This article was downloaded by: *[Aarhus University]*
On: *22 July 2009*
Access details: *Access Details: [subscription number 912394085]*
Publisher *Informa Healthcare*
Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK

Medical Teacher
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713438241

Medical faculty and curriculum design1? 'No, no, it's like this: You give your lectures …'

Anne Mette Morcke [a]; Berit Eika [a]
[a] Medical Education Unit, Aarhus University, Denmark

Online Publication Date: 01 July 2009

To cite this Article Morcke, Anne Mette and Eika, Berit(2009)'Medical faculty and curriculum design1? 'No, no, it's like this: You give your lectures …",Medical Teacher,31:7,642 — 648
To link to this Article: DOI: 10.1080/01421590802216233
URL: http://dx.doi.org/10.1080/01421590802216233

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.informaworld.com/terms-and-conditions-of-access.pdf

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

2009; 31: 642–648 MEDICAL TEACHER

Medical faculty and curriculum design – 'No, no, it's like this: You give your lectures . . .'

ANNE METTE MORCKE & BERIT EIKA
Medical Education Unit, Aarhus University, Denmark

Abstract

Background and aims: The purpose of this study was to understand more completely the (tacit) curriculum design models of medical faculty. We report on two research questions: (1) Can medical faculty give an account of their curriculum design assumptions? and (2) What are their assumptions concerning curriculum design?

Method: We conducted an explorative, qualitative case study. We interviewed educational decision makers at the three Danish medical schools and associate professors from different courses concerning curriculum design. We carried out four individual, in-depth interviews and four focus groups with 20 participants in all.

Results and conclusions: Only one decision maker had an explicit curriculum design model. However, all participants had assumptions concerning curriculum design. We displayed their assumptions as five essentially different and increasingly complex models: the method-driven, pragmatically driven content-driven, outcome-driven and vision-driven curriculum design models. In the five models, the role of learning outcomes differs. The differences range from a belief that learning outcomes are essential, to a belief that learning outcomes are unimportant, to a belief that learning outcomes are incompatible with higher education. Finally, we found that teachers do not necessarily play a clear, central role in curriculum design.

Downloaded By: [Aarhus University] At: 08:55 22 July 2009

Introduction

It is often expected that medical faculty is active in the curriculum design process. It is also assumed that successful implementation of curriculum changes depends on this active involvement of the faculty.

Unfortunately, knowledge of the medical faculty's assumptions about curriculum design is limited. We claim this even though we are fully aware of the huge amount of literature concerning curricula. There are a large number of textbooks about curriculum design. One good example is the six-step approach (Kern et al. 1998), which is a useful how-to-do-it curriculum design guide. Medical faculty are expected to take an active role in the six steps, but the possibility that they might not share the underlying model is not addressed. We find this omission to be typical of curriculum design textbooks. Also, there is an abundant number of articles describing the design of a specific curriculum or course. Three good examples are Koens et al. (2006), Sawyer et al. (2006), and Shapiro et al. (2006). The typical focus of these articles is the product, i.e., the resulting curricula. Such articles rarely analyse the underlying curriculum design model or the medical faculty's assumptions concerning the curriculum design process.

Fortunately, researchers are beginning to study faculty's understanding of curriculum. Fraser & Bosanquet (2006) found that Australian academic teachers had a range of different understandings of 'curriculum'. The epistemological framework, however, was not known to the individual using the term; the meaning of 'curriculum' was tacit. In other words, a teacher might not be able to give an account of his own framework, but nevertheless has a framework.

Practice points

- Medical faculty have different tacit curriculum design models and assumptions.
- In faculty's curriculum design models, learning outcomes can range from being essential to being alien.
- Actively explore and recognize medical faculty's assumptions about curriculum design during curriculum reforms.

The development and use of such tacit understandings is discussed by Eraut (1994), who distinguishes between public theories and private theories. A public theory is for example the classical curriculum design theory described by Tyler (1970) in his Basic Principles of Curriculum and Instruction first published in 1949. According to Eraut, such publicly available theories are supplemented with private theories which people use to interpret and explain their experiences. These private theories may be versions of publicly available theories, or they may not be traceable.

