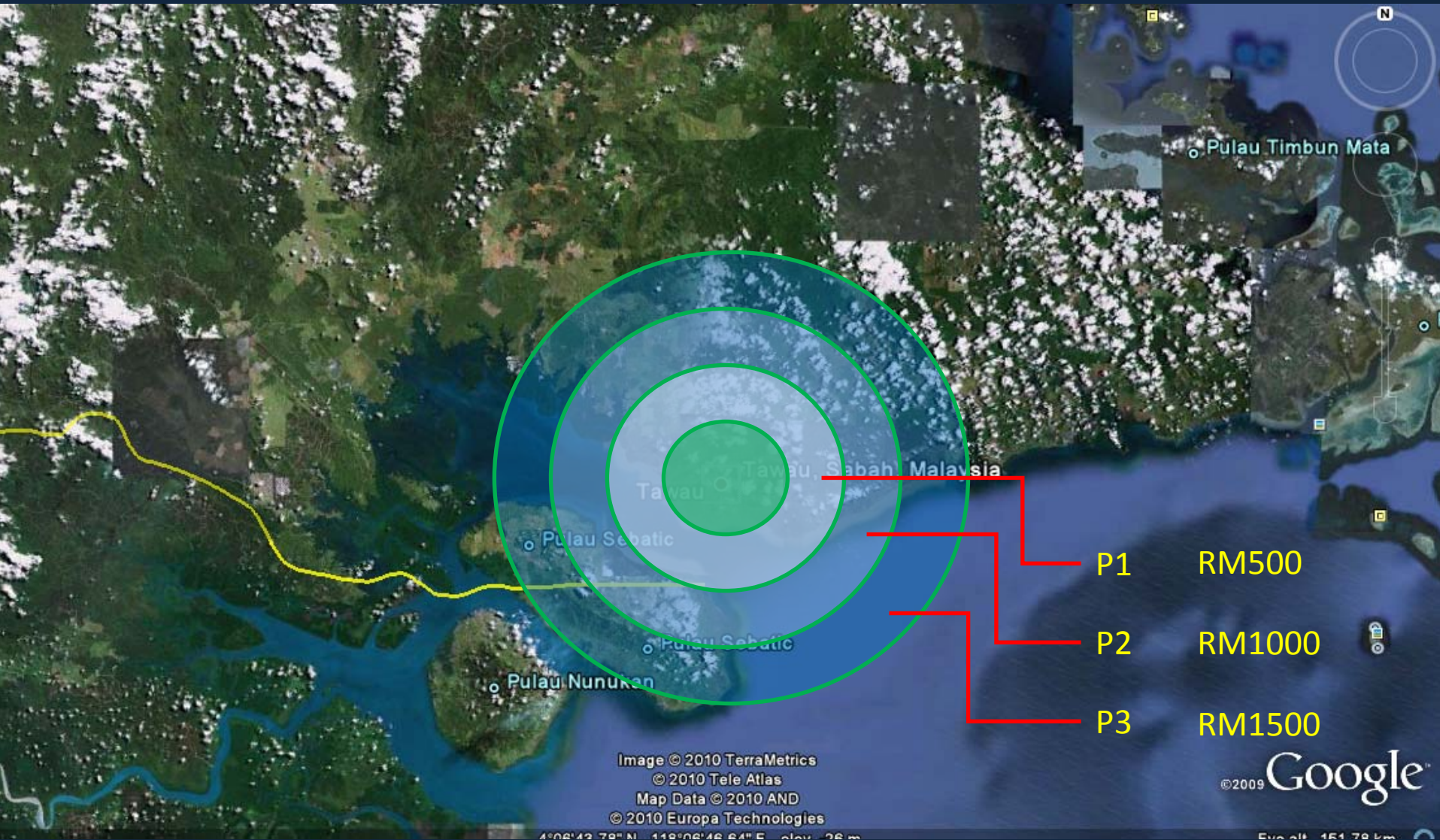
-Dhanaraj, 2009-

The Remote 'pedalaman' Teachers

The remote teachers faced three constraints in their endeavour to further studies:

- Their location in the remote areas which limits their mobility to learning centres for the fortnightly face-to-face tutorials;
- Their teaching duties which did not permit them to leave their young students during school days; and
- Inaccessibility to the internet.

TED* Malaysia categorises the 'remote interior' (*pedalaman*) into 3 categories.



Paris –Dakar Rally

- [Level 1](#)
- [Level 2](#)
- [Level 3](#)
- [Level 4](#)



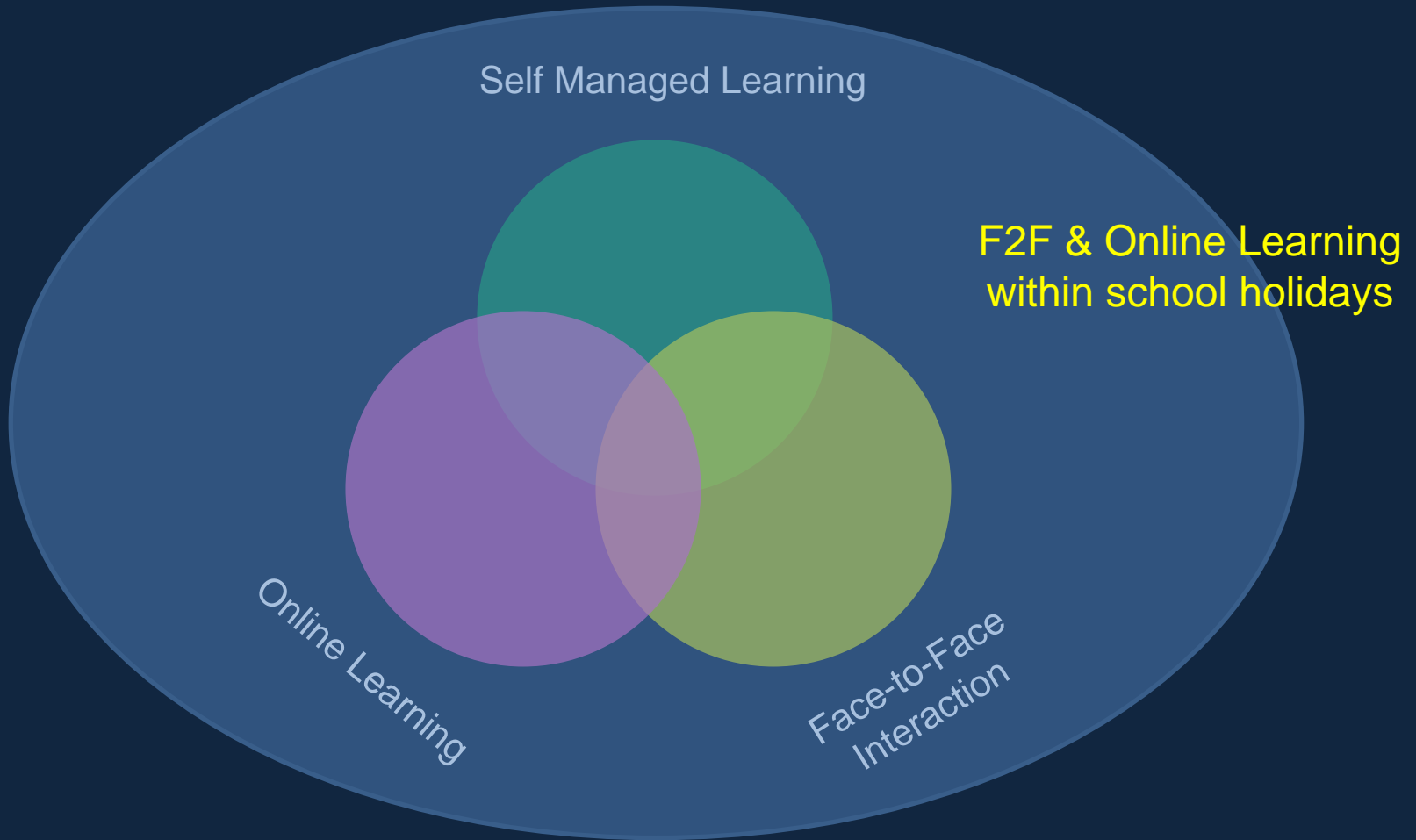
TUPE Model for 'pedalaman' teachers:

