

Educational Philosophies

Example 3

Structured Approach

Mathematics

I am providing mathematics as a course from a GCSE book. The course has been started from the beginning working with e.g. natural numbers, directed numbers, irrational numbers, factors, square numbers, prime numbers and learning the distinctions between them. It has moved on to, powers, roots, reciprocals, surds, factors and multiples, highest common factor / lowest common multiple, approximation, estimation and using a calculator. Fractions have been provided plus all of the four operations involving fractions as well as conversion of fractions to decimal fractions. I have also provided education for ratio, division in a given ratio, direct proportion, inverse proportion, measures of rate, speed of velocity, Metric and imperial units, percentages, finding a percentage of an amount, increasing an amount by a given percentage, decreasing an amount by a given percentage, expressing one quantity as a percentage of another, wages and salaries. The use of and understanding a calculator is also provided.

The course work e.g. percentages is gone through and I mark as correct or incorrect the work when it is finished. Occasionally I provide a verbal introduction but this is rare the work is usually completed without my intervention. However, I do offer explanations when anything goes wrong and why it is going wrong. Mathematics is provided on a daily basis I cannot say what mathematics exactly will be done every day but I can say that at least a period of mathematics is done every day for a minimum of 1 hr.

Progress is recorded by the simple to complex nature of mathematics e.g. that ratio and proportion are harder to do than fractions and clearly denote progress has been made in mathematics. If any problems come up with the basics e.g. in division, consolidation work of many division questions are provided until division is up to the required standard.

English

I am providing questions like "tell me all the details of your weekend", speculative questions like "would dinosaurs have lived if the asteroid had not struck the earth", questions about personal interpretations e.g. "tell me about your family", constructive fiction e.g. "write an episode of Star Trek", reconstructive reporting e.g. "write about your experience at ape skate park", explanatory reporting e.g. "write about your new skateboarding tricks".

I assess the logic and explanatory power of what is written about, spelling, Grammar, good/bad writing style, sentence length. Progress is measured by assessing better / worse logic, explanatory power, Grammar, spelling, good writing style.

Again, I cannot say what aspect of English may be studied each week but I can say there will be at least one period of English each week.

Religious education.

I am providing education about the Baha'i Faith as well as the major world religions. This is provided through Baha'i books as well as relevant sites on the Internet Questions provided are those like, "name some of the Baha'i principles", "does the world change when a new Prophet comes", "why are men and women equal". Distinctions are drawn within these questions e.g. "are men and women absolutely equal". The development and history of Baha'i administration is provided. The opportunity to study primary sources is also provided as well as exegesis.

Again I cannot say what aspect of world religions may be studied each week but I can say there will be at least one period of religious education provided

Information technology.

I provide information technology education exclusively through the Internet. There is a daily opportunity to acquire and practice touch typing as well. Thirty net words per minute have been achieved so far and 5000 words have been produced whilst doing this, which are part of his English work. I provide questions e.g. "describe some of the components in a PC tower and tell me what you think they do", "explain the bare bones of a computer operating system", "and what is the boot up process", "what connects the World Wide Web", "what is a firewall", what does a firewall protect you from, "what is a network hub", what are computer viruses.

I also provided opportunities to use search engines, assess the worthiness of any information, how to limit searches by including or excluding words, the use and theory of firewalls, virus checking.

Again, progress is monitored on a simple to complex dimension. When the simple information technology education provision is understood more complex questions and source materials i.e. web pages are provided. I provide the guidance to where those web pages are and there is some discussion about what is the appropriate level by assessing those pages together. Again as in mathematics discussion usually comes after success or failure at the questions I provide. I cannot say exactly what information technology education will be provided but I can say a minimum of one period is provided a week. There are two periods of touch typing every day.

Physics.

I provide a GCSE physics course as the basis of the physics studied. Aspects of physics provided so far have been, reflection of light, plain mirrors, curved mirrors, refraction of light, total internal reflection, lenses, the i.e., colour, and simple optical instruments, concave and complex mirrors, and the principal focus, focal length, how a pinhole camera works, what shadows are and how they are created, how to make shadows longer and shorter, what happens to a shadow when the light source is directly above the object, what is a real image, what is a virtual image, how does a kaleidoscope work, the uses of curved mirrors, viewing angle, refraction, the refraction of light in water, refraction index, speed of light and so on. Using the Internet I have also provided education about nuclear power stations, the mechanism of nuclear fission, describing the inside of a nuclear power plant, the dangers of nuclear power, the advantages of nuclear power, Mass, force, torque, work, power.