Even if evidence concerning faculty's tacit understanding of curriculum is growing, little is known about how medical faculty think about the curriculum design process. The literature did not provide a comprehensive, evidence-based understanding of medical faculty's engagement in curriculum design or what we might call their private theories. The purpose of this study was to understand more completely the (tacit) curriculum design models of medical faculty. The paper provides an explorative, qualitative case study of Danish

Correspondence: Anne Mette Morcke, Vennelyst Boulevard 4, 8000 Aarhus C, Denmark. Tel: 89 42 29 61; email: amm@medu.au.dk

ISSN 0142–159X print/ISSN 1466–187X online/09/070642–7 © 2009 Informa Healthcare Ltd.
DOI: 10.1080/01421590802216233

Copyright Informa Healthcare 2009
Not for Sale or Commercial Distribution
Unauthorized use is prohibited.
Display, view and download,
copy for personal use.

medical faculty. We report on two research questions: (1) Can medical faculty give an account of their curriculum design assumptions? and (2) What are their assumptions concerning curriculum design?

Context

We conducted this case study with medical faculty in Denmark. Denmark has three medical schools, one at each of the Universities of Aarhus, Copenhagen and Southern Denmark. All three are publicly funded and regulated. Nevertheless, they are very different in institutional culture, management, and curriculum. Each medical school has its own educational mission, educational outcomes, teaching methods, and assessments, but faculties and administrations do cooperate across the schools. Each medical school has a dean of education and a board of medical education. In principle the board only advise the dean, but in practice the board members have great influence on the schools' undergraduate medical education. The board members consist of elected student and faculty representatives. Departments are ruled by department chairs, not by full professors. At all three medical schools, the teachers are primarily associate professors (both basic and clinical), but a number of student instructors and clinicians also teach.

Method

We conducted our research in a framework inspired by Miles & Huberman (1994). They call their qualitative approach 'transcendental realism'; the approach to research is pragmatic, and the data analysis is inductive and systematic. We chose qualitative methods in order to explore assumptions concerning curriculum design without using predetermined categories.

From December 2004 to June 2005, we conducted four individual, in-depth interviews and four two-hour, homogenous focus group interviews. We recruited interview participants from the three Danish medical schools. We did individual interviews with decision makers, because they were presumed to be accustomed with the topic of curriculum design and because we wanted to have sensitive access to their personal agendas. In contrast, we did focus group interviews with associate professors, because they were presumed to be unaccustomed with the topic and because focus groups give excellent opportunities to share and compare, thereby making the tacit explicit.

We sampled four, school level, key decision makers, and all four agreed to participate. Decision makers can be difficult to interview in depth (Berry 2002). Therefore, we chose an open interview guide that was negotiated with each decision maker before and during the interview. Morcke interviewed and probed regarding participants' thoughts on curriculum design, their role, the role of other stakeholders, other important factors, and Tyler's classical curriculum design model (Tyler 1970).

To achieve maximum variation, we purposefully sampled faculty from different subspecialties and types of courses. We recruited participants via official department homepages and e-mail lists, personalised inviting letters, direct phone calls to sampled persons, or bookings via secretaries. We interviewed four members of a board of medical education in one focus group. In addition, we particularly recruited associate professors that were not board-members for the other three focus groups. These three focus groups consisted of (1) five associate professors from different courses of long duration, covering anatomy, biochemistry, and physiology, (2) five associate professors from different shorter modules, covering genetics, microbiology, and pathology, and (3) six clinical associate professors from different subspecialties.

Morcke moderated all focus groups based on an interview guide. Following opening and introductory questions, the group was instructed to do a card sorting exercise and construct their perception of curriculum design. The purpose of this activity was to let each focus group participant 'discover' his assumptions about curriculum design, and share these assumptions with the group by contributing to the formation of a picture. The cards consisted of 36 different paper cards stating: a limited number of prioritized goals; all potential goals; associate dean; associate professors; board of medical education; choosing assessment methods; choosing teaching methods; consensus; dean; department chairs; department structure; educational experts; intellectual skills; known assessment methods; known teaching methods; learning theory; local stakeholders; ministry; mission statement; needs assessments; new teaching methods; number and distribution of positions; old curricula; organisation of teaching; part-time teachers; prioritization of goals; professors; resources; students; student motivation; student needs; subject division; subject experts; teaching evaluation; top-down decisions; traditions; in addition to paper arrows and blank cards.

