# Guidelines for VP repurposing to different disciplines

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# Introduction

## *Description of original VP and original educational setting*

***Original VPs***

The VPs repurposed originated from KI's underlying content. They were originally authored for students attending the fifth term of the undergraduate dental education and to be used for self-assessment.

***The dental school and its intended outcomes***

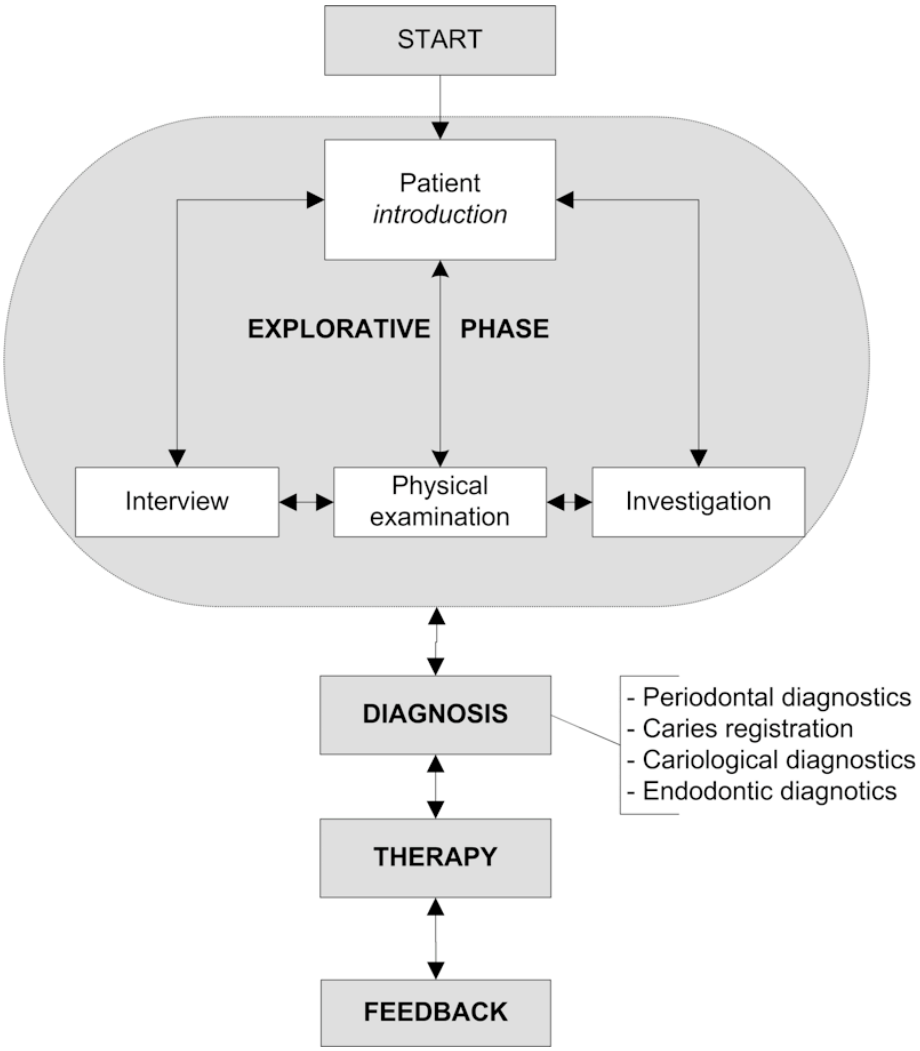
The dental undergraduate programme is a 5-year course and comprises both theory and practice. A dental student is exposed to clinical dentistry right from the first year. In the second year the student has his/her first own patients, starting with examination, including taking x-rays, diagnosis, giving oral hygiene instruction etc. The student studies theory alongside the clinical training. More complex treatment procedures are introduced successively. To support the practical clinical experience, the course also includes training in patient communication and patient. Students will acquire general skills based not only on knowledge of basic theories, but also on a deeper understanding which will enable them to interpret new information and keep abreast of new developments. Work as a dentist demands empathy and sensitivity to a patient's requirements. The instruction will be based on humanism as a frame of reference for ethical standpoints. A dentist is also the leader of a team and is therefore ultimately responsible for the optimum treatment of patients. This implies that by training in an environment which offers role models, imparting intrinsic professional skills, experience and competence, students will develop self-awareness and empathy towards patients.

## *Brief description of VP format*

The VPs were created using the Web-SP system (semi-linear navigation model). Web-SP is divided into the following sections: patient introduction, patient interview, physical examination, labs/X-rays, diagnosis, therapy and feedback. The student can move freely between the first four sections to collect essential information and on the basis of this information provide a diagnosis and suggest a therapy.