To address these constraints and challenges OUM's blended learning model was further fine tuned into the TUPE Model:

- **Tutorials**
- **Revision**
- **Examination**

Teachers from the '*pedalaman*' will be assigned to the nearest Teachers Training Institute (TTI) and study during the school holidays. Teaching and learning therefore is fully face-to-face during this time.

TUPE LEARNING MODEL



OUM (Pedalaman) Blended Learning

Challenges

TUPE Model is still restraining:

1. Access to 'pedalaman' students is limited to the time they are in the TTIs.
2. TUPE (Tutorials-Revision-Examination) overloading students.



fast, intelligent, inexpensive and high capacity learning technologies...Dhanaraj

- Infrastructures should be equally fast, intelligent and high capacity....
- except these are not available in the interior learning ecosystem.
- So how do we move forward?

ASK FOR THE NASA JOKER AS FOR THE NASA JOKER



1946 TTK licenses Bell Labs' transistor technology to eventually build the first commercially successful transistor radios.

1946 Masaru Ibuka and Akio Morita form the Tokyo Tsushin Kogyo K.K. in a radio repair shop. They build Japan's first tape recorder: the Type G.

1950 TTK launches Japan's first magnetite-coated, paper-based recording tape, the Gomi Tape, and Japan's first magnetic tape recorder, the G-Type.

1955 Sony builds Japan's first transistor radio, the TR-55.

1958 Tokyo Tsushin Kogyo K.K. becomes Sony after the Latin word *Sony* or sonial and also "sonny" (as in little boy).

1960 The first fully transistorized television, the Sony TRV-301, is released, including 23 silicon and germanium transistors, 15 diodes, and two high-voltage diodes.

1963 Sony launches the world's first compact transistor VTR, the PV-100.

1965 "Sony Boy" is created to advertise the TR-6 transistor radio.

1967 Sony launches the world's first IC radio, the ICR-100.

1968 Sony introduces Trinitron, its line of aperture grille cathode ray tube televisions, with the Sony KV-1310.

1970 Sony launches Japan's first all-transistor amp tape recorder, the TC-777.

1971 Sony launches the U-matic color video cassette player, or VP-1000.

1974 Sony KV-1375 Curation is launched for the popular personal TV market.

1975 Sony introduces Beta video tape recorder (sh model).

1977 Sony invents the TR-61, which was then the world's smallest transistor radio in commercial production (112x76x22 mm).

1979 Sony launches the world's first stereo cassette player, the Walkman TPS-L2.

1980 CBS/Sony Records Inc., is established. It's a 50-50 joint venture with CBS Inc.

1982 Sony introduces the world's first CD player, the CDP-101.

1983 Sony creates the 3.5" floppy disk. A year later it debuted in the first Apple Macintosh.

1984 Sony launches the Discman.

1985 Sony releases the Brn camcorder.

1987 Sony introduces the DAT tape.

1988 Market speaks: Sony kills Betamax.

1989 Sony HandyCam CCD TR55, a compact and lightweight, pocket-sized 8mm camcorder.

1990 Sony introduces their portable TV, the Sony Walkman.

1991 CBS/Sony becomes Sony Music Entertainment Inc.

1992 Sony introduces the world's first mobile phone, the Sony Walkman.

1994 Sony introduces Flat Trinitron CRT-based TVs with the FD Trinitron WEGA.

1994 Sony does another stupid thing: Yet another new proprietary format, this time called MiniDisc.

1994 Sony introduces the Digital HandyCam DCR-VX1000, the first consumer-use digital video camcorder.

1994 Sony introduces the AIBO ERS-110 entertainment robot series, Aibo.

1996 Cumulative Trinitrons sold: 100 million.

1999 Trinitron gets discontinued in the US.

2000 Sony launches PlayStation 2.

2003 GND special entertainment robot.

2005 Sony HDR-HC1, world's smallest digital HD-video camcorder.

2006 Blu-ray launches.

2007 Sony XEL-1 World's first OLED TV.

2008 Sweet revenge! (for Betamax) Blu-ray kills HD-DVD, but physical formats start getting replaced by streaming.

2009 Sony Viao P Notebook.

by Jesús Díaz · Gizmodo

THE WAY FORWARD IS BACKWARDS

How?