Interviews were recorded and transcribed. From a starting list, we developed a codebook and coded using the software Ethnograph (Miles & Huberman 1994; pp. 55–72). The final codebook contained 58 codes categorised into seven themes. The major theme was models that covers elements of curriculum design and includes eight codes: Tyler's model; needs assessments; outcomes and objectives; criteria-based prioritization; learning experiences; organization; evaluation; and chance-or-no model.

We condensed data into matrices and text extractions that we analysed for patterns and meaning. We did a large number of such subanalyses. Iteratively, we developed matrices and displays that helped us explore, describe, and explain the data (Miles & Huberman 1994, pp. 90–171). These also allowed us to make comparisons between interviews. Five subanalyses particularly underlie our final displays of participants' assumptions about curriculum design: (1) a matrix comparing the number of hits generated by Ethnograph on each code per interview; (2) a matrix comparing the length per interview of the four central codes called outcomes and objectives, learning experiences, organization, and evaluation; (3) a colour display of the coded transcripts; (4) four comparable displays showing the activity during the four focus groups (which paper cards they chose, how they placed these paper cards, timing,

Downloaded By: [Aarhus University] At: 08:55 22 July 2009

intensity, what participants discussed when adding to the picture, and why a card was added or not); and (5) an extraction of all text passages coded as either organization (the most frequent model code) or outcomes and objectives (the rarest model code), combined with the stakeholder code associate professors. Concluding this iterative process, we displayed participants' models using the software MindManager to connect quotes.

We notified the local Committee on Biomedical Research Ethics on the study. The committee would not approve or disapprove, but declared this study 'educational' and therefore outside the scope of the Committee Act. All participants volunteered and gave consent to our recording, transcribing, and reporting of the interviews. The four decision makers were invited to comment the manuscript before submission.

Results

Our first research question was whether medical faculty can give an account of their curriculum design assumptions. We \comma\comma found that only one of the decision makers had explicitly incorporated a public curriculum design theory into own perception of curriculum design. None of the focus groups referred to or constructed any recognizable prescriptive curriculum design model.

However, participants did describe and discuss all implicit elements of curriculum design: outcomes and objectives; (26 hits), learning experiences (49 hits); organization (62 hits); and evaluation (48 hits). Therefore at the end of our analysis, we could answer our second research question. We displayed participants' tacit assumptions as five different, increasingly complex models of curriculum design. One focus group did not represent one model only, as individual participants could have different assumptions. We named the models the method-driven (Figure 1), pragmatically driven (Figure 2), content-driven (Figure 3), outcome-driven (Figure 4), and vision-driven (Figure 5) curriculum design models. In the figures, the core of each model is marked with grey shadow, the teachers' positions are marked with black, and arrows indicate connection or influence.

A method-driven curriculum design model (Figure 1)

The method-driven curriculum design model is very simple, hardly a curriculum model at all. As shown in the figure, the core consists of the teacher making methodological choices. Teachers plan, for example, how to prepare lectures, design their PowerPoint slides, and choose reading materials. Every teacher should be well-prepared for classes, and the teacher's preparation is of more importance than anything. As an example, two associate professors said about the teacher:

> Moderator: What do you influence, concerning the curriculum?
>
> F: How we give our assigned lessons.
>
> H: Actually, the person that gives the lesson has by far the largest influence on how good the education becomes. It is much more important than the general curriculum. If one really has pondered deeply and found out how to say things and also how to be careful about underlining what is not true, then one is worth a lot more than all that is above, isn't one?
>
> (Ethnograph search: Associate Professors and Outcomes; hit 11 of 14, Focus group II)

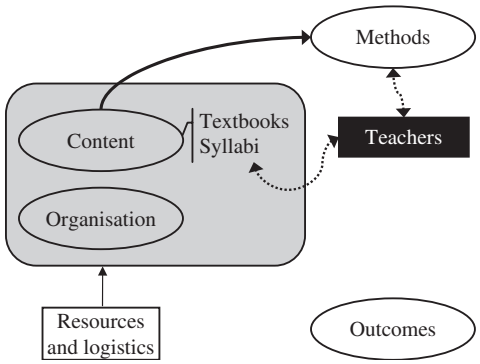

Figure 3. Content-driven curriculum design model.

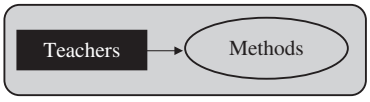

Figure 1. Method-driven curriculum design model.

