The core of mentorship: medical students' experiences of one-to-one mentoring in a clinical environment

Susanne Kalén · Sari Ponzer · Charlotte Silén

Abstract Mentoring has been used in different health care educational programmes, but the core of mentorship, i.e., facilitating the development of medical students' professional competence, has not been explored in depth in the literature. In order to create effective and meaningful mentoring programmes, there is a need for deeper knowledge of the meaning of formal mentorship and, for this, the students' experiences are important. A mentoring program was set up where all medical students were offered a mentor during their first clinical courses; years 3–4. The mentors were physicians and their role as mentors was to support the students and act as sounding-boards, not to teach or assess knowledge. This study aimed to get a deeper understanding of the meaning of mentorship seen from the perspective of undergraduate medical students. A qualitative approach with individual interviews ($N = 12$) and inductive content analysis was chosen to investigate and interpret the meaning of mentorship. The results comprise three overarching themes: *Space, Belief in the future* and *Transition*. Having a mentor gave a sense of security and constituted a 'free zone' alongside the undergraduate programme. It gave hope about the future and increased motivation. The students were introduced to a new community and began to identify themselves as doctors. We would argue that one-to-one mentoring can create conditions for medical students to start to develop some parts of the professional competences that are more elusive in medical education programmes, such as reflective capacity, emotional competence and the feeling of belonging to a community.

Keywords Medical students · Mentorship · Professional competence · Professional development · Socialisation · Support · Transition

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Introduction

Mentoring is used in different health care educational programmes to facilitate students' professional development (Sambunjak et al. 2006; Buddeberg-Fischer and Herta 2006; Markakis et al. 2000; Yusoff et al. 2009; Suen and Chow 2001; Nettleton and Bray 2008; Pitney and Ehlers 2004; Woessner et al. 2000; Kalet et al. 2002). Published reviews regarding formal mentorship have shown that most studies on undergraduate medical students specify whether such a programme exists, different designs, goals and durations and sometimes also the role of the mentor (Sambunjak et al. 2006; Buddeberg-Fischer and Herta 2006). This paper focuses on medical students' experiences of one-to-one mentoring. The core of mentorship, i.e., facilitating the development of medical students' professional competence, has not been explored in depth in the published literature and there is a lack of analyses of the meaning of mentorship based on medical students' experiences. The role of the mentor varies in the literature (Berk et al. 2005) and sometimes is not clarified, which can make it difficult to transfer results to other contexts. In order to create meaningful mentoring programs there is a need for deeper knowledge of students' experiences of mentorship and how they perceived the role of the mentor.

To become a doctor means more than to learn basic science and clinical skills; it also includes abilities and skills which are not so obvious to learn, teach and assess. These aspects are highlighted for example in Tomorrow's Doctors (2003), the recommendations for undergraduate medical education programmes in the UK. Attitudes, communication skills, relations and ethical obligations are examples of what these recommendations cover regarding "personal and professional development" (2003; Christopher et al. 2002). Professional development can be explained from different perspectives. In this study we have chosen to relate it to the concept of professional competence and theories underpinning that concept.

Professional competence is a complex concept including knowledge and factors on personal, interpersonal and societal levels (Forslund 1995; Cruess et al. 2004). Today there is no agreed-upon definition of competence that covers all important domains of professional medical practice (Epstein and Hundert 2002). According to Gross (Gross 1958), a pioneer who has studied professions in general, professional occupations differ from other occupations in society at large. He claimed that attributes and typical criteria for professional occupations as a whole are the unstandardised product, degree of personal involvement, wide knowledge of special techniques, sense of obligation, sense of group identity and significance of the occupational service to society (Gross 1958). A model developed by Forslund (1995) used in the field of psychology and education includes five elements of professional competence: knowing the goals of the organisation, knowing ethical codes of the profession, having a systematic theoretical base, having the ability to use a set of methods and being able to evaluate and reflect over one's work. These elements, in combination with individual experiences and characteristics, have significance for the development of the 'personal profile' which he means is close to the concept 'professional identity' (Forslund 1995).

