



UNIVERSITÀ DEGLI STUDI
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Barriers to the Study of Scientific Subjects and Level of Knowledge of Basic Chemistry

ADULT LEARNERS' CASE STUDY

Adult Learner's Case Study N.: 10

Subject Studied, Place: *music and philosophy, Genova (Italy)*

Description of the Case Study

The person we interviewed didn't continue scientific studies because he was more attracted by philosophy. He didn't find particular difficulties in studying chemistry at school: he used to "study it diligently", but he "didn't understand it deeply".

His self evaluation of knowledge of chemistry is "poor". He can't give an opinion about the quality of information provided by mass media.

The word "Chemical" is associated with labs.

The answers to the basic chemistry test are wrong.

N.B. The text of the interview carried out is available below.



Interview: adult n.10 (English)

1. Why have you decided not to continue your studies in the scientific field after upper secondary school?
(Please justify your answer.)

Because I was more attracted by philosophy.

2. What are the major difficulties have you found in studying chemistry at school? (lack of basic requisites, cognitive problems linked to some contents, other). (Please justify your answer.)

I used to study it diligently, but I didn't understand it deeply.

3. How would you assess your knowledge of chemistry? (poor, fair, good, very good).

Poor.

4. Should you have any scientific curiosity, would you try to satisfy it? If so, how would you do it?

I seldom have scientific curiosities, but, when I do, I search the Internet.

5. Do you think mass media provide access to suitable scientific information (particularly on chemistry) that you can understand? (Please justify your answer.)

I can't give an opinion.

6. What do you associate with the adjective "chemical"?

Labs.

7. If you melt 5 grams of salt in 100 grams of water, the solution obtained will weigh:

105 grams

between 100 and 105 grams

100 grams

(Please justify your answer.)

100, because, when salt dissolves, we only have a liquid. However, water has to be measured in liters!

8. We sometimes perceive the presence of some substances through the sense of smell, as they give off a characteristic scent. Do you think it is made of material or immaterial particles? (Please justify your answer)

It depends on the substance.

9. Can you think of an example of a pure substance in solid state?

Untreated wood.

10. Can you think of an example of a pure substance in liquid state?

Whiskey.

11. Can you think of an example of a pure substance in gaseous state?

Fresh air.



Interview: adult n.10 (Italian)

1. Per quale ragione ha deciso di non proseguire gli studi scientifici dopo la scuola secondaria? (Argomenti la risposta).

Perché ero maggiormente attratto dalla filosofia.

2. Quali sono le principali difficoltà che ha trovato nello studio della chimica a scuola? (mancanza dei requisiti di base per comprenderla, ostacoli cognitivi in alcuni contenuti, altro). (Argomenti la risposta).

La studiavo diligentemente, ma non la capivo a fondo.

3. Come reputa le sue conoscenze chimiche? (povere, discrete, buone, molto buone)

Povere.

4. Se ha una curiosità in ambito scientifico, cerca di soddisfarla? In caso affermativo, come procede?

E' raro che io abbia curiosità in area scientifica, ma se accade cerco su internet.

5. Ritiene che i mass media consentano al pubblico di accedere ad adeguate informazioni scientifiche (in particolare sulla chimica) comprensibili? (Argomenti la risposta).

Non sono in grado di giudicare.

6. Che cosa associa all'aggettivo "chimico"? (Argomenti la risposta).

Laboratori.

7. Sciogliendo 5 grammi di sale in 100 grammi d'acqua, la soluzione ottenuta peserà:

105 grammi

tra 100 e 105 grammi

100 grammi

(Argomenti la risposta).

100, perché se il sale si scioglie, rimane solo liquido. Comunque l'acqua si misura in litri!

8. A volte ci accorgiamo della presenza di certe sostanze attraverso l'olfatto. Emettono, infatti, un odore caratteristico. Secondo lei, questo odore è costituito da particelle materiali oppure no? (Argomenti la risposta).

Dipende dalla sostanza.

9. Quale potrebbe essere un esempio di sostanza pura allo stato solido?

Legno naturale.

10. Quale potrebbe essere un esempio di sostanza pura allo stato liquido?

Whiskey.

11. Quale potrebbe essere un esempio di sostanza pura allo stato gassoso?

Aria pura.