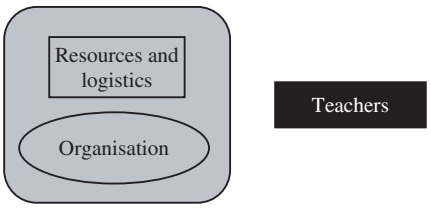

Figure 2. Pragmatically driven curriculum design model.

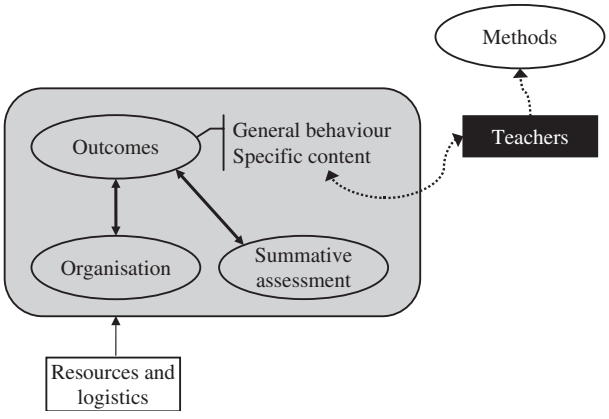

Figure 4. Outcome-driven curriculum design model.

Downloaded By: [Aarhus University] At: 08:55 22 July 2009

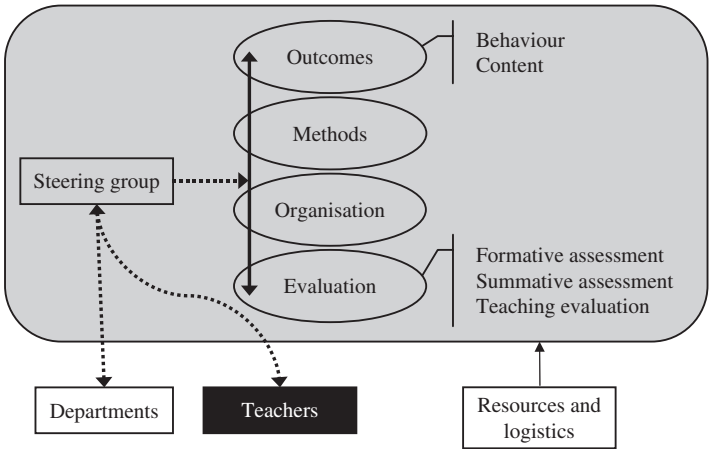

Figure 5. Vision-driven curriculum design model.

A pragmatically driven curriculum design model (Figure 2)

The pragmatically driven curriculum design model is relatively simple. As shown in the figure, the core consists of organization and resources. Curriculum design is primarily organizing teaching into courses and modules and then pragmatically fitting this organization to the available resources and logistics. Teachers are not excluded from planning, but they do not really take much part in it; they are therefore placed outside the core. As an example, one decision maker expressed this about the integration of two subjects (organization) and the number of students (logistics):

> But then maybe a cardiologist can follow the physiologist. Well, that's what they tried here. Maybe that's a curriculum of which we at least need to have an outline in the future. It will be solved for sure. If not integrated, then at least it can be coordinated. It could be one step (pause). Then there is another thing. I forgot, concerning the external circumstances: It's the number of students, which is very, very essential (pause). I think that it is easier to make integrated courses, if one doesn't have that many students. (. . .) Actually, we really do have a lot here. Then maybe it is difficult to start some (integrated) teaching that has an even more complicated structure than the one we got already.
>
> (Ethnograph search: Associate Professors and Organization; hit 2 of 31, Interview 2)

A content-driven curriculum design model (Figure 3)

The content-driven curriculum design model is relatively complex. As shown in the figure, the core consists of content and organisation. Content, or subject matter, is defined by syllabus and textbooks. Textbooks in particular set the content, and content heavily controls teaching methods. The teachers' task is to get through the content and to explain it to students. Teachers are outside the core, but they do participate in discussions about syllabus. Textbooks are not chosen by the individual teacher. Teachers also do not have much influence on organization, the other core element. Resources and logistics influence curriculum design. Learning outcomes are disliked and considered alien. As an example, one focus group said about content and learning outcomes:

> E: Previously, we tried our wings and could refer to other books. We generally don't do that any longer. Therefore, the task, when you take the class, will be defined by a textbook.
>
> and a bit later
>
> D: It's a number of pages. Now we take from page 7 to 17 and next time we go on.
>
> and a bit later
>
> B: (In my course) they have (few) lessons to learn the textbook, or actually not learn it by heart, but know the textbook. That cannot be fulfilled in the time given, so it is up to each teacher to try to get trough this content and try to help the student understand this text.
>
> and a bit later
>
> C: There are three elements, like. There's the laboratory classes, and there's group instruction, and lectures. I don't give any lectures, but they keep fairly strict to what's in the book. There is a list of outcomes. That is really like school, so many students use that list of outcomes quite slavishly. They learn all the answers from it hoping to pass the exam.
>
> Moderator: Do you use the list of outcomes as teachers?
>
> C: No, I don't know. Sometimes I take a look at it. I think it's just silly. It doesn't belong to a university.
>
> Moderator: Do you make your own . . .
>
> C: (Interrupts) No, no. It's like this, you give your lectures, and then you give two hours of group instruction with some exercises. (C continues describing this).
>
> (Ethnograph search: Associate Professors and Outcomes; hit 2 of 14, Focus group I)

Downloaded By: [Aarhus University] At: 08:55 22 July 2009

An outcome-driven curriculum design model (Figure 4)

The outcome-driven curriculum design model is more complex. As shown in the figure, the core consists of outcomes that drive the organisation and the summative assessment. Learning outcomes are the starting point for curriculum design. General learning outcomes primarily describe student behaviour, while specific learning outcomes focus more on content. The learning outcomes guide the other two core elements: the organisation of courses and the summative assessment of students. Resources and logistics influence the core elements. The teachers are also outside the core of this model, but they can take part in defining specific learning outcomes. They also choose how to teach; the choice of a teaching method is not directly linked to the three core elements. As an example, P said about learning outcomes and assessment:

> Of course one can define learning outcomes describing what a basic doctor can do within the different fields. What should they be able to do in order to take care of an emergency room, medical or surgical? That must pretty much be the level when they leave. From there, they can carry on. These learning outcomes can of course be defined. Some learning outcomes are going to be more specific than others. They can also be assessed. Then one has to choose which assessment strategies to go for, right? (Ethnograph search: Associate Professors and Outcomes; hit 9 of 14, Focus group IV).

A vision-driven curriculum design model (Figure 5)

The vision-driven curriculum design model is very complex. As shown in the figure, all of the elements of curriculum design are coherently included in the core. A central steering group holds a certain vision and controls curriculum design in a dialogue with departments. The vision drives the alignment of learning outcomes, teaching methods, organisation, and evaluations, and it is disseminated from the steering group to the teachers. Resources and logistics influence curriculum design, but do not guide the process. As an example, one decision maker said about vision, teachers, resources, and curriculum design:

> And then – and this is another very essential part – then there's also: What can we make the teachers do? I mean, get them involved, and they can also be set in their ways. I have great respect for our teachers, since they show interest in their subject, and they want their students to become as good as possible, but they have more difficulty in taking the global view. (. . .) I can have some goals for what they should, but they say: How many hours do we have to teach? That is, some of it – where reality catches up – is if we actually talk the same language? Where I talk about learning outcomes and competencies, they talk – very sensibly – about how they get the time and resources to do it. (. . .) I am in the happy situation that I don't have anything to do with economy. I don't know what the education costs and so on. That is taken care of by (. . .). I am simply told that it mustn't be more expensive, right? But every time I get on with this, then there is always a resource discussion, and there should be, shouldn't there? Do we have the right teachers at the right times? If one wants to do something that takes more, then some means should follow, and they are not there. So, then we have to choose and prioritise and say: With the money we have – and led by the goals or the vision we have – what do we take (Ethnograph search; Associate Professors and Organization; hit 30 of 31, Interview 3).

Discussion

We asked if medical faculty can account for their curriculum design model. We found that most participants in our case study could not. Nevertheless, we also found that participants had assumptions concerning curriculum design. Medical faculty is not tabula rasa when it comes to curriculum design. Also, they do not agree with each other. In response to our second research question – in which we asked what their assumptions are – we found that they represented five essentially different models: the method-driven; pragmatically driven, content-driven; outcome-driven; and vision-driven curriculum design models.