The morphology of a VP in dentistry is similar to VPs created for other healthcare disciplines with the exception of additional features (plug-ins) creating overviews of intra-oral and x-rays material. Moreover, the diagnosis section was extended to enable a structured input of the periodontal diagnostics, endodontic diagnostics, cariological diagnostics and the registration of caries. The feedback section was also extended to provide feedback on all the sections of the diagnosis and therapy sections. There are two types of feedback available to students in Web-SP: constructive and neutral. Constructive feedback is an automatically generated checklist that matches and compares student recommendations to expert recommendations. Constructive feedback is provided for students' activities in the explorative phase of the case review and for parts of students' periodontal, caries registration, endodontic diagnostic activity. Neutral feedback is an automatically generated display of expert opinion and recommendations but does not provide any comparison between students and experts. Neutral feedback is provided for students'

cariological and endodontic diagnostics, and therapeutic activities. The individual student needs to fill-in the diagnosis and therapy sections to obtain the feedback.



# Methods and Materials

## *Selection criteria*

Step 1 – Needs analysis

A workshop was held at the department of odontology where the aim was to investigate what teacher/courses would be interested in repurposed VPs (as opposed to new VPs).

Step 2 - The following selection criteria were then considered when selecting a course

- The specific learning objectives for the course

- What VPs in the underlying content could be suitable for the course?

- How would the VPs be implemented in the course?

- How many VPs were needed to fulfill the intended outcomes?

## *What type of repurposing was done*

- Repurposing to different disciplines

## *Steps involved in repurposing*

The repurposing work was done using the Web-SP authoring environment and Microsoft Word.

The steps involved in the repurposing were:

| | |
|---|---|
| 1 | Selection of the VPs |
| 2 | Adaptation of the modules available |
| 3 | Repurposing of the textual content |
| 5 | Enrichment (new media) |
| 6 | Content validation |
| 7 | Evaluation with the teachers/students |

### *How the work was planned*

The repurposing process was structured and executed using a traditional project management methodology. The work was planned with Microsoft Project Standard and with existing models for Work Description, Task per participant and Risk log documents (provided by eViP).

### *Brief outline of skill set required*

- Subject matter expert to map out the objectives, suitable VPs, and for evaluative work.

- Teacher to specify the needs and then implement the results in their courses

- Learning technologist to adapt the modules and repurpose the content

- Project coordinator to supervise the repurposing efforts

## Results

### *Repurposing*

Two study programmes were identified as a potential target for repurposing:

#### *Dental hygiene*

The primary aim of the programme is to equip students with knowledge, skills and competence enabling them to carry out independent treatment and promote the prevention of oral diseases within the field of Dental Hygiene. An additional aim is to provide the necessary competence and knowledge for initiating, performing and evaluating oral health planning and treatment of individuals and groups, producing educational material, and organising the education of schoolchildren as well as medical and paramedical personnel.

#### *Dental technology*

The aim of the programme is to provide students with the necessary competence and knowledge to work in any area connected with dental technology.

### *How the content was enriched*

#### *Dental hygiene*

The content was enhanced by transforming the original dental cases into dental hygienist versions. The Feedback > Caries diagnosis parts had to have the information manually imported from the dental cases. The introduction text was changed to a uniform text stating the intended learning outcomes for the activity.

#### *Dental technology*

The content was enhanced by transforming the original dental cases into dental technician versions. The Feedback part had a new part, called “post-treatment result”, were the intra-oral photography’s of the subjects before and three years after treatment were added. The introduction text was changed to a uniform text stating the intended learning outcomes for the activity.