There have been some attempts to define professional competence in the medical community. Building on the definition of professional competence by the Accreditation Council for Graduate Medical Education, Epstein and Hundert (2002) defined professional competence in the specific context of medical practice. They developed the following dimensions of professional competence: Cognitive; Technical; Integrative; Context; Relationship; Affective and moral and Habits of mind. Some are more explicit and obvious and others are more diffuse and harder to define and to measure. They emphasise, in

addition to theoretical knowledge and clinical skills, the importance of relations, collaboration, emotions, humanistic judgments and one's own reflection as competencies a physician needs in a complex health care system (Epstein and Hundert 2002). The CanMEDS 2005 Physician Competency Framework (2005) gives a comprehensive definition of competencies needed for medical education and practice. They describe seven roles of a physician: medical expert, communicator, collaborator, manager, health advocate, scholar and professional (2005) and a large number of different competencies connected to these roles. The medical expert is the central role in this framework and integrates all the other roles. In the other roles, competencies related to communication, collaboration and responsibilities as a physician are emphasised (2005).

According to the literature on professional competence, it seems clear that students need to learn to handle a broad range of theoretical knowledge and clinical skills in combination with other competencies to get prepared for their future role as doctors in society of today. Attempts within the medical community to acknowledge these competencies which are not traditionally included in the curriculum have led to an interest in using mentorship as a method to support students' learning in this area. However, to the best of our knowledge, medical students' experiences of the meaning of formal one-to-one mentorship have not been published previously.

The aim of this study was to get a deeper understanding of the meaning of one-to-one mentorship during clinical courses seen from the perspective of undergraduate medical students.

Methods

Context of the study

The voluntary one-to-one mentoring programme for medical students that this paper is based on has been described in previous papers (Hylin et al. 2009). In brief, 122 medical students (from four consecutive courses) who had finished their two preclinical years and were taking their first clinical course were offered a mentor for 2 years (four semesters). All mentors were hospital physicians and were offered a 2-day course before becoming mentors (Stenfors-Hayes et al. 2010). Their mentoring role was, as in SCOPME's definition (Bligh 1999), to support the students and act as advisers and sounding-boards, not to act as supervisors or teachers, nor to assess knowledge. Students and mentors were randomly matched and were recommended to meet individually 1–3 times per semester, i.e. maximally 12 times. Some mentors also invited their students to follow them in their clinical work. Our results indicated that most students who experienced the mentorship reported that it had facilitated their professional development (Kalen et al. 2010). In another study it was shown that being a mentor was a positive experience that had led to changes in the mentors' own personal and professional development (Stenfors-Hayes et al. 2010).

Study design and methodology

The theoretical starting point for the study was based on an epistemological assumption that knowledge and understanding in this topic is socially constructed in interaction between the researcher and the subjects and that research about people's experiences and development do not reflect a general and objective truth (Swanwick 2010). A qualitative approach was chosen for inquiry into and interpretation of the meaning of mentorship viewed from the

students' perspective and to capture as many aspects of their experiences as possible. The intention was not to measure or evaluate the efficiency of mentorship or judge its value.

Sample

To achieve variation and breadth in the data, a purposeful sample was chosen (Patton 2002) based on the age and gender of the students and their mentors. Twelve participants (5 males and 7 females, aged 25–38) were assessed as a relevant sample-size. Students who had had fewer than three meetings with their mentor were not eligible for this study.

Data collection

Individual semi-structured interviews (Patton 2002) were held with the 12 students 0–1 year after they had completed their mentorship programme. A pilot study with two interviews was conducted to test the interview guide (Patton 2002). Question areas were the contents of the students' and their mentors' conversations, their relationship, the meaning of the mentorship and the students' general views on mentoring. All interviews were conducted by one of the authors (SK) during a period of 2 months. Each interview lasted for 40–50 min, was audio-recorded and transcribed verbatim.

Ethical considerations

This study was conducted according to the Helsinki Declaration and was judged by the Regional Ethical Review Board. However, the Board concluded that for this study no formal ethical permission was required according to Swedish law.

Participation was voluntary and the students were informed that they could withdraw from the study at any time with no negative influence on their study results. The informed consent of all participants was obtained and they were guaranteed full confidentiality.

Analysis

The analysis was conducted according to inductive content analysis (Graneheim and Lundman 2004). Subcategories, categories and themes were developed from the text without any predetermined coding scheme or theory. The manifest content (what the text says) is present in categories. The latent content (expressions the text is talking about) is present in themes (Graneheim and Lundman 2004).