If we compare our conclusions to those of Fraser & Bosanquet (2006), we find clear similarities. They explored how academics understand the concept 'curriculum' in higher education by interviewing 25 Australian academic teachers from various disciplines and teaching contexts. Fraser and Bosanquet concluded that 'curriculum' was used in four different ways, which they conceptualised as: (1) the structure and content of a unit (subject); (2) the structure and content of a programme of study; (3) the students' experience of learning; and (4) a dynamic and interactive process of teaching and learning. We found that the Danish medical faculty whom we interviewed represented five different curriculum design models. Even if the two studies did not result in the same categorisations, the differences are supplementary rather than contradictive. Both studies showed that, even if faculty can not give a full epistemological account, their assumptions can nevertheless be interpreted meaningfully.

In this study the role of learning outcomes differs from essential in the outcome- and vision-driven models, to unimportant in the method- and pragmatically driven models, to alien in the content-driven model. These different roles of learning outcomes can be understood better by comparing our models to Ramsden's (1996) three basic theories of learning and teaching, which we do in the following paragraphs.

Learning outcomes are essential to the outcome- and vision-driven models. These two models are mirrored in Ramsden's Theory 3: Teaching as making learning possible. Teachers rooted in this theory focus on learning, and, therefore, use learning outcomes to plan teaching. Theory 3

Downloaded By: [Aarhus University] At: 08:55 22 July 2009

medical faculty with outcome- or vision-driven models are in harmony with outcome-based curriculum theories.

Learning outcomes are unimportant to the method- and pragmatically driven models. These two models are mirrored in Ramsden's Theory 2: Teaching as organizing student activity. Teachers rooted in this theory focus on conditions that they believe guarantee learning. Therefore, for example, giving a good lecture or organizing a good course is more important to them than learning outcomes. Theory 2 medical faculty with method- or pragmatically driven models would probably not engage in an 'unimportant' process of defining learning outcomes.

Learning outcomes are alien to the Content-Driven Model. This model is mirrored in Ramsden's Theory 1: Teaching as telling or transmission. Teachers rooted in this theory focus on transferring knowledge to students. Therefore, choosing content or subject matter is important to them and learning outcomes are meaningless. Theory 1 medical faculty with a content-driven model would find their assumptions incompatible with outcome-based curriculum theories.

Summing up, when medical faculty find learning outcomes unimportant or even incompatible, they might put up resistance to outcome-based education. Since such resistance is deeply rooted in a (tacit) model, it might be very strong. This could have implications for faculty development programmes. Bowe et al. (2003a,b) give an excellent example of a programme where medical faculty uncovered the roots of their resistance and realized their goals by testing personal and institutional 'big assumptions'. Bowe et al. find the approach frustratingly painstaking but nevertheless essential to sustainable curriculum change. Furthermore, Kreber & Brook (2001) recommend that the impact of faculty developmental programmes is evaluated systematically; one of their six points of focus is the faculty's beliefs about teaching and learning. Our results strongly support these recommendations.

We find it remarkable that none of our five models give teachers a central role concerning learning outcomes, organization, or assessment, although such a role is recommended (Tyler 1973; Harden et al. 1999). The method-driven model places teachers centrally but is not concerned with overall learning outcomes, organization, or assessment. The vision-driven model gives the central role to a steering group. The pragmatically, content- and outcome-driven models do not clearly place responsibility for curriculum design, but teachers have only limited influence. We cannot fully explain this. We assumed that teachers would be central to curriculum design. However, the interviewed medical faculty did not express that assumption. The peripheral role of teachers in the models worries us, because engaged teachers must be crucial to good teaching.

We can not give a solution, but we can offer our perspective. Prescriptive curriculum design models that prescribe first objectives or learning outcomes, then learning experiences, organization, and evaluation methods are used worldwide (Tyler 1973; Harden et al. 1999). However, there are actually a range of curriculum models, both prescriptive and descriptive (Prideaux 2003). Descriptive models do not prescribe, but rather focus on describing curriculum in a local context (for example, curriculum mapping) (Harden 2001). A study from Morcke et al. (2006) found that doctors and nurses setting learning objectives held a very contextual understanding of curriculum, and liked to be engaged as central players in contextualized, descriptive curriculum design.

Our study has a number of limitations. We might have recruited people with strong opinions about curriculum. Other participants might have other perspectives. We stress that our qualitative study cannot estimate the percentage of medical faculty with a certain curriculum design model. It could be interesting to know if certain groups of faculty connect to a certain model. That question can not be answered by our qualitative study, but would have to be quantified. The strength of this study lies in its in-depth approach. We conclude that our case of Danish medical faculty is not unique, and that our models can be cautiously transferred to other contexts. The degree of transferability could be tested in a quantification or intervention study.