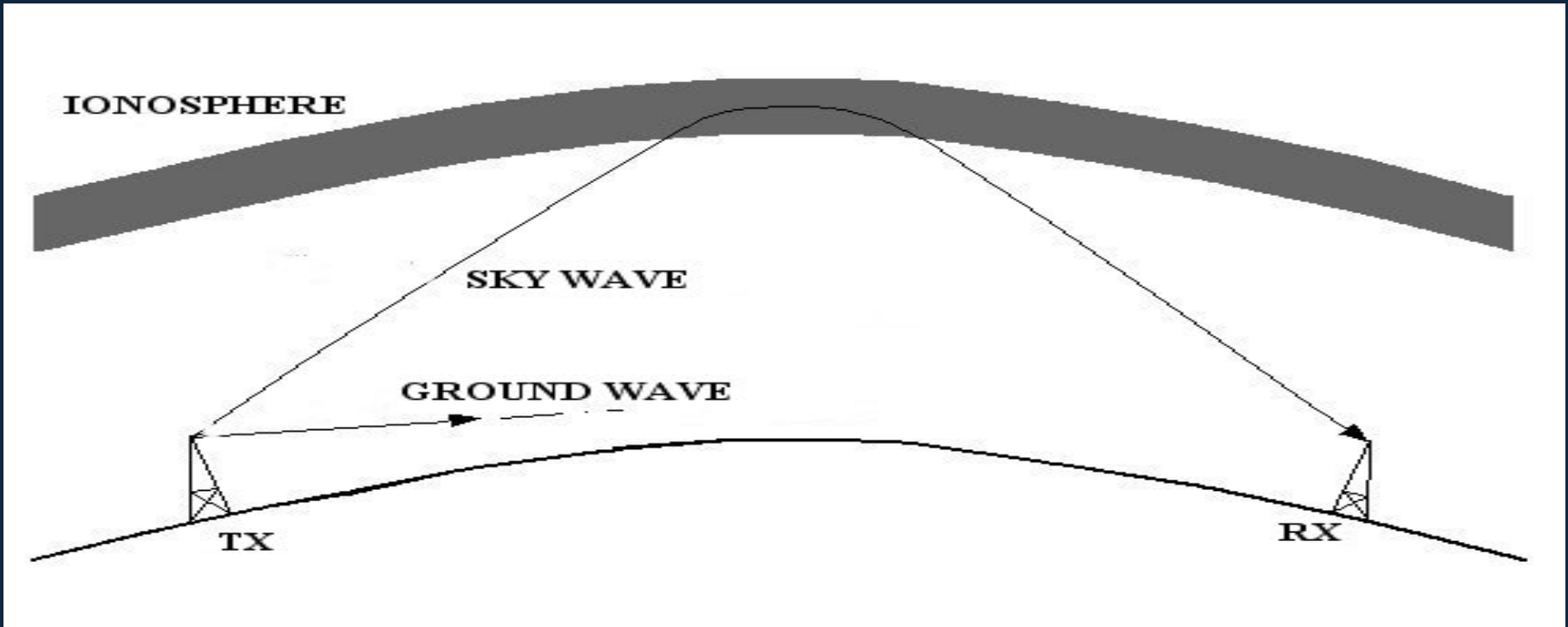
TWO-WAY RADIO/ SW RADIO



Why?

1. Meets current needs
2. Cheaper to set up.
3. Reliable and able to reach remote places.
4. Able to run with minimum infrastructures.
5. Successfully used in these economies: Australia, Canada, India etc.
6. Can be easily upgraded to transmit/ receive data.

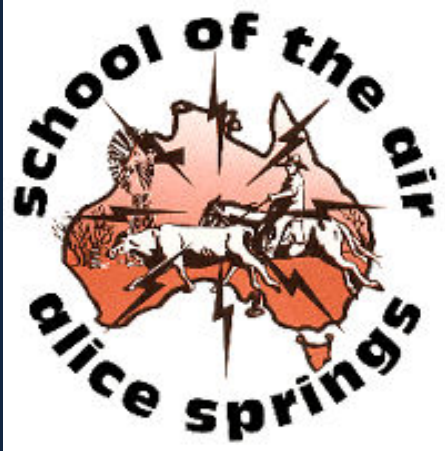
How it works?



Wide range of radio communications technology:
SW, VHF, UHF and Microwave

Travelling time from Transmitter (TX) – Ionosphere (reflecting layer) – Receiver (RX)
usually a small fraction of a second.

Success story



The first radio broadcasts were made from the Royal Flying Doctor Base in Alice Springs, Northern Territory (NT), in 1951.

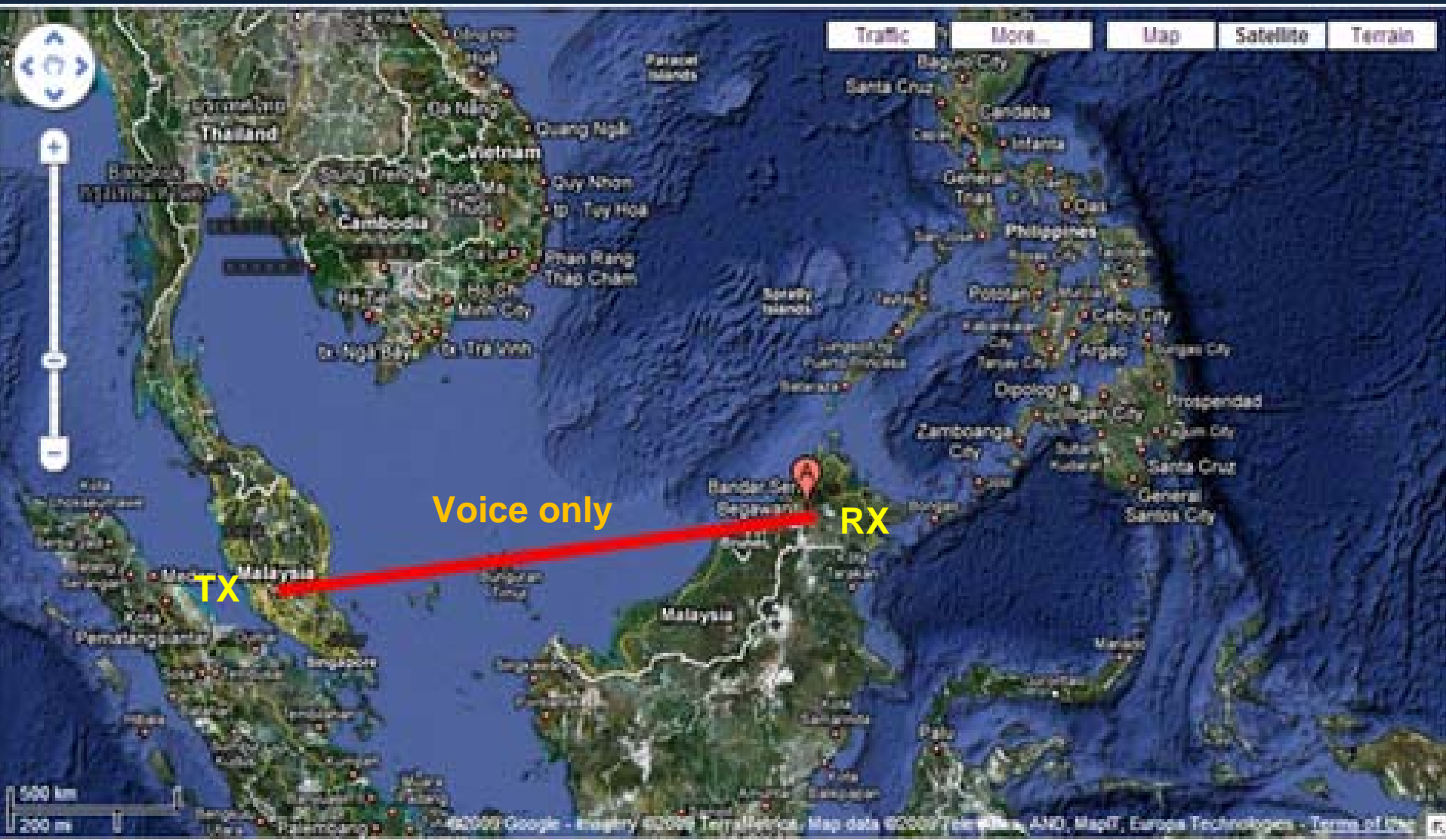
Radio was the backbone of communication from the commencement of school operations in 1951 until 2004.