The analysis was conducted in the following steps: The transcribed interviews were read by all authors several times to become familiar with the material. First, an analysis of manifest content was initiated. Meaning units were identified and sorted into content areas close to the questions in the interview guide. This first classification was discussed by all of the authors and then abandoned. The meaning units were then condensed and classified into new areas to get a new view of data and capture the latent meaning. The areas were 'Content of the mentorship', 'Function of the mentorship' and 'When/how they did meet'. Parts of the transcripts were coded independently by two authors (SK, CS). Since the codes agreed well, one of the authors completed the coding. All authors discussed the codes until consensus was reached. Data were then entered into NVivo software (Bazeley 2007). Subcategories were identified and discussed in the research group. The data were interpreted and a latent content analysis was performed during the process of identifying

categories and themes. Categories and themes were viewed from different perspectives and were judged to cover the data well. All authors discussed subcategories, categories and themes until consensus was reached. Data about student's opinions related to age and gender were summarized separately.

Results

The analysis resulted in three overarching themes generated from the students' expressions of their experiences of the mentorship: *Space*, *Belief in the Future* and *Transition* (Table 1). Each theme is described separately using the underlying categories and illustrated with quotes. The reciprocal connections of the themes to yield an educational process are illustrated in Fig. 1. The last part in the result section brings up aspects of age and gender in a mentorship relation and will not be seen as a theme.

Space

The Space theme emerged from statements that the mentorship gave the students a space, a free zone, alongside the undergraduate programme, in which they could talk about things they could not address elsewhere, i.e. their lives and their experiences of becoming a doctor. To have a mentor to talk to and get support from gave a sense of security.

Sense of security

The students experienced that it gave a sense of security to know that the mentor was available and that they could always get in touch if something special happened and they needed to meet.

Table 1 The meaning of mentorship: subcategories, categories and themes

Subcategories	Categories	Themes
Someone to talk to	A free zone	Space
Reflection		
Relieving		
Own and others' demands		
Support	A sense of security	
Available mentor		
Security		
It will work	Hope	Belief in the future
Looking forward to work as a doctor	Motivation	
Insight into the profession	Becoming a doctor	Transition
Becoming more self-confident		
Getting perspective		
Being invited	Belonging to the community	
Collegial interaction		
Fellowship		
Having no doctor in family or among friends		

Fig. 1 The themes regarded as
an educational process

TRANSITION
Within the student
Development of the
personal profile
Belonging to a new
community of
practice

BELIEF IN THE
FUTURE
**Conveyed by the
mentors**
Brings motivation
and personal
involvement

SPACE
**Organised by the
university**
Neutral role of the
mentor
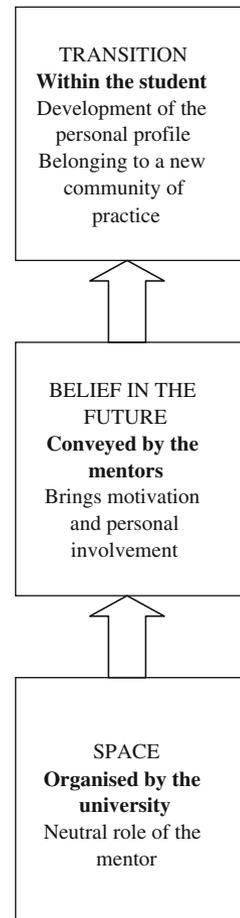
> …you knew that the person was there, so if something happened, I knew that I could
> call….and then we could meet more often… (H, female, age 29)

It felt secure to have a personal contact that lasted for a longer period. Some students
experienced support from the mentor, others did not feel that they needed support but knew
they had the opportunity to get it. The relationship with the mentor was important if the
students desired support.

A free zone

The mentorship was experienced as a 'free zone', a neutral place, where the students could
bring up questions they did not talk about with their teachers. It was a space where they
could talk without being judged or assessed. They could talk about issues not pertaining to
pure knowledge, but still had to do with the process of becoming a doctor; for example,
experiences from clinical placements and how it is to be an undergraduate medical student,
new and inexperienced.