Conclusions

We have three main conclusions and recommendations. First, even if medical faculty cannot account for their curriculum design model, they do have assumptions concerning curriculum design. We displayed medical faculty's assumptions as five essentially different curriculum design models. It is likely that the medical faculty at other schools also have different tacit curriculum design models. Therefore, we recommend an active exploration and recognition of the faculty's assumptions about curriculum design.

Second, in the five models we displayed, the role of learning outcomes differ. The role ranges from learning outcomes as essential, to learning outcomes as unimportant, to learning outcomes as incompatible with higher education. Medical faculty who find learning outcomes to be unimportant or incompatible can put up a strong resistance to outcome-based education, because their opinions are rooted deeply in their (tacit) models. We recommend that medical schools who are contemplating a shift to outcome-based education supplement the dialogue and the faculty development programme with an impact evaluation of the faculty's assumptions about learning and teaching.

Finally, we found that our participants expressed that teachers did not play a clear, central role in curriculum design, and that teachers had limited influence on the essential elements. This peripheral role of teachers in curriculum design worries us, and we recommend further studies to clarify the significance of this finding.

Acknowledgements

We would like to thank all participants for sharing with us. Marianne Sodemann observed and took excellent notes during focus group interviews, and she debriefed Morcke afterwards.

Downloaded By: [Aarhus University] At: 08:55 22 July 2009

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

Notes on contributors

ANNE METTE MORCKE is an associate professor at the Medical Education Unit (MEDU), Aarhus University. She focuses on curriculum planning in her research and projects.

BERIT EIKA is the professor at MEDU, Aarhus University, and conducts research projects in fields like curriculum, teaching and supervision, and skills training.

References

Berry JM. 2002. Validity and reliability issues in elite interviewing. Pol Sci Pol 35:679–682.

Bowe CM, Lahey L, Armstrong E, Kegan R. 2003a. Questioning the 'big assumptions'. Part I: Addressing personal contradictions that impede professional development. Med Educ 37:715–722.

Bowe CM, Lahay L, Kegan R, Armstrong E. 2003b. Questioning the 'big assumptions.' Part II: Recognizing organizational contradictions that impede institutional change. Med Educ 37:723–733.

Eraut M. 1994. Developing professional knowledge and competence. UK: Routledge Falmer.

Fraser SP, Bosanquet AM. 2006. The curriculum? That's just a unit outline, isn't it? Stud Higher Educ 31:269–284.

Harden RM, Crosby JR, Davis MH. 1999. AMEE Guide No 14: Outcome-based education. UK: AMEE.

Harden RM. 2001. AMEE Guide No 21. Curriculum mapping: A tool for transparent and authentic teaching and learning. UK: AMEE.

Kern DE, Thomas PA, Howard DM, Bass EB. 1998. Curriculum Development for Medical Education: A Six-step Approach. USA: Johns Hopkins University Press.

Koens F, Custers JFM, Ten Cate OTJ. 2006. Clinical and basic science teachers' opinions about the required depth of biomedical knowledge for medical students. Med Teach 28:234–238.

Kreber C, Brook P. 2001. Impact evaluation of educational development programmes. Int J Acad Devel 6:96–108.

Miles MB, Huberman AM. 1994. Qualitative data analysis. Sage: UK.

Morcke AM, Wichmann-Hansen G, Nielsen DG, Eika B. 2006. Complex perspectives on learning objectives. Med Educ 40:675–681.

Prideaux D. 2003. ABC of learning and teaching in medicine. Curriculum design. Br Med J 326:268–270.

Ramsden P. 1996. Learning to teach in higher education. Routledge: UK.

Sawyer SM, Cooke R, Conn J, Marks MK, Roseby R, Cerritelli B. 2006. Improving medical student performance in smoking health promotion: Effect of a vertically integrated curriculum. Med Teach 28:e135–e138.

Shapiro J, Rucker L, Robitshek D. 2006. Teaching the art of doctoring: An innovative medical student elective. Med Teach 28:30–35.

Tyler RW. 1970. Basic principles of curriculum and instruction. USA: The University of Chicago Press.

Downloaded By: [Aarhus University] At: 08:55 22 July 2009