With the development of other technologies the school now makes extensive use of Satellite Technology.

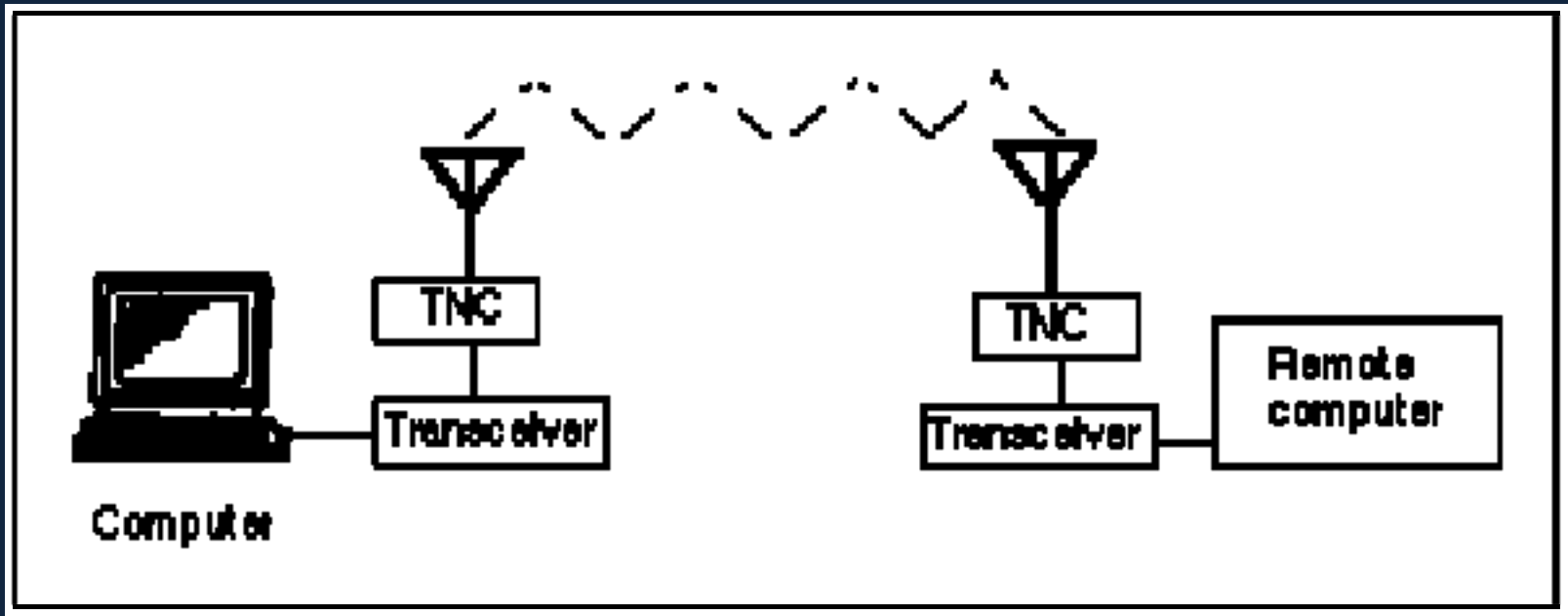
The school runs its own ISP (Internet Service Provider). For those families that do have IDL they have the option of connecting to the school via their own computers and modem. This allows transfer of work, exchange of ideas and support of learning in a manner that is quicker than traditional mail services. The speed and reliability of such connections is still far from what people in major urban centres would experience.

Most families now have access to television. The school conducted trials of direct television lessons beamed into the classroom in 1992. This was via satellite transmission but costs prohibited this being an ongoing facility.

Proposed experimental link up: Kuala Lumpur – Saliku, Keningau



Future Upgrade



From its first steps in Montreal, Canada, in 1978, to its current AX25 protocol implementation established in 1982 by the Amateur Radio Relay League of America, packet radio provides the means through which computer data may be transmitted, error free, on the radio frequency spectrum. It represents one of the fastest growing areas in amateur radio today.

In short, packet radio replaces the telephone line with a radio channel. Rather than connecting the modem to a phone line, a specially modified modem known as a Terminal Node Controller (TNC) connects the computer to the microphone and speaker circuits of a radio transceiver.

Future Future Upgrade ☺

Earlier:

FM

SW

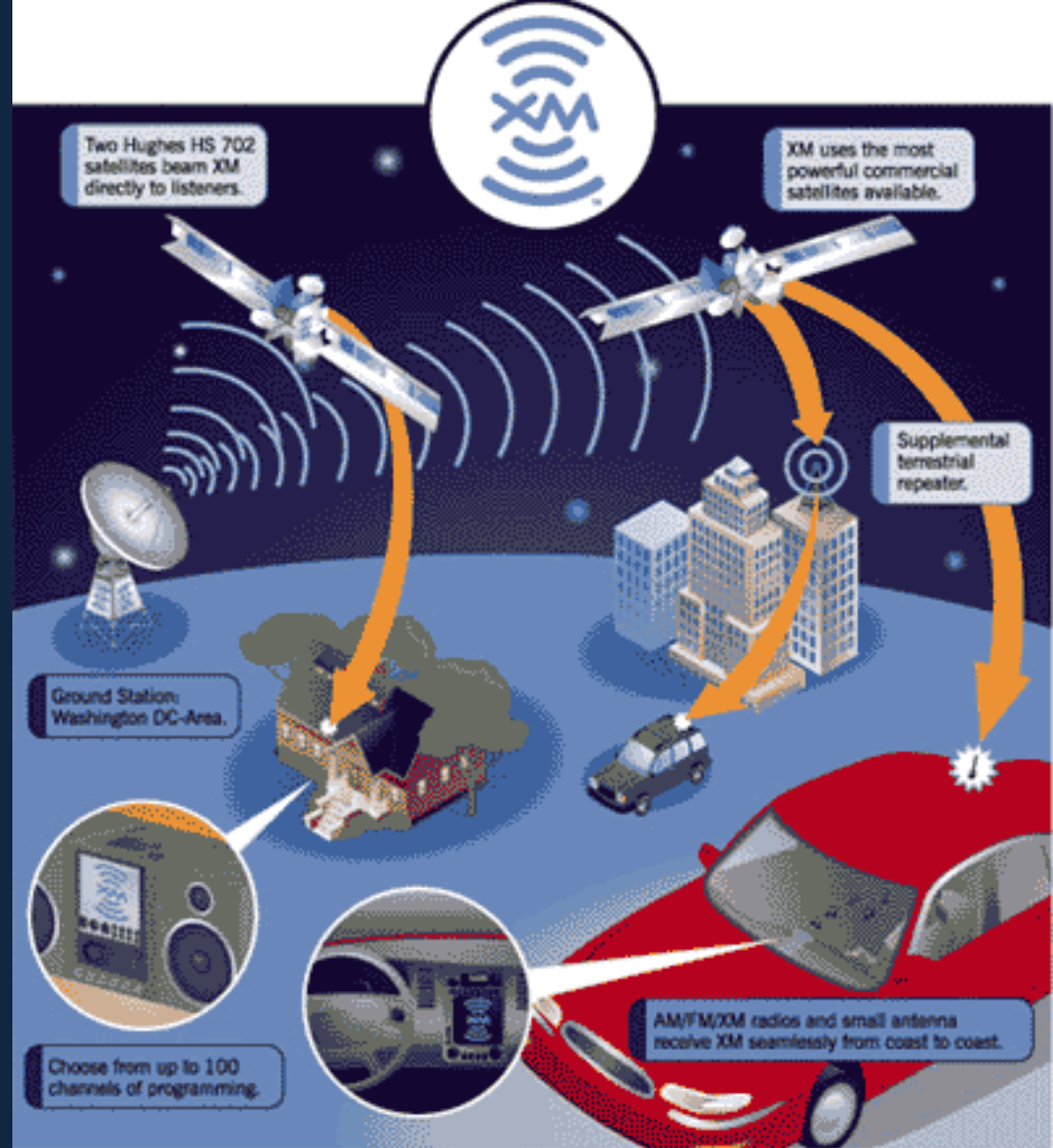
VHF

UHF

Microwave

Current:

XM

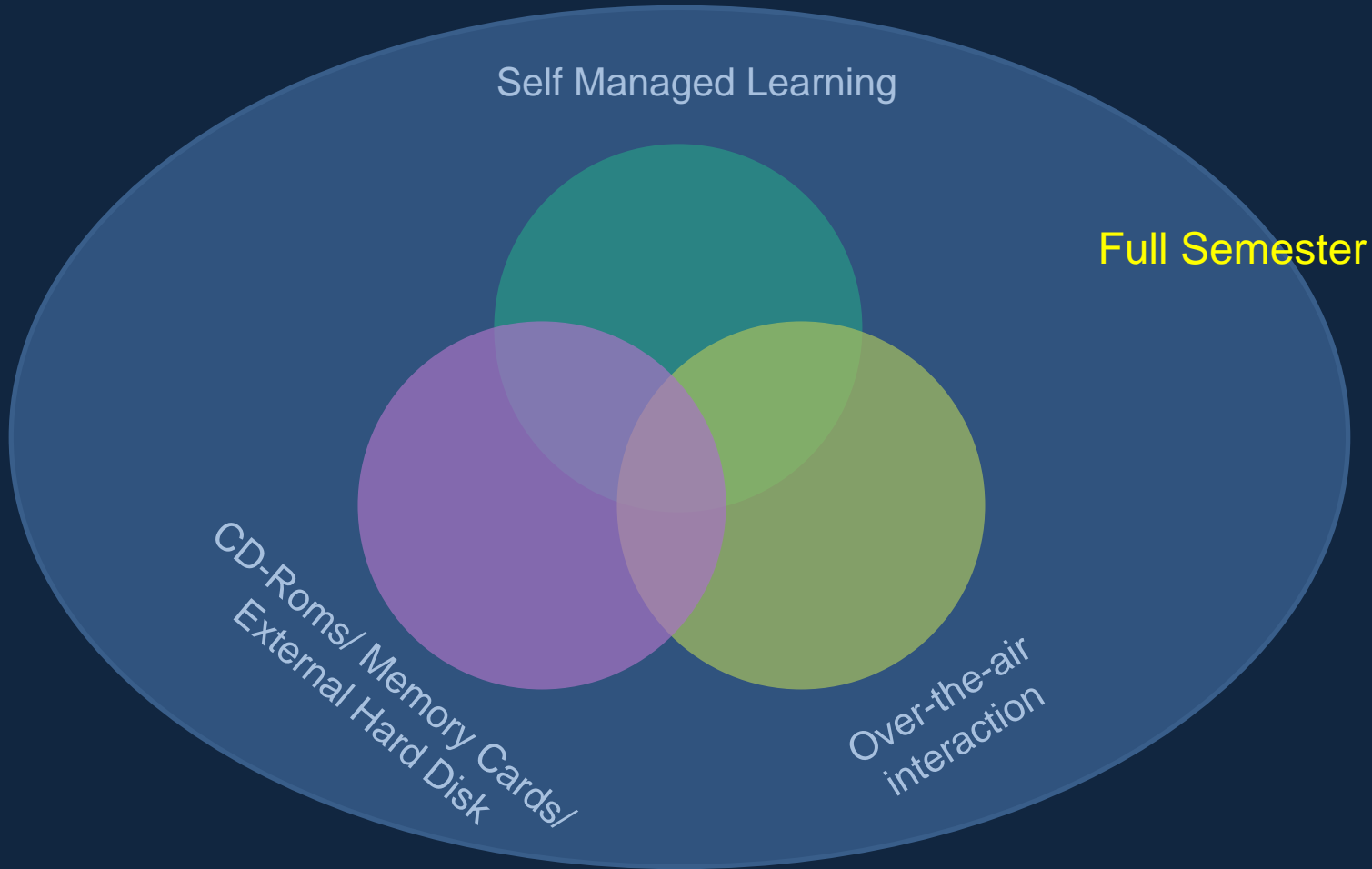


SATELLITE
RADIO

From its state-of-the-art studios and uplink facility in the Washington, DC area, XM Satellite Radio will beam up to 100 channels of digital quality music, news and entertainment directly from two powerful satellites to people from coast to coast in their cars and at home. A small antenna and AM/FM/XM car radio, home audio system or portable radio will receive the signal.