I don't think I've talked so much with anyone else during the undergraduate pro-gramme, except with classmates…about things like this. (E, female, age 27)

They also had the opportunity to talk about personal problems, such as uncertainty, doubts and thoughts about one's own or relatives' illnesses. They took part in each other's life situation and discussed how to balance work and private life. The mentor shared his/her experiences and gave advice. The students could reflect on different events together with the mentor on a more social level than a pure knowledge level. It was a relief for the students to process events and then leave them behind, to express their thoughts to someone who understands. They did not feel any pressing requirements from the mentor; they did not need to prove they were 'good students' or to impress the mentor. Their self-imposed demands to preform were alleviated by the mentors' confirmation.

It was not someone I needed to impress or so. (H, female, age 29)

They did not talk much about the content of current courses. If they talked about studies, it was more about whether something was particularly difficult or the mentor gave hints about additional literature.

Belief in the future

The Belief in the Future theme emerged from optimistic statements concerning the students' hope that it will be fun to work as a doctor in the future, and statements about the mentoring meetings increasing the students' motivation to study and to graduate. It reinforced their desire to get finished with the studies to start working as doctors.

Hope

By talking to the mentors, the students experienced hope that it will be fun to work as a doctor. They could see that it is actually possible to combine a professional career as a doctor with having a family and small children; that it works to balance career, research and family life.

…I had just become a father, and so had my mentor, and it had worked well. So it was like proof that it works. (A, male, age 26)

They talked about future choices and the mentors told about how they made their choices in their professional life. The students experienced an optimistic sense about the future when the mentor confirmed that they would actually fit as doctors and that working as a doctor will be fun.

Motivation

The students' motivation to learn and to study was influenced by the mentors' advice to learn from one's own emotional experiences and to be curious and have fun meanwhile. The motivation and the will to get finished with one's studies increased.

…I saw a light in the tunnel. So…now, I will…tackle this and finish my studies so I can…work with what I like. (G, male, age 30)

Transition

The Transition theme emerged from statements about the process of becoming a doctor and statements reflecting a sense of coming in from the outside and becoming part of a community you have not previously belonged to, and beginning to identify yourself as a doctor. The students got more self-confidence and grew as individuals.

Becoming a doctor

The discussions with the mentor gave insights into the professional role of a doctor and the students could start to identify with their new role. They discussed their experiences with the mentor and got guidance for their future professional life: how to handle different situations; for example, how to respond to patients and relatives and how to deliver bad news. The students thought it was important to learn to talk about difficult issues with colleagues early on in their training. They could imagine the future, how it would be to be a doctor, to do research, and particularly to be a woman in the health care system and to have a leadership role.

> …you get… an insight into how it is to be a doctor, or how it will be….to be a doctor…How to handle different situations…as we have discussed a lot…yes, it has affected (my professional development)…and that was great. (D, female, age 25)

With the mentor as a role model, the students became more aware of their own and their mentors' behaviours and could reflect on how they wanted to act as doctors themselves. The conversations with the mentor strengthened the students' self-confidence; they were both encouraged and coached. The students got more courage to believe in themselves and to grow as persons. Their high demands on themselves were alleviated by having a sounding-board.

> …you could bring up your questions and…reflect on things a little bit more and you had a forum where you could do that. I think it has…strengthened me in my pro-fessional role… now it's clearer to me how to relate to certain things…
> (H, female, age 29)

To talk to the mentor also gave an opportunity to see issues from a new perspective and get a broader view of them.

Belonging to the community

The connection to the mentor gave a feeling of being welcome into the medical community and acknowledged as a colleague.

> When I was there I was there with him and… I felt like his partner…not like a medical student standing behind him…
> (G, male, age 30)

Sometimes the students joined their mentors at work and saw from the 'inside' how things work in the clinical departments. Some students were invited to join research projects and were helped with contacts and references for the future.

> You can see the role of a doctor a little from behind the scenes too and don't need to wear…the professional mask. (F, male, age 33)

It was a positive experience to be included and to belong; it gave a sense of being on the inside. The students felt that they gained insight regarding current codes for professional socialisation, such as the social interaction with colleagues and other members of the staff.

To share interests and experiences, and to know that someone else has had the same experience, gave a sense of fellowship and not being alone. Students who did not have a doctor in the family or among close friends felt that they had a greater need for a mentor, a designated person to have a closer relation with, someone who is more experienced and who knows how it is to be a doctor.