Physics is provided up to the limits of learning and interest. When the physics is too complex I provide more simpler areas, when the interest is not there I provide new aspects of physics. Progress is monitored along this dimension. At least one period of physics is provided each week but I cannot say in advance which area of physics will be studied.

Biology.

I provide biology using the Internet resources and some books. Some questions provided are, what is a virus, how do you reduce the spread of a virus, what medicines reduce the effects of a virus, how does a virus infect a person, where is the fat on human body, how does fat enter the body, how is fat stored in the body, how does your body breakdown fat, what does SARS stand for, what caused SARS, how does SARS spread, how is SARS controlled and then eliminated, how could SARS come to and spread in Darlington, what technology is used to stop the spread of SARS, what are our sense organs, is the eye the most important sense organ, the structure of the ear, hammer, anvil and tympanum, what does the ear connect to, how, where are the taste buds located, describe intestinal gas, why do towns need sewerage systems, how does a septic tank work, explain how a waste water system works, describe the cause and effect of mad cow disease, composting.

There is some practical work in biology e.g. looking at how our compost heap is working and effect of various layers of different materials on the whole compost heap. The biology provision is referred to in observation fieldwork as well.

Geography.

Geography is studied through a GCSE geography textbook. I have provided opportunities to study tectonic plates , fold mountains, human activity in the Alps, volcanoes, the effects of volcanic eruption, the hazards of earthquakes, how are earthquakes cause, rocks and landscape, types of rocks, distribution of rock types within the UK, rock types.

Questions are provided around these areas of geography and more such as "tell me how much garbage we create" how is garbage disposed, what is a landfill, describe the surface geography of Mars, describe the interior of Mars, describe Martian weather, describe the atmosphere on Mars, how do you build a landfill, explain how the parts of a landfill work, describe all of the elements needed to build and maintain the city, how does erosion occur, how does erosion affect humans, can erosion be useful for humans, what are tectonic plates, why do tectonic plates move, what are the consequences of the tectonic plate movements, list the countries most likely to the slightly experienced earthquakes,

The computer program "Sim City 4" is used to run computer simulations of the effect of e.g. raising/lowering taxation, the provision of education, the balance between residential and areas for jobs in a city, what is deficit spending what is GNP, does GNP rise or fall when unemployment rises, observation field work is frequently used.

History.

History is provided through a variety of sources books and the Internet. There has been provision to study lead mining in the northern Pennines in depth including visiting many lead mines on several weekends and a full 8 hr day at Killhope Lead Mining Centre. Well worth a visit. Questions provided are e.g., how were lead mines worked, what were the dangers to lead miners, what tools do lead miners use, what is a level, why did lead mining chimneys change direction, describe and explain how lead mining was done in Swaledale using observation fieldwork as the basis for explanation, how does a lead mine dam work, how do miners get up and down a shaft, what is the rock called that has lead in it, describe transportation inside and outside a mine, describe the crushing and smelting of Galena, what was lead used for, hydrology of lead mining , outline America's Great Depression in a timeline with comment.

Again a period for history is provided but I cannot say in advance which aspect of history will be covered .

Physical education.

Skateboarding. I provide many opportunities to go skateboarding at various skate parks. The various techniques of skateboarding are discussed as well as at times demonstrated by me. Ouch!

Social contact.

Social contact is provided through skateboarding activities e.g. xxxx park in xxxx, attendance at Baha'i School, seeing grandparents every week, seeing friends at school for short periods every day , people come to our home in connection with the xxxx Faith . The minimum time period for social contact ranging from children to adults in any week is seven hours.

General.

Any of the study periods can be as short as one hour up to a whole morning. The minimum unit of time for study is one hour. If there is great interest in the provision I provide for a particular subject a whole morning could be taken up with that provision.

A general principle I provide is that teaching is minimised but learning is maximised. I read all of the educational provision that is produced and a tick or a grade is given. The use of the tick outside of

mathematics for the most part denotes the answer is more or less correct it can also denote the answer is more less correct than more correct but I have acknowledged the question.

The education provided emphasizes written work with a supporting role for discussion.