Criteria-based Organization of Explorations in Education - CrEEd

Description

Reitinger (2012a, p. 73) speaks of six pivotal criteria that define Inquiry Learning. These criteria are a) general discovery interest, b) method affirmation, c) experience-based hypothesizing, d) authentic exploration, e) conclusion-based transfer and e) critical discourse. Descriptions of these criteria are presented on the downloadable worksheet (OPeRA Portfolio on http://joomla.eduhi.at/exploratorylearning/files/criteria_based_organization.pdf). The downloadable worksheet supports educators when organizing their first self-determined Inquiry Learning settings according to the CrEEd-Concept of Reitinger by recruiting the OPeRA Organization Model. This model separates the organization of lessons or periods into three parts (outline, performance and reflection).

Useful definitions

Outline: It is hardly possible to predict the actual procedure and outcome within a widely open educational setting. That is the reason why the preparation of an Inquiry Learning Arrangement is an open action, just as the setting itself. The preparation is rather an outlining process than a planning one. Therefore, Reitinger (2012b, p. 112-114) suggests using the term 'outline' instead of the term 'planning' when talking about the preparation of Inquiry Learning.

Performance: This term delineates the actual run of a lesson or a period. The more pupils are allowed to work self-determinedly, the more outlined the suppositions may vary from the actual performance.

Reflection: Reflection describes the process within which you think carefully about the practical experiences collected during the outline and performance process.

Instructions

If you consider arranging your first Inquiry Learning Arrangements according to the CrEEd-Concept, you may use the worksheet mentioned above as a supportive medium in two respects:

- Studying the definitions on the worksheet you can learn what is meant by criteria of Inquiry Learning. After internalizing these criteria, you will know what Self-determined Inquiry Learning is. Hence, you will have an idea what should be considered when arranging Inquiry Learning lessons.
- To use the worksheet as a documentation tool, just note your considerations into the various sections of the form when outlining your Inquiry Learning trial (*outline column*).
  Furthermore, after a lesson you write down notes concerning the actual run (*performance column*). Due to an inherent openness, exploratory-oriented lessons often diverge from the previously made scheduling. So it is useful to recap the actual performance before reflecting your practice.
  Finally, you actually reflect your practice. You may use the worksheet to make notes concerning your reflection (*reflection column*).

The following selection of orientation questions may help you to fill in the form fields, when using the worksheet for your first time:

Criteria	Outline (process before performance)	Performance	Reflection (process after performance)
General Discovery Interest	*How can I activate hidden interest concerning some relevant content?*	*What actually happened during the Self-determined Inquiry Learning Arrangement that could be associated with the criteria "general discovery interest"?*	*Was I able to help pupils feel intrinsically motivated?* *Or:* *Was I able to raise my pupils' intrinsic motivation?*
Method Affirmation	*What if the pupils do not want to explore in a self-determined way?*	*What actually happened during the Inquiry Learning Arrangement that could be associated with the criteria "methodic consensus"?*	*Did the pupils agree with my suggestion to work in an exploratory way?*
Experience-based Hypothesizing	*How can I motivate the pupils to form questions and make suggestions/assumptions concerning possible answers?*	*What happened during the Inquiry Learning Arrangement that could be associated with the criteria "experience-based hypothesizing"?*	*How do I feel about the questions and hypotheses of the pupils?*
Authentic Exploration	*How can I support pupils to work motivatedly on several tasks?* *Do they feel free to ask me if they need my expertise?*	*What actually happened during the Inquiry Learning Arrangement that could be associated with the criteria "authentic exploration"?*	*How do I perceive pupils actions after the explorations? Do I assess those as autonomous and authentic?*
Conclusion-based Transfer	*Which parts of my lesson could make pupils wish they could apply or communicate their results?*	*What actually happened during the Inquiry Learning Arrangement that could be associated with the criteria "Perceived transfer need"?*	*Is there a real demand for applying and communicating the discoveries and results?*
Critical Discourse	*How can I provoke thinking about the result on the pupils' side, the process or the effect of the process on themselves?*	*What actually happened during the Inquiry Learning Arrangement that could be associated with the criteria "Critical Discourse"?*	*How do I interpret the reflective feedback of my pupils? If there was no time for differentiated feedback, what could I do the next time?*

Mind that becoming a competent autonomy-oriented Inquiry Learning teacher is like learning to ride a bike. You won´t be a professional after a first attempt. Therefore, do not pursue the target to meet all criteria perfectly in your first lessons!

Start by considering the six criteria in your outline and give them a chance in your lesson! Try to motivate your pupils to get into this educational setting by offering them possibilities to follow their own interests and make individual decisions. Do not reflect your lessons in the light of perceived success! Failures are allowed and necessary for your own learning experience (Remember your first trials to ride a bike!). Rather think about your new experiences and how they could influence your consecutive teaching actions!

References

Reitinger, J. (2012a, in print). "… hinter den Dingen …" *(transl.: „… behind the things …").* Exemplarische Beiträge zur Naturwissenschaftsdidaktik Aachen: Shaker Verlag.

Reitinger, J. (2012b). Differenziertes forschendes Lernen in den Naturwissenschaften mit leistungsheterogenen Schüler/-innengruppen. *(transl.: Differentiated Exploratory Learning in the Sciences with Heterogeneous Groups)*. Eine empirische Studie zur Performanz und Wirksamkeit des AuRELIA-Konzeptes. In T. Bohl, M. Bönsch, M. Trautmann & B. Wischer (Eds.): Binnendifferenzierung. *(transl.: Internal Differentiation)*. Didaktische Grundlagen und Forschungsergebnisse zur Binnendifferenzierung im Unterricht. Teil 1, (Reprint with supplements). Kassel, p. 107-133.