Aspects of age and gender in a mentorship relation

Students (both male and female) with a female mentor thought they talked to women in another way than to men and that it was easier to show emotions towards a female mentor. Students (both male and female) who had a male mentor emphasised personality more than gender. The students could see advantages with both younger and older mentors; young mentors still had fresh in their minds how it was to be a student and they could share mutual life values in general, while an older mentor could contribute more calm and wisdom and their relationship could be more relaxed.

Discussion

According to theories and definitions of professional competence, the process of becoming a doctor implies the need to learn and incorporate several different parts of professional competence within one's self (Epstein and Hundert 2002; Forslund 1995). Based on our findings, we think one-to-one mentoring in a clinical environment can create conditions for medical students to start to develop the more elusive components of professional competence, i.e. competences comprising *collaborative*, *reflective, integrative*, *relational*, *affective and moral* dimensions (The CanMEDS 2005; Epstein and Hundert 2002; Forslund 1995). In the following sections we will discuss the themes separately and how they may support and relate to the process of development of these more elusive components of professional competence.

Space

The students experienced the mentorship as a 'free zone', a space alongside the educational programme, in which they could reflect upon their experiences. When the students talked about reflection they included the emotional parts of an experience, which is explicit in the idea of reflection as described by Boud et al. (Boud et al. 1985; Boud and Walker 1998). Reflection helps to learn and to make meaning of complex situations (Epstein and Hundert 2002) and reflective capacity is regarded as an essential characteristic of professional competence (Mann et al. 2009; Forslund 1995). A professional reflects on and evaluates his work (Forslund 1995), but to develop the ability to reflect requires time and practice (Mann et al. 2009). The students described the continuous mentoring as a space where they could reflect on different aspects of becoming a doctor. We see this space, where they could share thoughts and doubts with the mentor, as an arena for development of competences concerning emotions, morals, anxiety and observations of one's own thinking and emotions (Epstein and Hundert 2002) It is likely that the mentorship relation and the meaning of mentorship are affected by whether the mentor is experienced by the student as a neutral

person without any commitments to teach and assess or whether the mentor is regarded as an authority such as the teacher of a course. Since the role of the mentor can involve several functions (Berk et al. 2005; Bray and Nettleton 2007; Ali and Panther 2008), it is therefore of great importance to clarify the mentor's role in any mentoring programme. In our opinion a neutral role of the mentor, as in this study, is a basic condition for creating this kind of formalised space.

Belief in the future

The mentor encouraged a new approach to learning: to learn through curiosity, which is in line with the recommendations in Tomorrow's Doctors (2003). The students highlighted that the contact with the mentor created optimistic feelings about the future and motivation to advance. It confirmed that they were on the right track and their motivation to study and to graduate increased. They created a picture of their future life and looked forward to working as a doctor. Motivation and a positive feeling towards the work are important factors for personal involvement, a professional characteristic described by Gross (1958). They also realised that it is possible to combine professional life with having a family. These findings seem to be important since these kinds of issues often seem to worry students (Jagsi et al. 2007; Dahlin et al. 2005).

Transition

Handling relationships, interacting with colleagues, patients and others in a good way and gaining insight into social codes associated with the profession were factors the students brought up when talking about the benefits of discussions with the mentor. These factors are also important parts of professional competence (Epstein and Hundert 2002; The CanMEDS 2005). They discussed how to communicate and interact with colleagues and other members of the staff. They could share experiences, values and concepts connected to the role and the mission of a doctor. The students stated that the mentorship had contributed to their feeling of actually becoming a doctor and belonging to a community: another professional characteristic (Gross 1958). They became a member of a new 'community of practice' (Wenger 1998) and expressed it in terms of being invited, being a partner and belonging. In this study we have chosen to use "community of practice" in the meaning of the community of doctors and not in the sense of a specific working place, multiprofessional team or organisation. Three characteristics typical of a 'community of practice' has been described as mutual engagement, joint enterprise and shared repertoire (Wenger 1998). Central to a community of practice is the interaction between novices and experts and the process whereby a new member creates a professional identity (Li et al. 2009). A requirement for being engaged in a community of practice is to be included (Wenger 1998). It is hard to establish an environment where the process of socialisation can take place (Cruess and Cruess 2006). We believe that the type of mentorship used in this study contributes to creating such an environment.