| Före | Efter |
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| Före | Efter |
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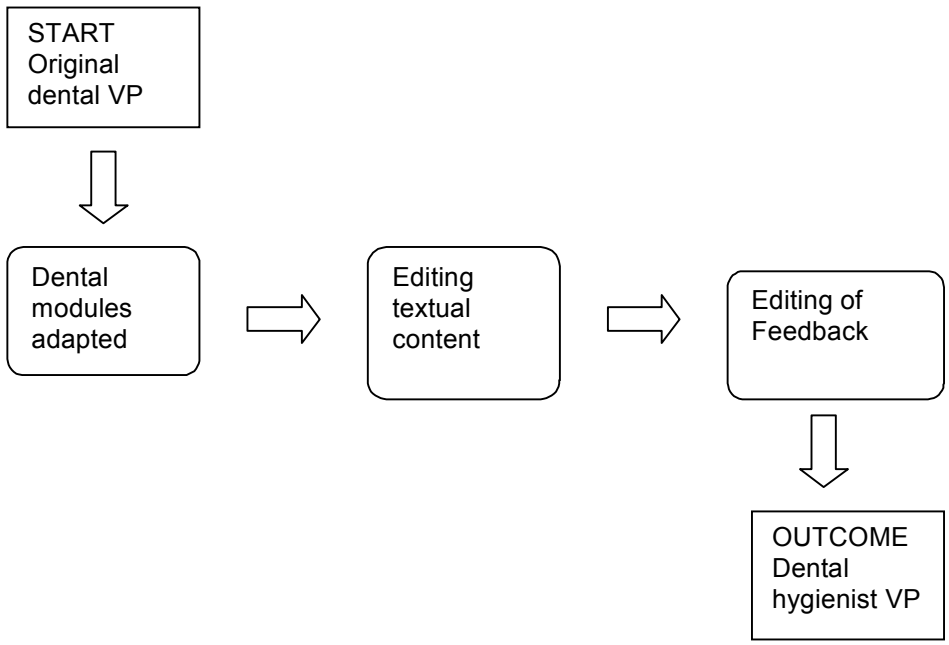
| <br> <br> | <br> <br> |

### *How long it took per step and in total*

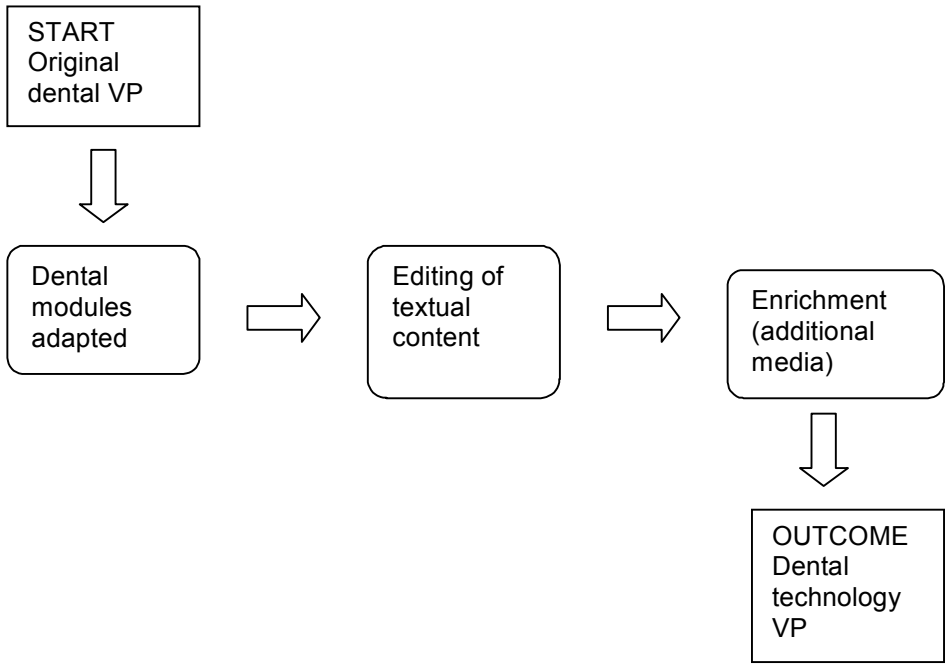
| Step | Time |
|---|---|
| Selection of the appropriate VPs | 30 minutes |
| Adaptation of the modules available | 1 hour |
| Repurposing of the textual content | 30 minutes |
| Enrichment (new media) | 15 minutes |
| Content validation | 2 hours |
| Evaluation with teachers/students | 4 hours |
| **Total** | **8 hours** |

## *The repurposing workflow*

### *Dental hygiene*




### *Dental technology*



### *How the repurposed VPs were evaluated*

The evaluation was iterative and involved the subject matter experts, teachers and students.

- Subject matter experts evaluation
- Dental hygienist and technology teachers evaluation at the Dental school
- Students individual VP questionnaire (this part is still progress since he have to revalidate the eViP evaluation instruments that are aimed at medical students)

## Discussion and Conclusions

The result of the reported repurposing effort showed an example of an iterative repurposing process from dentistry to two other disciplines in odontology.

The repurposing was driven by the educational goals of each discipline and the requirements of the teachers that will implement the VPs in their courses.

In both cases, the repurposing has led to a focus on either the diagnosis or the management of the patient –and- enrichment of the feedback given.

This type of repurposing has also identified the similarities and differences in learning outcomes between the three disciplines.

The amount of time was lower than expected given the fact that a total of 19 VPs were repurposed. Two third of the time was dedicated to evaluation and activities related to the implementation in the course.

Finally there is a potential for interprofessional activities around VPs between the three professions.