Proposed

PROPOSED LEARNING MODEL



‘Pedalaman’ Blended Learning

Collaborative Effort



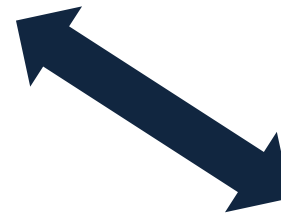
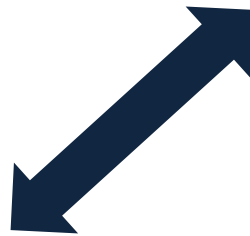
Open University
Malaysia



Malaysian Communications
& Multimedia Commission



Ministry of Education
Malaysia



SURVEYS

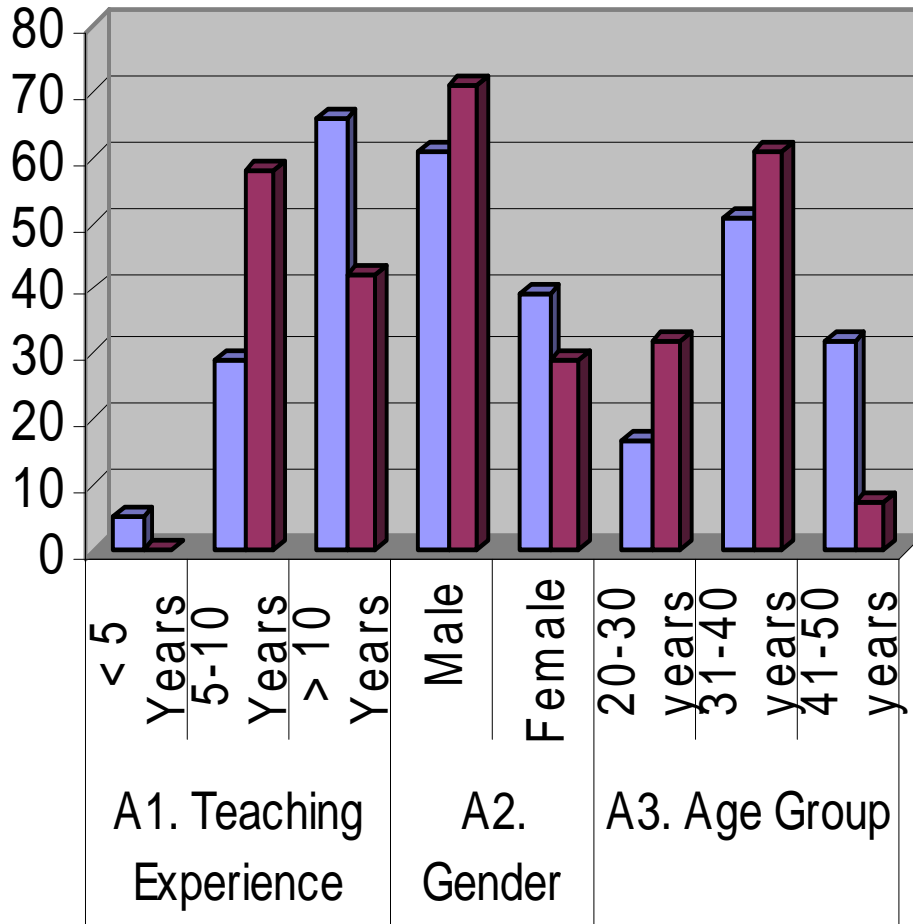
Surveys was carried out to gather data/ find out:

- A.Learners' background
- B.Infrastructures
- C.Feedback on current mode of learning
- D.Readiness for new learning mode

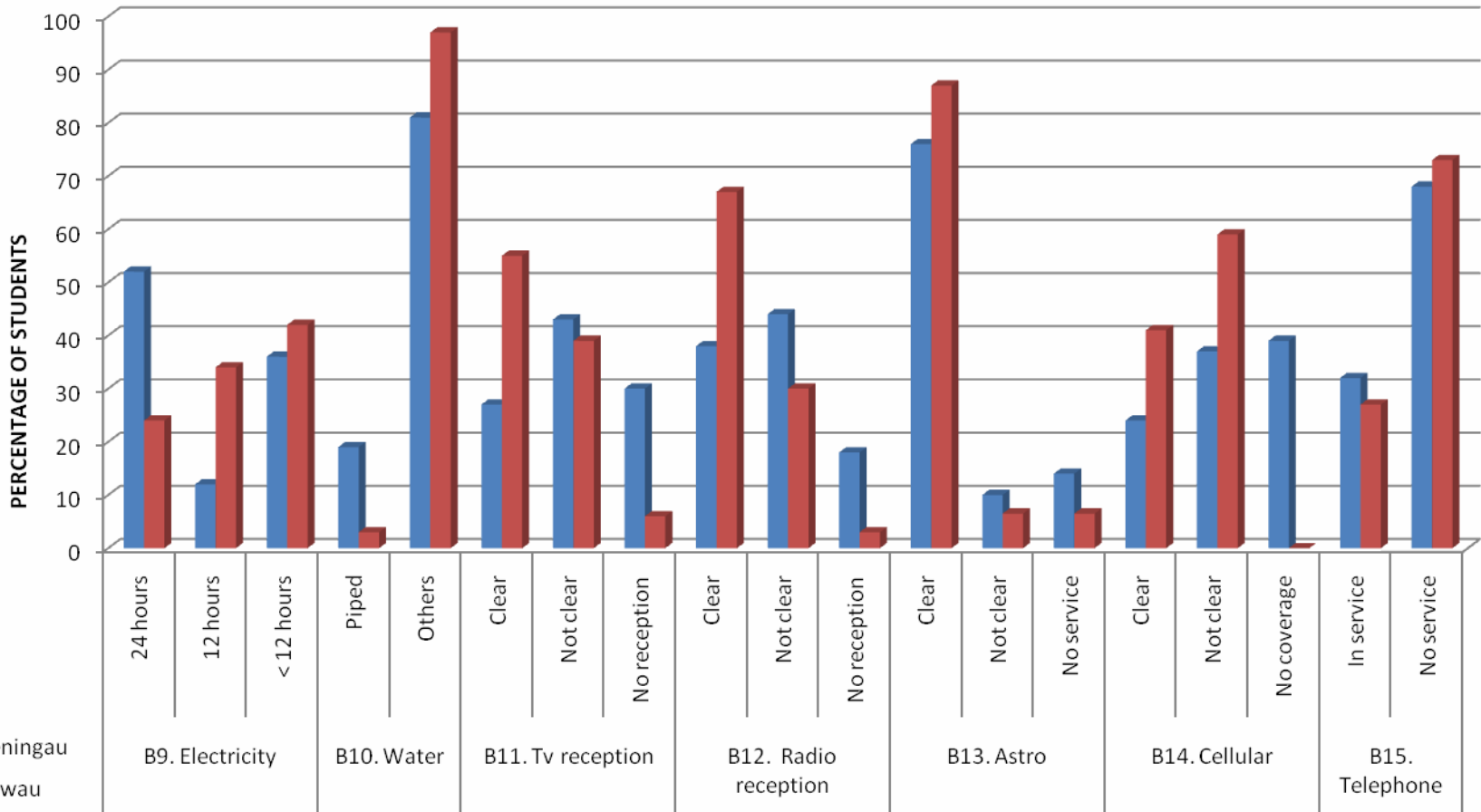
Surveys was carried out at 2 centres in Sabah:

- 1.Keningau – 203 respondents
- 2.Tawau – 31 respondents

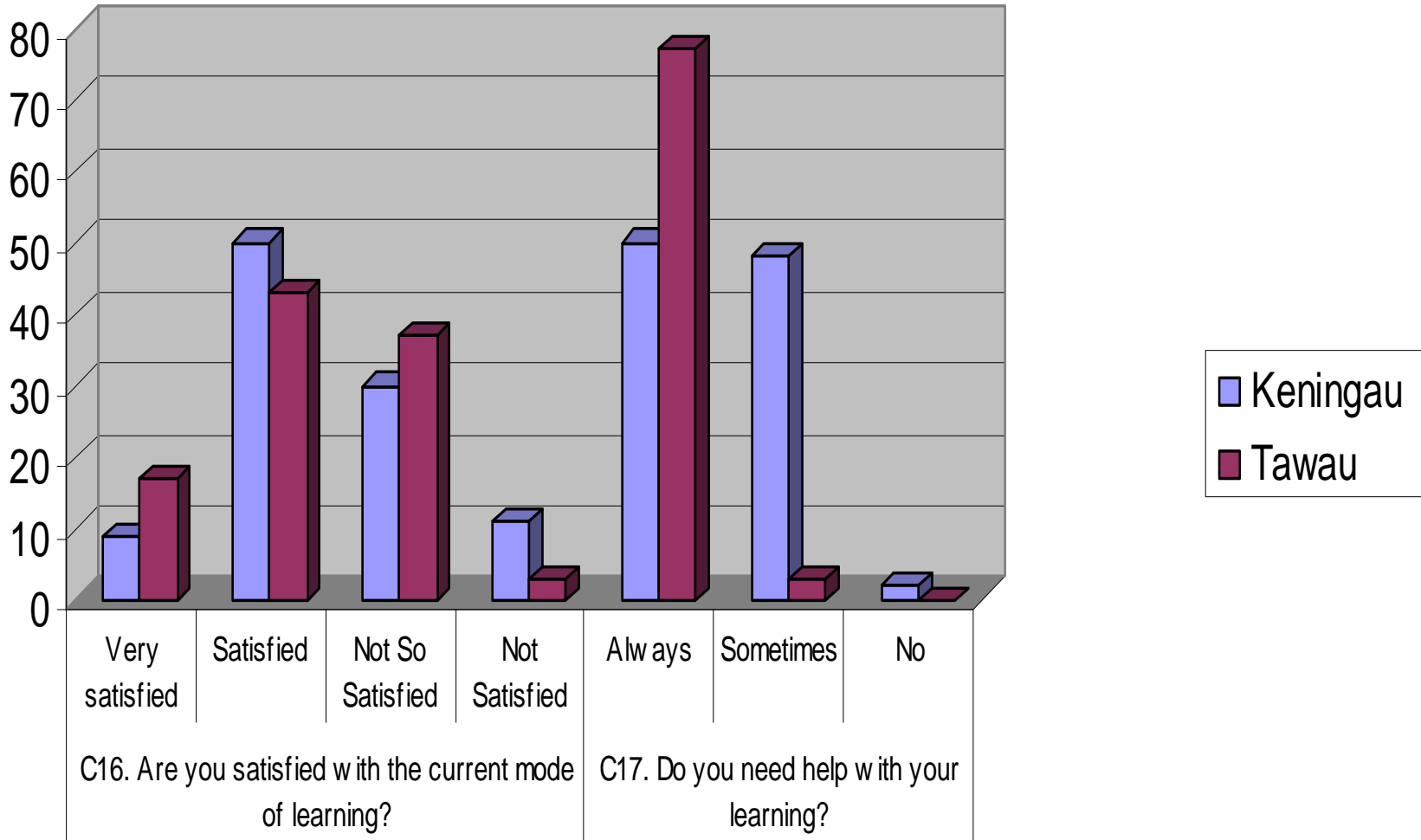
Background



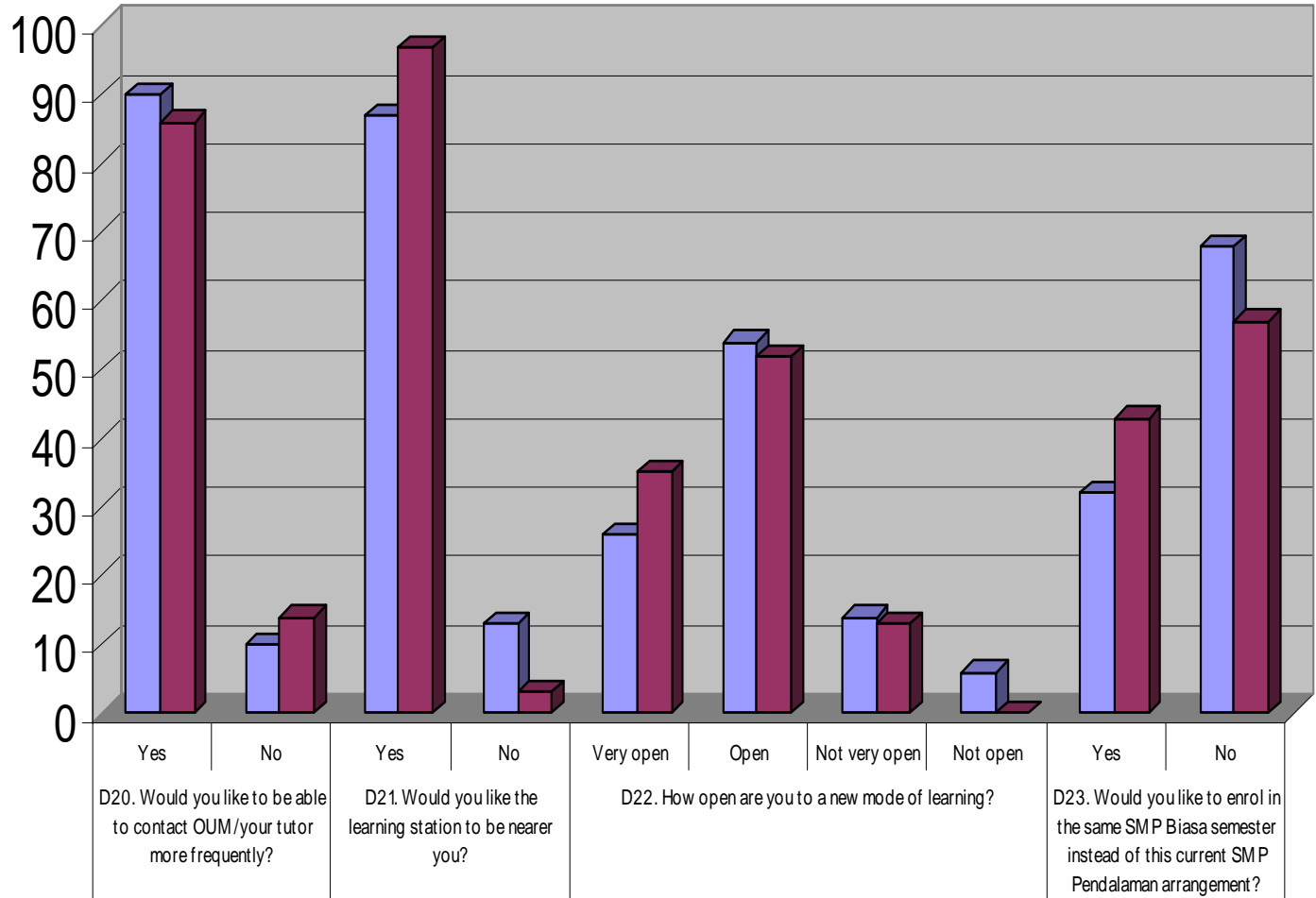
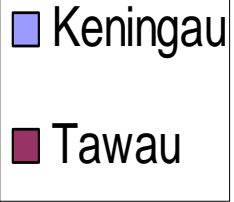
(Online) Infrastructures



Learning Issues



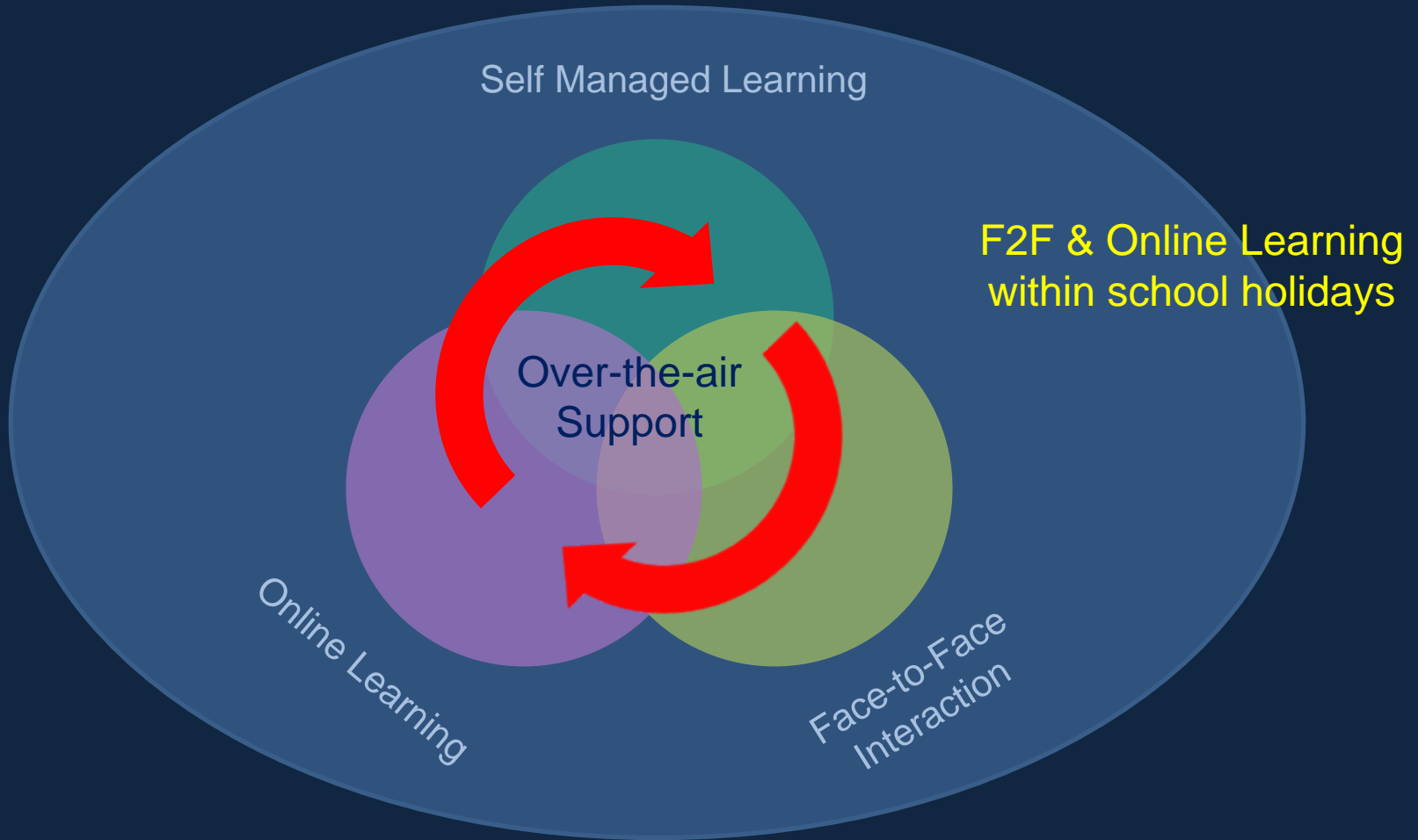
New Mode of Learning



While learners welcome the idea of a more reliable and frequent interaction with their tutors and OUM, the need to interact with their peers socially and physically will supersede that.

Value Add

TUPER (TR) BARRING MODEL



OUM (Pedalaman) Blended Learning

If you are very interested to provide assistance, collaborate or want to know more about this project, feel free to contact me.

jteo@oum.edu.my

Thank You