The 'personal profile' is understood to be a combination of personality, experiences, ethical codes, theories and methods and is of great importance as a base for choices and decisions you need to make in professional situations (Forslund 1995). We think that one-to-one mentoring in clinical settings can contribute to developing the personal profile by facilitating the students' ability to internalise knowledge, ethical values, norms and social codes into their own person. The process of becoming a doctor is a transition in the meaning of a passage or movement from one condition to another which produces

significant changes in life (Duchscher 2008). In this aspect, we also relate to a definition stating that role transition results 'in changes in individual psychosocial assumptions concerning oneself or one's organisational environment, social environment or one's relation to one's environment' (Allen and Vlert 1984).

It was interesting to note that students with no doctor among relatives or friends thought they had greater need for a mentor than the other students and that it was more difficult for them to understand the role of a doctor and what it means in both professional and private life. This can be understood in the light of Bourdieu's theory of social and cultural capital (Bourdieu 1986). Briefly, cultural capital is understood to be the special culture, language use or ways of thinking you are familiar with and the social capital the connections and relations within and between social networks. We do not argue that students with no doctor among relatives or friends have more need for a mentor than others but, in view of Bourdieu's theory, we stress that the students' acquired capital will vary depending on background and social belonging and can therefore influence their transition process in different ways.

The themes as an educational process

This study indicates that one-to-one mentoring can support medical students' transition process of becoming a doctor. One-to-one mentoring in a clinical environment can also create a space for students' learning and development of the more elusive components of professional competence. The themes found in this paper can be linked together and be regarded as an educational process or a tool (Fig. 1) where *Space* is the basic condition needed to be organised by the university and where the definition of the role of the mentor is important. *Belief in the future* is what the mentor contributes by creating motivation and personal involvement and *Transition* is the process that occurs within the student through developing the personal profile and experiencing the feeling of belonging to a new 'community of practice'.

Strengths and limitations

Strengths of this study was that both the students and mentors differed in age, gender and background which generated various experiences and rich data (Patton 2002). Focus group interviewing could have been an alternative method and might have stimulated a group process resulting in other perspectives, but since confidentiality cannot be assured in focus groups (Patton 2002) and mentorship relations can involve sensitive issues, individual interviews were used to encourage students to open up and talk about anything they wish. One limitation of this study could be that two of the researchers were involved in the planning (SP) and administration (SK) of the mentoring programme and could thereby possibly influence the analysis. To deal with that risk, the planning of this study was discussed with persons not involved in the mentoring programme at all, in order to get an outsiders view of the study, and the third researcher (CS), independent and not previously involved in the project, was engaged in the study. This investigator triangulation (Patton 2002) can be seen as strength for credibility. However, all of the three researchers were anonymous to the respondents and had no relation to them before the interviews were conducted. The only contact was that SK assigned the mentors' names and addresses to the students by e-mail in the initial phase of the mentoring programme some years earlier.

Information about context, participants, method and analysis were included to make it possible for the reader to judge transferability.

Conclusions and implications

This study provides new knowledge about medical students' experiences of one-to-one mentoring during clinical courses. The students experienced that the mentoring programme created a space in which the transition process of becoming a doctor was facilitated and in which their motivation and belief in the future became stronger. A continuous relation to a professional in the clinical environment created a feeling of safety. The mentoring programme gave the students an opportunity to have a dialogue and reflect on feelings and relationships with an experienced clinician. This suggests that it might be relevant to include one-to-one mentoring programmes in undergraduate medical education. A condition we believe is of great importance for creating this type of learning environment, or space, is the neutral role of the mentor, i.e. the mentor should not be responsible for assessing the students' knowledge and skills. Therefore, it is important to clearly define the role of the mentor, both for students and mentors, when introducing such a programme. According to our findings, we also think that one-to–one mentoring can create conditions for medical students to start to develop professional competences which are more elusive and difficult to point out and to integrate in the curriculum: such as reflective capacity, emotional competence and the feeling of belonging to a community. However, further studies are needed to clarify the extent to which one-to-one mentorship can be linked to these areas of professional development that have received increased attention in the medical profession in recent years. Since one-to-one mentoring involving a large number of students requires extensive resources, more knowledge is also needed about medical students' experiences of other forms of mentoring. A question that arose was whether other designs of mentoring programmes influence medical students' professional development in a similar way.

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