BY, IN, ON+-ING

By + -ing the -ing clause indicates the method or means used to do something or achieve a result.

used for saying that a particular method is used to achieve something.

- By working hard, she passed her maths exam.
- They only surviced by eating roots and berries in the forest.
- By using the Internet you can do your shopping from home.

In + -ing the -ing clause indicates "consequence/cause".

used for saying that as a result of doing one thing, you also do something else or cause something else to happen.

- In criticising the painting, I knew I would offend her.
- In choosing Marco, the people's party has moved to the left.
- In trying to solve one problem, I created another.

On + -ing the -ing clause indicates "when".

- On returning from Beijing, he wrote to the Chinese embassy.
- John was the first person I saw on leaving the hospital.
- On arriving at the hotel, he went to get changed.

By + -ing / In + -ing

Although we can often use **by + -ing** or **in + -ing** with a similar meaning, **by + -ing** is preferred in informal contexts.

- In writing about Spanish culture, I came to understand the country better.
 (= the consequence of writing was to understand...)
- ◆ By writing about Spanish culture, I came to understand the country better.
 (= the method I used to understand the Spanish culture better was to write.)

BUT COMPARE

By telephoning every hour, she managed to speak to the doctor.

NOT In telephoning every hour, she managed ...

The method is the focus here, not the consequence.